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*Radio's*  
**MASTER**

**1952-3**

17th EDITION



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# RADIO'S MASTER

SEVENTEENTH EDITION

**OFFICIAL**  
**PARTS and EQUIPMENT MANUAL**  
of the  
**RADIO, TELEVISION & ELECTRONIC INDUSTRY**

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*What to Buy and Where to Buy It*

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**ILLUSTRATIONS**

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**DESCRIPTIONS**

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**SPECIFICATIONS**

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**PRICES**

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SEVENTEENTH EDITION

## FOREWORD

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## INDEX OF MANUFACTURERS' DISPLAY PAGES By Name (Con.)

	Section	Page		Section	Page
<b>— D —</b>					
Davies Molding Co., Harry.....	U	34	General Industries Co.....	E	29 to 32
Decimeter, Inc.....	J	62	Ghirardi (Rinehart Books).....	H	12, 13
De-Tec-Tronic Laboratories, Inc.....	L	33	Globe-Union, Inc. (See Centralab Div.).....		
Dial Light Co. of America, Inc. (Dialco).....	G	1 to 10	Gothard Manufacturing Co.....	M	53
Drake Electric Works, Inc.....	U	2, 3	Gramer Transformer Corp.....	N	33
Drake Mfg. Company.....	G	11	Grayburne Corporation.....	K	22, 23
DuMont Laboratories, Inc., Allen B.....	A	36	Gray Research & Development Co., Inc.....	E	37
Duotone Company, Inc.....	E	49 to 51	Greenlec Tool Company.....	U	30, 31
<b>— E —</b>					
Eby Sales Company.....	T	38 to 40	Guardian Electric Mfg. Co.....	L	24, 25
Wirt Products.....	R	1 to 3			
Editors & Engineers, Ltd. (Books).....	H	16	<b>— H —</b>		
Eico (Electronic Instrument Co.).....	F	116 to 119	Halldorson Transformer Company.....	N	66 to 75
Eitel-McCullough, Inc. (Eimac Tubes).....	A	26, 27	Hallicrafters Company.....	J	14 to 21
Eldico of N. Y., Inc.....	J	64 to 66	Hammarlund Mfg. Co., Inc.....	J	45 to 47
Electric Soldering Iron Co., Inc. (Esico).....	U	8	Harvey Hubbell, Inc.....	T	14, 15
Electro-Mechanical Instrument Co. (Emico).....	F	55	Harvey-Wells Electronics, Inc.....	J	24
Electronic Instrument Co., Inc. (Eico).....	F	116 to 119	Hexacon Electric Co.....	U	6, 7
Electronic Measurements Corp.....	F	87 to 89	Hickok Electrical Instrument Co.....	F	90 to 100
Electronic Transformer Co., Inc.....	N	34	Hi-Lo TV Antenna Corporation.....	S	96
Electrons, Inc.....	A	33	Hytron Radio & Electronic Co.—A Div. of Columbia Broadcasting System, Inc.....	A	20
Electro Products Laboratories, Inc.....	M	27			
Electro-Voice, Inc.			<b>— I —</b>		
Microphones, Cartridges.....	D	16 to 18	I.D.E.A., Inc.—Regency Division.....	K	17
Speakers.....	C	30, 31	Industrial Condenser Corp.....	P	70 to 73
TV Boosters, Distribution Systems.....	K	15	Industrial Hardware Mfg. Co., Inc. (See Eby Sales Co.).....		
Electrovox Co. (Walco Products Co., Inc.).....	E	43 to 45	Industrial Instruments, Inc.....	F	110, 111
Electrox (See Schauer Mfg. Corp.).....			Insuline Corporation of America		
Elmenco Products Co.....	U	63	Antennas.....	S	90, 91
El-Tronics, Inc.....	F	66, 67	Cabinets, Racks, Panels.....	J	83 to 87
Emico (Electro Mechanical Instrument Co.).....	F	55	Hardware, Tools, Service & Amateur Aids.....	U	74 to 93
Equipto Div. Aurora Equipment Co.....	U	28	International Rectifier Corp.....	G	25
Erie Resistor Corp.....	P	74 to 77	International Resistance Co.....	R	15 to 27
Ersin Multicore (Multicore Sales Corp.).....	U	14, 15			
Esico (Electric Soldering Iron Co.).....	U	8	<b>— J —</b>		
Espey Mfg. Co., Inc.....	K	2, 3	Jackson Electrical Instrument Co.....	F	72 to 74
Essex Wire Corp., Chicago Transformer Div.....	N	76 to 81	James Vibrapowr Co.....	M	18
Eveready Batteries (National Carbon Co.).....	M	6 to 9	J-B-T Instruments, Inc.		
<b>— F —</b>			Switches.....	I	18 to 20
Fairchild Recording Equipment Corp.....	E	1	Test Equipment.....	F	60 to 64
Federal Telephone & Radio Corp.			Jennings Radio Mfg. Co.....	J	33 to 35
Rectifiers.....	G	20, 21	Jensen Industries, Inc. (Needles).....	E	62
TV Lead-in Cables.....	S	14	Jensen Manufacturing Co. (Speakers).....	C	8 to 13
Freed Transformer Co., Inc.			J.F.D. Mfg. Co., Inc.....	S	80, 81
Laboratory Test Equipment.....	F	82 to 86	Johnson Company, E. F.....	J	67 to 82
Transformers.....	N	98 to 116	Jones, Howard B. (Div. Cinch Mfg. Co.).....	T	22 to 31
<b>— G —</b>					
Garrard Sales Corporation.....	E	33 to 36	<b>— K —</b>		
General Bronze Corp., Brach Mfg. Div.....	K	14	Kay Electric Company.....	F	15
General Cement Mfg. Co.....	U	94 to 115	Kenyon Transformer Co., Inc.....	N	82, 83
General Control Company.....	L	12, 13	Kester Solder Co.....	U	13
General Dry Batteries, Inc.....	M	10, 11	Keystone Electronics Corporation.....	U	37
General Electric Company			Knights Co., James.....	K	38
Capacitors.....	P	33 to 35	Kraeuter & Co., Inc.....	U	22 to 25
Pickups, Cartridges, Preamplifiers.....	E	18	Kwikheat Mfg. Co.....	U	9
Soldering Irons.....	U	4, 5			
Speakers.....	C	2			
Switches and Relays.....	L	31			
Test Equipment, Commercial.....	F	16, 17			
Transformers and Reactors.....	N	97			
Tubes, Receiving & TV.....	A	2, 3			
Tubes, Transmitting and Industrial.....	A	4, 5			

(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)

## INDEX OF MANUFACTURERS' DISPLAY PAGES By Name (Con.)

Section	Page	Section	Page
<b>— L —</b>		<b>— P —</b>	
Lansing Sound, Inc., James B.....	C 17	Pacific Transducer Corp. (formerly Clarkstan)....	E 22, 23
LaPointe Plascomold Corp. (Vec-D-X).....	S 75 to 79	Park Metalware (See XceLite, Inc.).....	
Leak Amplifiers (British Industries Corp.).....	B 17	Par-Metal Products Corp.....	J 88 to 91
Lectrohm, Inc.		Peerless Electrical Products	
Resistors.....	R 44, 45	Div. Altec Lansing Corp.....	N 60 to 62
Soldering Pot.....	U 116	Peerless Products Industries.....	S 85
Lewis & Kaufman, Inc.....	A 32	Penn Television Products Co.....	K 12, 13
Littelfuse, Inc.....	G 14 to 17	Pentron Corporation.....	E 14
Lowell Mfg. Co.....	C 26, 27	Perma-Power Company.....	M 19
Lysco Mfg. Co., Inc.....	J 25	Permo, Inc.....	E 52 to 59
<b>— M —</b>		Permoflux Corporation	
MacMillan Co.....	H 18	Headphones.....	D 38
Magnecord, Inc.....	E 12, 13	Speakers.....	C 36, 37
Maguire Industries, Inc.		Petersen Radio Co., Inc.....	K 39 to 41
Thordarson-Meissner Mfg. Div.		Philmore Mfg. Co., Inc.....	K 6
Meissner Div. Products.....	J 60, 61	Pickering & Co., Inc.....	E 15 to 17
Thordarson Div. Products.....	N 30 to 32	Pierceway Div. Clifton Conduit Co., Inc.....	S 51
Mallory & Co., Inc., P. R.		Potter & Brumfield.....	L 26 to 29
Capacitors.....	P 1 to 11	Precise Development Corp.....	F 114, 115
Controls, Rheostats, Resistors.....	R 10 to 14	Precise Measurements Co.....	F 120
Switches, Jacks, Plugs.....	L 2 to 5	Precision Apparatus Co., Inc.....	F 40 to 47
Vibrators, Rectifiers, Battery Chargers.....	M 20 to 23	Premax Products Div. Chisholm-Ryder Co., Inc.	S 63 to 65
UHF Converter, Tuning Unit,		Premier Metal Products Co.....	J 96 to 98
Grid Bias Cells.....	K 8, 9	Presto Recording Corp.....	E 2 to 5
Marion Electrical Instrument Co.....	F 68 to 71	Pyramid Electric Co.....	P 90 to 115
Masco Electronic Sales Corp.....	B 18 to 27	<b>— Q —</b>	
Master Mobile Mounts, Inc.....	S 104, 105	Quam-Nichols Company.....	C 4 to 6
McGohan, Inc., Don.....	B 32 to 34	<b>— R —</b>	
Measurements Corporation.....	F 7 to 14	Racon Electric Co., Inc.....	C 14 to 16
Meissner Products, Div. Thordarson-Meissner.....	J 60, 61	Radcraft Publications, Inc.....	H 19
Merit Transformer Corp.....	N 84 to 96	Radelco Manufacturing Co.....	S 82, 83
Middletown Mfg. Co., Inc.....	J 92, 93	Radiart Corporation	
Millen Mfg. Co., Inc., James.....	J 26 to 32	Antennas.....	S 60 to 62
Miller Co., J. W.....	J 48 to 50	Vibrators, Converters.....	M 38 to 41
Miller Mfg. Co., M. A.....	E 46 to 48	Radio Apparatus Corp.....	J 63
Minnesota Mining & Mfg. Co.....	E 64	Radio City Products Co., Inc.....	F 80, 81
Minute Man Products, Inc.....	J 94, 95	Radio Corporation of America	
Mitchell Industries, Inc. (Vasco Div.).....	U 12	Antennas & Accessories.....	S 73
Monitor (Baker Mfg. Co.).....	S 72	Batteries.....	M 1
Moody Machine Products Co., Inc.....	U 29	Crystal Pickups, Speakers.....	C 1
Mosley Electronics.....	K 19 to 21	Television Components.....	K 10, 11
Mueller Electric Co.....	M 16, 17	Test and Measurement Equipment.....	F 2 to 5
Multicore Sales Corp.....	U 14, 15	Tube Manuals, Technical Literature.....	H 14, 15
<b>— N —</b>		Tubes.....	A 6 to 9
National Carbon Company (Eveready).....	M 6 to 9	Radio Craftsmen, Inc.....	K 1
National Company, Inc.....	J 1 to 13	Radio Magazines, Inc. (See Audio Engineering)	
National Electronics, Inc.....	A 34	Radio Manufacturing Engineers, Inc.....	J 22, 23
National Union Radio Corp.....	A 12, 13	Radio Merchandise Sales, Inc.....	K 28 to 31
Newcomb Audio Products Co.....	B 8 to 13	Radio Receptor Co., Inc.....	G 22
<b>— O —</b>		Ram Electronics Sales Co.....	K 16
Oak Electronics Company.....	K 18	Rauland Corporation, The.....	A 40
Oelrich Publications.....	H 20	Ray-O-Vac (Specialty Battery Co. Div.).....	M 12 to 14
Ohmite Manufacturing Co.....	R 40 to 43	Raytheon Mfg. Co., Equipt. Sales Div.....	M 52
Orradio Industries, Inc.....	E 63	Raytheon Mfg. Co., Tube Division.....	A 14 to 17
Oxford Electric Corp.....	C 32, 33	Recordisc Corporation.....	E 42
		Recoton Corporation.....	E 38, 39
		Reeves Soundcraft Corp.....	E 60, 61
		Regency Division I.D.E.A., Inc.....	K 17
		Rek-O-Kut Company.....	E 6 to 9
		Rex Corporation.....	S 52, 53
		Rider Publisher, Inc., John F.....	H 1 to 8
		Rinehart Books, Inc.....	H 12, 13
		Rogan Brothers.....	U 32, 33

(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)

## INDEX OF MANUFACTURERS' DISPLAY PAGES By Name (Con.)

	Section	Page		Section	Page
<b>— S —</b>					
Sams & Co., Inc., Howard W.	H	10, 11	Tel-O-Tube Corp. of America	A	37
Sangamo Electric Co.	P	36 to 46	Telrex, Inc.	S	86 to 89
Sarkes Tarzian, Inc.			Thordarson-Meissner Mfg. Div.		
Rectifier Division	G	18, 19	Thordarson Div. Products	N	30 to 32
Tube Division	A	39	Triad Transformer Mfg. Co.	N	17 to 29
Schauer Manufacturing Corp. (Electrox)			Tricraft Products	S	106
Battery Chargers & Eliminators	M	15	Trimm, Inc.	D	34, 35
Rectifier Units	G	23	Triplett Electrical Instrument Co.	F	18 to 25
Schott Co., Walter L. (Walsco)			Tung-Sol Electric, Inc.	A	10, 11
Antennas	S	66 to 71	Turner Company	D	19 to 23
Service Aids, Tools, Hardware	U	40 to 61	T.V. Development Corp.	K	33
Scott, Inc., Hermon Hosmer	B	6, 7	<b>— U —</b>		
Shallcross Manufacturing Co.	R	36 to 39	Ungar Electric Tool Co., Inc.	U	10
Sheldon Electric Co.,			Union Carbide & Carbon Corp.,		
Div. Allied Electric Products, Inc.	A	38	National Carbon Div. (Eveready)	M	6 to 9
Shure Brothers, Inc.	D	10 to 15	United Technical Laboratories	U	38, 39
Shurite Meters	F	56, 57	United Transformer Co.	N	35 to 53
Signal Indicator Corp. (Dialco)	G	1 to 10	University Loudspeakers, Inc.	C	18 to 23
Simpson Electric Company	F	26 to 39	U. S. Engineering Co.	U	36
Simpson Mfg. Co., Inc., Mark (Masco)	B	18 to 27	Utah Radio Products, Inc.	C	39 to 41
Smith, Inc., Herman H.	U	64 to 73	Utica Drop Forge & Tool Corp.	U	26, 27
Smith-Baldwin			<b>— V —</b>		
(Consolidated Radio Products Co.)	C	44	Vaco Products Co.	U	17
Snap-on-Drawer Company	U	35	Van Nostrand Co., Inc., D.	H	17
SNC Manufacturing Co., Inc.	N	56 to 59	Vasco Div. Mitchell Industries, Inc.	U	12
Sola Electric Co.	M	49 to 51	Vector Electronic Company	T	12, 13
Sorensen & Company	M	28, 29	Vee-D-X (La Pointe Plascomold Corp.)	S	75 to 79
South River Metal Products Co., Inc.	K	24 to 27	Vibroplex Company, Inc.	L	36
Specialties Manufacturing Co.	L	14	Viking Loudspeakers	C	9
Specialty Battery Co. Div. Ray-O-Vac	M	12 to 14	V-M Corporation	E	27
Spirling Products Co., Inc.	S	84	<b>— W —</b>		
Sprague Products Co.			Walco Products, Inc. (Electrovox Co.)	E	43 to 45
Capacitors	P	47 to 61	Waldom Electronics, Inc. (Croname)	U	62
Resistors	R	30	Walsco (See Walter L. Schott Co.)		
Standard Electrical Products Co. (Staco)			Waltham Horological Corp.	T	41
Relays	L	32	Ward Leonard Electric Co.	R	34, 35
Transformers	N	63 to 65	Ward Products Corporation	S	55 to 59
Standard Transformer Corp. (Stancor)	N	1 to 16	Waterman Products Co., Inc.	F	106, 107
Standard Wood Products Co.	K	35	Webster-Chicago Corporation (Webcor)	E	28
Stephens Manufacturing Corp. (Tru-Sonic)	C	28, 29	Webster Electric Co.		
Sterling Cables (Beam Instruments Corp.)	S	44	Amplifiers	B	29
Sterling Manufacturing Co.	F	58, 59	Cartridges	E	19
Superior Electric Co. (Seco)	M	46 to 48	Weller Electric Co.	U	11
Superior Instruments Co.	F	112, 113	Westinghouse Electric Corporation	A	28 to 31
Supreme, Inc.	F	6	Weston Electrical Instrument Corp.	F	48 to 50
Switchcraft, Inc.	L	8, 9	Wharfedale Speakers (British Industries Corp.)	C	34, 35
Sylvania Electric Products, Inc.			Wirt Products Div. of Eby Sales Co.	R	1 to 3
Tubes, Crystal Diodes, Rectifiers	A	1	Worner Electronic Devices	L	34, 35
Test Equipment	F	65	Wright, Inc.	C	7
<b>— T —</b>					
Talk-A-Phone Co.	B	30, 31	<b>— X —</b>		
Tannoy Audio Equipt.			Xcelite, Inc. (formerly Park Metalware Co.)	U	18 to 21
(Beam Instruments Corp.)	C	38			
Taylor Tubes, Inc.	A	21			
Tech Laboratories, Inc.	L	10, 11			
Tech-Master Products Co.	K	4, 5			
Technical Appliance Corp. (Taco)	S	92 to 95			
Tel-A-Ray Enterprises, Inc.	S	100 to 102			
Telex, Inc.	D	36			

**(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)**

# RADIO'S MASTER

## SEVENTEENTH EDITION

### NUMERICAL INDEX OF MANUFACTURERS' DISPLAY PAGES

By Section and Folio

**NOTE:** This is a bare outline of the eighteen sections of RADIO'S MASTER. It will serve for speedy reference and for the purpose of familiarizing yourself quickly with its general contents. Regular use of the Master will reveal many additional items too numerous to list here—you may also discover an item in a section to which it does not directly relate. For more complete and precise information, consult the exhaustive detailed General Index at the back of book.

#### SECTION A

RECEIVING AND TELEVISION TUBES—  
TRANSMITTING, INDUSTRIAL, SPECIAL PURPOSE  
TUBES—CRYSTAL DIODES, TRANSISTORS—  
DIAL AND PANEL LAMPS

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
A-1.....	Sylvania Electric Products, Inc.
A-2 to 5.....	General Electric Co.
A-6 to 9.....	Radio Corporation of America
A-10, 11.....	Tung-Sol Electric, Inc.
A-12, 13.....	National Union Radio Corp.
A-14 to 17.....	Raytheon Manufacturing Co.
A-20.....	Hytron Radio & Electronic Co.
A-21.....	Taylor Tubes, Inc.
A-22, 23.....	Continental Electric Co.
A-24.....	Amperex Electronic Corp.
A-25.....	Chatham Electronics Corp.
A-26, 27.....	Eitel-McCullough, Inc.
A-28 to 31.....	Westinghouse Electric Corp.
A-32.....	Lewis & Kaufman, Inc.
A-33.....	Electrons, Inc.
A-34.....	National Electronics, Inc.
A-35.....	British Industries Corp.
A-36.....	Allen B. DuMont Labs., Inc.
A-37.....	Tel-O-Tube Corp. of America
A-38.....	Sheldon Electric Co.
A-39.....	Sarkes Tarzian, Inc.
A-40.....	Rauland Corporation

#### SECTION B

PUBLIC ADDRESS:  
AMPLIFIERS, PHONO P.A. EQUIPMENT, SOUND  
SYSTEMS—INTERCOMMUNICATION SYSTEMS

B-1.....	Altec Lansing Corporation
B-2 to 5.....	Bell Sound Systems, Inc.
B-6, 7.....	Hermon Hosmer Scott, Inc.
B-8 to 13.....	Newcomb Audio Products Co.
B-14 to 16.....	David Bogen Co., Inc.
B-16.....	Challenger Amplifier Co.
B-17.....	British Industries Corp.
B-18 to 27.....	Masco Electronic Sales Corp.
B-29.....	Webster Electric Co.
B-30, 31.....	Talk-A-Phone Company
B-32 to 34.....	Don McGohan, Inc.

#### SECTION C

SPEAKERS, PROJECTORS, HORNS, TRUMPETS

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
C-1.....	Radio Corporation of America
C-2.....	General Electric Company
C-3.....	Altec Lansing Corporation
C-4 to 6.....	Quam-Nichols Company
C-7.....	Wright, Inc.
C-8 to 13.....	Jensen Manufacturing Co.
C-14 to 16.....	Racon Electric Company
C-17.....	James B. Lansing Sound, Inc.
C-18 to 23.....	University Loudspeakers, Inc.
C-24, 25.....	Atlas Sound Corporation
C-26, 27.....	Lowell Manufacturing Co.
C-28, 29.....	Stephens Manufacturing Corp.
C-30, 31.....	Electro-Voice, Inc.
C-32, 33.....	Oxford Electric Corp.
C-34, 35.....	British Industries Corp.
C-36, 37.....	Permoflux Corporation
C-38.....	Beam Instruments Corp.
C-39 to 41.....	Utah Radio Products, Inc.
C-42, 43.....	Cinaudagraph Company
C-44.....	Consolidated Radio Products Co.

#### SECTION D

MICROPHONES—MICROPHONE STANDS—  
PICKUPS—CARTRIDGES

(See Section E for additional Pickups and Cartridges)

D-1.....	Altec Lansing Corp.
D-2 to 9.....	Astatic Corporation
D-10 to 15.....	Shure Brothers, Inc.
D-16 to 18.....	Electro-Voice, Inc.
D-19 to 23.....	Turner Company
D-24 to 27.....	American Microphone Co.
D-28, 29.....	Amperite Company, Inc.
D-30, 31.....	Atlas Sound Corp.
D-32.....	Brush Development Co.

#### HEADPHONES

D-33.....	Brush Development Company
D-34, 35.....	Trimm, Inc.
D-36.....	Telex, Inc.
D-37.....	C. F. Cannon Co.
D-38.....	Permoflux Corporation

**(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)**



## NUMERICAL INDEX OF MANUFACTURERS' DISPLAY PAGES (Con.)

### SECTION E

RECORDERS AND RECORDING EQUIPMENT—  
PICKUPS AND CARTRIDGES—PHONO MOTORS—  
TURNTABLES—RECORD CHANGERS—  
TRANSCRIPTION UNITS—DISCS—NEEDLES—TAPE

Section & Page	Name of Manufacturer
E-1.....	Fairchild Recording Equip. Corp.
E-2 to 5.....	Presto Recording Corporation
E-6 to 9.....	Rek-O-Kut Company
E-11.....	Berlant Associates
E-12, 13.....	Magnecord, Inc.
E-14.....	Pentron Corporation
E-15 to 17.....	Pickering, Inc.
E-18.....	General Electric Co.
E-19.....	Webster Electric Company
E-20, 21.....	Audak Company, Inc.
E-22, 23.....	Pacific Transducer Corp.
E-26.....	Alliance Manufacturing Co.
E-27.....	V-M Corporation
E-28.....	Webster-Chicago Corporation
E-29 to 32.....	General Industries Co.
E-33 to 36.....	Garrard Sales Corporation
E-37.....	Gray Research & Development Co.
E-38, 39.....	Recoton Corporation
E-40, 41.....	Audio Devices, Inc.
E-42.....	Recordisc Corporation
E-43 to 45.....	Walco Products, Inc.
E-46 to 48.....	M. A. Miller Mfg. Co.
E-49 to 51.....	Duotone Company, Inc.
E-52 to 59.....	Permo, Inc.
E-60, 61.....	Reeves Soundcraft Corp.
E-62.....	Jensen Industries, Inc.
E-63.....	Orradio Industries, Inc.
E-64.....	Minnesota Mining & Mfg. Co.

### SECTION F

TESTING, MEASURING, INDICATING INSTRUMENTS  
—ANALYZERS—PANEL METERS—TEST EQUIPMENT

F-1.....	Chicago Industrial Instrument Co.
F-2 to 5.....	Radio Corporation of America
F-6.....	Supreme, Inc.
F-7 to 14.....	Measurements Corporation
F-15.....	Kay Electric Company
F-16, 17.....	General Electric Co.
F-18 to 25.....	Triplett Electrical Instrument Co.
F-26 to 39.....	Simpson Electric Company
F-40 to 47.....	Precision Apparatus Co., Inc.
F-48 to 50.....	Weston Electrical Instrument Co.
F-51 to 54.....	Burlington Instrument Co.
F-55.....	Electro-Mechanical Instrument Co.
F-56, 57.....	Shurite Meters
F-58, 59.....	Sterling Manufacturing Co.
F-60 to 64.....	J-B-T Instruments, Inc.
F-65.....	Sylvania Electric Products, Inc.
F-66, 67.....	El-Tronics, Inc.
F-68 to 71.....	Marion Electrical Instrument Co.
F-72 to 74.....	Jackson Electrical Instrument Co.
F-75 to 79.....	Boonton Radio Corporation
F-80, 81.....	Radio City Products Co., Inc.
F-82 to 86.....	Freed Transformer Co., Inc.
F-87 to 89.....	Electronic Measurements Corp.
F-90 to 100.....	Hickok Electrical Instrument Co.
F-101 to 105.....	Browning Laboratories, Inc.
F-106, 107.....	Waterman Products Co., Inc.
F-108, 109.....	Beam Instruments Corp.
F-110, 111.....	Industrial Instruments, Inc.
F-112, 113.....	Superior Instruments Co.
F-114, 115.....	Precise Development Co.
F-116 to 119.....	Electronic Instrument Co., Inc.
F-120.....	Precise Measurements Corp.

### SECTION G

PILOT, DIAL LIGHTS AND ASSEMBLIES

Section & Page	Name of Manufacturer
G-1 to 10.....	Dial Light Co. of America
G-11.....	Drake Manufacturing Co.

### INSTRUMENT FUSES

G-12, 13.....	Bussmann Manufacturing Co.
G-14 to 17.....	Littlefuse, Inc.

### DRY DISC, SELENIUM, INSTRUMENT RECTIFIERS

G-18, 19.....	Sarkes Tarzian, Inc.
G-20, 21.....	Federal Telephone & Radio Corp.
G-22.....	Radio Receptor Co., Inc.
G-23.....	Schauer Mfg. Corp.
G-24.....	Bradley Laboratories, Inc.
G-25.....	International Rectifier Corp.
G-26.....	Conant Laboratories

### SECTION H

BOOKS—MANUALS—RADIO DATA SERVICES

H-1 to 8.....	John F. Rider Publisher, Inc.
H-9.....	American Radio Relay League
H-10, 11.....	Howard W. Sams & Co., Inc.
H-12, 13.....	Rinehart Books, Inc.
H-14, 15.....	Radio Corporation of America
H-16.....	Editors & Engineers, Ltd.
H-17.....	D. Van Nostrand Co., Inc.
H-18.....	MacMillan Company
H-19.....	Radcraft Publications
H-20.....	Oelrich Publications
H-21.....	Audio Engineering

### SECTION J

COMMUNICATION RECEIVERS—TRANSMITTERS—  
AMATEUR EQUIPMENT AND ACCESSORIES—  
VARIABLE CAPACITORS—COILS—INSULATORS—  
METAL RACKS, CABINETS, PANELS, ETC

J-1 to 13.....	National Company, Inc.
J-14 to 21.....	The Hallicrafters Company
J-22, 23.....	Radio Mfg. Engineers, Inc.
J-24.....	Harvey-Wells Electronics, Inc.
J-25.....	Lysco Mfg. Co., Inc.
J-26 to 32.....	James Millen Mfg. Co., Inc.
J-33 to 35.....	Jennings Radio Mfg. Co.
J-36 to 44.....	Bud Radio, Inc.
J-45 to 47.....	Hammarlund Mfg. Co., Inc.
J-48 to 50.....	J. W. Miller Company
J-51 to 55.....	Allen D. Cardwell Mfg. Corp.
J-56 to 59.....	Barker & Williamson, Inc.
J-60, 61.....	Meissner Div. Maguire Industries
J-62.....	Decimeter, Inc.
J-63.....	Radio Apparatus Corp.
J-64 to 66.....	Eldico of N. Y., Inc.
J-67 to 82.....	E. F. Johnson Company
J-83 to 87.....	Insuline Corporation of America
J-88 to 91.....	Par-Metal Products Corp.
J-92, 93.....	Middletown Mfg. Co., Inc.
J-94, 95.....	Minute Man Products, Inc.
J-96 to 98.....	Premier Metal Products Co.

(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)

## NUMERICAL INDEX OF MANUFACTURERS' DISPLAY PAGES (Con.)

### SECTION K

#### RECEIVER KITS—TELEVISION KITS— TELEVISION ACCESSORIES

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
K-1.....	Radio Craftsmen, Inc.
K-2, 3.....	Espy Mfg. Co., Inc.
K-4, 5.....	Tech-Master Products Co.
K-6.....	Philmore Mfg. Co., Inc.
K-7.....	Argos Products Co.
K-8, 9.....	P. R. Mallory & Co., Inc.
K-10, 11.....	Radio Corporation of America
K-12, 13.....	Penn Television Products Co.
K-14.....	Brach Mfg. Corp.
K-15.....	Electro-Voice, Inc.
K-16.....	Ram Electronic Sales Co.
K-17.....	Regency Div. I.D.E.A., Inc.
K-18.....	Oak Electronics Co.
K-19 to 21.....	Mosley Electronics
K-22, 23.....	Grayburne Corporation
K-24 to 27.....	South River Metal Products Co.
K-28 to 31.....	Radio Merchandise Sales, Inc.
K-32.....	Alproco, Inc.
K-33.....	T.V. Development Corp.
K-34.....	Blonder-Tongue Labs., Inc.
K-35.....	Standard Wood Products Co.

#### CRYSTALS

K-36, 37.....	Bliley Electric Company
K-38.....	James Knights Co.
K-39 to 41.....	Petersen Radio Co., Inc.

### SECTION L

#### SWITCHES—JACKS—PLUGS—RELAYS

L-2 to 5.....	P. R. Mallory & Co., Inc.
L-6, 7.....	Centralab Div. Globe-Union, Inc.
L-8, 9.....	Switchcraft, Inc.
L-10, 11.....	Tech Laboratories, Inc.
L-12, 13.....	General Control Company
L-14.....	Specialties Mfg. Co.
L-15.....	Carling Electric, Inc.
L-16, 17.....	Carter Parts Co.
L-18 to 20.....	J-B-T Instruments, Inc.
L-21 to 23.....	Advance Electric & Relay Co.
L-24, 25.....	Guardian Electric Mfg. Co.
L-26 to 29.....	Potter & Brumfield
L-30.....	Amperite Company, Inc.
L-31.....	General Electric Company
L-32.....	Standard Electrical Products Co.

#### PHOTO ELECTRIC UNITS

L-33.....	De-Tec-Tronic Labs., Inc.
L-34, 35.....	Worner Electronic Devices

#### TELEGRAPH KEYS & PRACTICE SETS

L-36.....	Vibroplex Co., Inc.
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### SECTION M

#### DRY BATTERIES

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
M-1.....	Radio Corporation of America
M-2 to 5.....	Burgess Battery Company
M-6 to 9.....	National Carbon Company
M-10, 11.....	General Dry Batteries, Inc.
M-12 to 14.....	Specialty Battery Co.

#### BATTERY ELIMINATORS & CHARGERS— POWER CONVERSION EQUIPMENT— GENERATORS, CONVERTERS, VIBRATORS, PACKS— VOLTAGE TRANSFORMERS & CONTROLS

M-15.....	Schauer Mfg. Corp.
M-16, 17.....	Mueller Electric Co.
M-18.....	James Vibrapowr Co.
M-19.....	Perma-Power Company
M-20 to 23.....	P. R. Mallory & Co., Inc.
M-24 to 26.....	Cornell-Dubilier Electric Corp.
M-27.....	Electro Products Labs., Inc.
M-28, 29.....	Sorensen & Company
M-30 to 37.....	American Television & Radio Co.
M-38 to 41.....	Radiart Corporation
M-42 to 45.....	Carter Motor Company
M-46 to 48.....	Superior Electric Co.
M-49 to 51.....	Sola Electric Company
M-52.....	Raytheon Mfg. Co.
M-53.....	Gothard Manufacturing Co.

### SECTION N

#### TRANSFORMERS, ALL TYPES— REACTORS—CHOKES—COILS—INDUCTORS (See Section J for additional Coils)

N-1 to 16.....	Standard Transformer Corp.
N-17 to 29.....	Triad Transformer Mfg. Co.
N-30 to 32.....	Thordarson Div. Maguire Industries
N-33.....	Gramer Transformers Corp.
N-34.....	Electronic Transformer Co., Inc.
N-35 to 53.....	United Transformer Co.
N-54, 55.....	Crest Transformer Corp.
N-56 to 59.....	SNC Manufacturing Company
N-60 to 62.....	Altec Lansing Corp., Peerless Div.
N-63 to 65.....	Standard Electrical Products Co.
N-66 to 75.....	Halldorson Company
N-76 to 81.....	Chicago Transformer Div. Essex Wire
N-82, 83.....	Kenyon Transformer Co., Inc.
N-84 to 96.....	Merit Transformer Corp.
N-97.....	General Electric Company
N-98 to 116.....	Freed Transformer Co., Inc.

### SECTION P

#### FIXED CAPACITORS, ALL TYPES— NOISE & INTERFERENCE FILTERS— CAPACITOR TEST INSTRUMENTS (See Section J for Variable Capacitors)

P-1 to 11.....	P. R. Mallory & Co., Inc.
P-12 to 32.....	Cornell-Dubilier Electric Corp.
P-33 to 35.....	General Electric Company
P-36 to 46.....	Sangamo Electric Company
P-47 to 61.....	Sprague Products Company
P-62 to 69.....	Arco Electronics, Inc.
P-70 to 73.....	Industrial Condenser Corp.
P-74 to 77.....	Erie Resistor Corporation
P-78 to 81.....	Centralab Div. Globe-Union, Inc.
P-82 to 85.....	Condenser Products Co., Inc.
P-86 to 89.....	Astron Corporation
P-90 to 115.....	Pyramid Electric Co.
P-116 to 132.....	Aerovox Corporation

(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)

## NUMERICAL INDEX OF MANUFACTURERS' DISPLAY PAGES (Con.)

### SECTION R

RESISTORS—VOLUME CONTROLS—BALLASTS—  
DECADES, BRIDGES—NOISE FILTERS & SUPPRESSORS  
—RHEOSTATS. POTENTIOMETERS, ATTENUATORS

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
R-1 to 3	Wirt Products Div. Eby Sales Co.
R-4 to 9	Clarostat Mfg. Co., Inc.
R-10 to 14	P. R. Mallory & Co., Inc.
R-15 to 27	International Resistance Co.
R-28, 29	Centralab Div. Globe-Union, Inc.
R-30	Sprague Products Co.
R-31 to 33	Continental Carbon, Inc.
R-34, 35	Ward Leonard Electric Co.
R-36 to 39	Shallcross Manufacturing Co.
R-40 to 43	Ohmite Manufacturing Co.
R-44, 45	Lectrohm, Inc.
R-47 to 49	Aerovox Corporation
R-50	Amperite Company, Inc.

### SECTION S

WIRE AND CABLE, ALL TYPES

S-1 to 13	Alpha Wire Corporation
S-14	Federal Telephone & Radio Corp.
S-15 to 21	Belden Manufacturing Co.
S-22, 23	Cornish Wire Co., Inc.
S-24 to 43	Birnbach Radio Co., Inc.
S-44	Beam Instruments Corp.
S-45 to 49	Consolidated Wire & Associated Cos.
S-50	Copperweld Steel Co.
S-51	Pierceway Div. Clifton Conduit Co.
S-52, 53	Rex Corporation

ANTENNAS & SYSTEMS FOR TV-FM-AM-AUTO—  
ANTENNA ACCESSORIES

S-54	Julius Blum Co., Inc.
S-55 to 59	Ward Products Corporation
S-60 to 62	Radiart Corporation
S-63 to 65	Premax Products
S-66 to 71	Walter L. Schott Co.
S-72	Baker Manufacturing Co.
S-73	Radio Corporation of America
S-74	Alliance Manufacturing Co.
S-75 to 79	LaPointe Plascomold Corp.
S-80, 81	J.F.D. Mfg. Co., Inc.
S-82, 83	Radelco Mfg. Co.
S-84	Spirling Products Co, Inc.
S-85	Peerless Products Industries
S-86 to 89	Telrex, Inc.
S-90, 91	Insuline Corporation of America
S-92 to 95	Technical Appliance Corp.
S-96	Hi-Lo TV Antenna Corp.
S-97 to 99	Cornell-Dubilier Electric Corp.
S-100 to 102	Tel-A-Ray Enterprises, Inc.
S-103	Columbia Products Co.
S-104, 105	Master Mobile Mounts, Inc.
S-106	Tricraft Products

### SECTION T

CABLE CONNECTORS, RECEPTACLES, FITTINGS—  
MICROPHONE CONNECTORS, PLUGS—  
SOCKETS AND PLUGS—TERMINAL STRIPS

<i>Section &amp; Page</i>	<i>Name of Manufacturer</i>
T-1 to 11	American Phenolic Corporation
T-12, 13	Vector Electronic Company
T-14, 15	Harvey Hubbell, Inc.
T-16 to 21	Cannon Electric Co.
T-22 to 31	Howard B. Jones Div. Cinch Mfg. Co.
T-32 to 37	Cinch-Jones Sales Div. Cinch Mfg.
T-38 to 40	Eby Sales Company
T-41	Waltham Horological Corp.

### SECTION U

TOOLS: SOLDERING IRONS, PLIERS, WRENCHES,  
SCREWDRIVERS, NUTDRIVERS, PUNCHES, CUTTING  
TOOLS, NEUTRALIZING & ALIGNMENT TOOLS—  
CHEMICALS, OILS, PAINTS, ETC.—  
HARDWARE, SERVICE AIDS OF EVERY DESCRIPTION

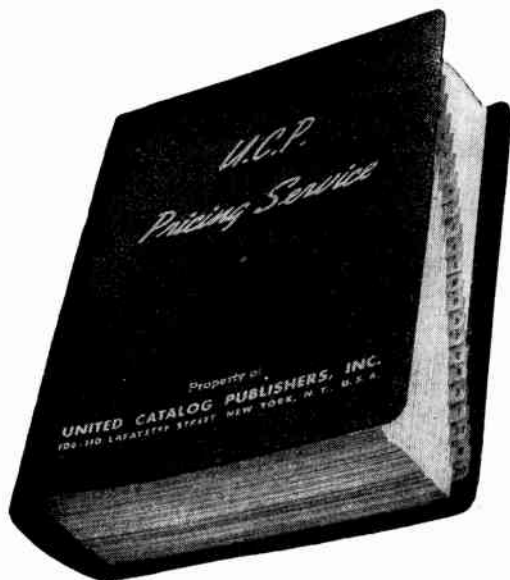
U-1	American Electrical Heater Co.
U-2, 3	Drake Electric Works, Inc.
U-4, 5	General Electric Company
U-6, 7	Hexacon Electric Company
U-8	Electric Soldering Iron Co., Inc.
U-9	Kwikheat Mfg. Co.
U-10	Ungar Electric Tool Co., Inc.
U-11	Weller Electric Co.
U-12	Vasco Div. Mitchell Industries, Inc.
U-13	Kester Solder Co.
U-14, 15	Multicore Sales Corp.
U-16	Alpha Metals, Inc.
U-17	Vaco Products Company
U-18 to 21	XceLite, Inc.
U-22 to 25	Kraeuter & Company, Inc.
U-26, 27	Utica Drop Forge & Tool Corp.
U-28	Equipto Div. Aurora Equipment Co.
U-29	Moody Machine Products Co., Inc.
U-30, 31	Greenlee Tool Co.
U-32, 33	Rogan Brothers
U-34	Harry Davies Molding Co.
U-35	Snap-on-Drawer Co.
U-36	U. S. Engineering Co.
U-37	Keystone Electronics Corp.
U-38, 39	United Technical Laboratories
U-40 to 61	Walter L. Schott Co.
U-62	Waldom Electronics, Inc.
U-63	Elmenco Products Co.
U-64 to 73	Herman H. Smith, Inc.
U-74 to 93	Insuline Corporation of America
U-94 to 115	General Cement Mfg. Co.
U-116	Lectrohm, Inc.

(FOR DETAILED GENERAL INDEX OF SPECIFIC ITEMS AND THEIR PAGE NUMBERS, REFER TO BACK OF BOOK)

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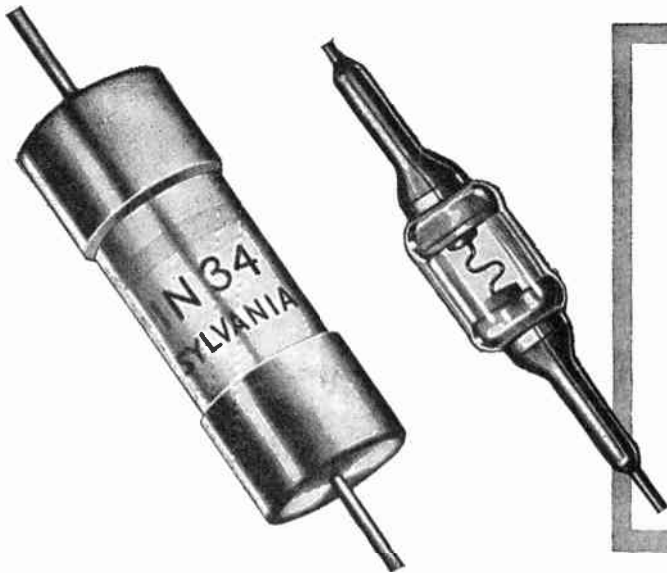
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TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
<b>FLASH TUBES</b>		
R-4330	100 watt second Electroflash Tube	\$12.50
R-4340	500 watt second Electroflash Tube	37.50
<b>GAS PRESSURE MEASURING TUBES</b>		
R1111	Pirani Tube	5.50
R1111M	Matched Pairs (R1111)	13.15
<b>GERMANIUM CRYSTAL DIODES</b>		
1N34	General Purpose Diode (Ceramic)	.85
1N34A	General Purpose Diode (Glass)	1.05
1N35	Twin Matched Diode	2.05
1N38	100-V Back Voltage (Ceramic)	1.70
1N38A	100-V Back Voltage (Glass)	2.25
1N39	200-V Back Voltage	6.25
1N40	Varistor—Plug In	10.60
1N41	Varistor—Lug Type	11.25
1N42	Varistor—Matched 1N38's	18.75
1N54	High Resistance Diode (Ceramic)	.95
1N54A	High Resistance Diode (Glass)	1.25
1N55	150-Volt Diode (Ceramic)	3.15
1N55A	150-Volt Diode (Glass)	4.05
1N56	High Conduction Diode (Ceramic)	.95
1N56A	High Conduction Diode (Glass)	1.25
1N58	100-Volt Diode (Ceramic)	1.25
1N58A	100-Volt Diode (Glass)	1.55
1N60	Video Detector	.65
1N71	Varistor—Low Impedance—Plug In	6.25
<b>TR &amp; ATR TUBES</b>		
1B24A	9300 mc Tunable TR	62.50
1B35	9300 mc Broad Band ATR	12.50
1B63A	12% 9000 mc Broad Band ATR	78.25
<b>KLYSTRONS</b>		
6B16	Velocity Modulation Reflex Oscillator	145.00
6B16	Velocity Modulation Reflex Oscillator	145.00
5836	(SD1103) Velocity Modulation Reflex Oscillator	162.50
5837	(SD1104) Velocity Modulation Reflex Oscillator	162.50
<b>ROCKET TUBES</b>		
2C36	Pulse-Modulated and C. W. Oscillator	40.60
2C37	C. W. Oscillator, Amplifier and Multiplier	40.60
5764	Pulse-Modulated Oscillator	62.50
5765	Broad-Band C. W. Oscillator Int. Feedback	62.50
5767	C. W. Oscillator	62.50
5768	C. W. Amplifier Multiplier	62.50
6018	(SB-846F) Pulse Modulated and C. W. Oscillator	62.50
<b>GLOW MODULATOR TUBES</b>		
R1130B	.055" Crater—(1B59)	14.35
R1131C	.093" Crater	14.35
<b>HYDROGEN THYRATRONS</b>		
4C35	8KV, 90 amp peak	28.75
5C22	15KV, 325 amp peak	53.45
<b>SELENIUM RECTIFIERS</b>		
NA-5	65 ma Rectifier	.80
NB-5	75 ma Rectifier	.93

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
<b>SELENIUM RECTIFIERS—Continued</b>		
NC-5	100 ma Rectifier	\$1.14
ND-5	150 ma Rectifier	1.35
NE-5	200 ma Rectifier	1.62
NF-5	250 ma Rectifier	1.80
NG-5	350 ma Rectifier	2.07
NH-5	450 ma Rectifier	2.58
NI-5	400 ma Rectifier	2.55
NJ-5	400 ma Rectifier	2.58
<b>MICROWAVE CRYSTAL DIODES</b>		
1N21	3000 mc Mixer	3.15
1N21A	3000 mc Mixer	3.75
1N21B	3000 mc Mixer	4.40
1N21C	3000 mc Mixer	22.50
1N22	3000-10,000 mc—Instrument Rectifier	3.10
1N23	10,000 mc Mixer	3.75
1N23A	10,000 mc Mixer	4.40
1N23B	10,000 mc Mixer	5.00
1N25	1000 mc High Burnout Mixer	5.35
1N26	24,000 mc Mixer	9.40
1N31	10,000 mc Video Detector	6.25
1N32	3000 mc Video Detector	25.00
1N76	Microwave Video Detector	5.35
1N78	16,000 mc Mixer	11.25
1N82	UHF Mixer	1.10
<b>STROBOTRONS</b>		
1D21/SN4	240 PPS V Neon Duo Grid	5.30
R-4350	Polychromatic Strobotron	12.50
SA-309	Small Polychromatic Strobotron	2.80
<b>MISCELLANEOUS</b>		
0A5	Trigger Tube (Cold Cathode)	4.40
X-6090	Ionization Tube	2.00
S5501	1500-volt U-Discharge	14.40
1237	Full Wave Argon Rectifier	4.25
SD759A	Ramberg Accelerometer Tube	84.00

# SYLVANIA



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ELECTRONIC TEST EQUIPMENT; FLUORESCENT TUBES, FIXTURES, SIGN  
TUBING, WIRING DEVICES; LIGHT BULBS; PHOTOLAMPS; TELEVISION SETS



# RECEIVING TYPES



PRICES EFFECTIVE JUNE 1, 1952

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
OOA	\$3.55	1N6G	\$2.03	6A3	\$3.20	6CB6	\$2.10	*6SF7	\$2.00	7K7	\$2.65
O1A	1.50	1P5G	2.40	6A4/LA	3.20	6CD6G	6.60	*6SG7	2.00	7L7	2.65
*OY4	4.80	1P5GT	2.65	6A5G	3.90	6D5G	2.40	*6SH7	2.20	7N7	2.20
*OZ4	1.65	1Q5G	2.40	6A6	2.65	6D6	2.20	*6SH7GT	2.00	7Q7	2.00
OZ4G	1.65	1Q5GT	2.65	6A7	2.30	6D7	3.55	*6SJ7	1.65	7R7	2.00
1A1/5E1	1.65	1Q6	2.20	6A7S	3.55	6D8G	3.20	6SJ7GT	1.65	7S7	2.65
1A3	2.20	1R1G	1.65	*6A8	2.20	6E5	2.25	*6SK7	1.65	7V7	2.65
1A4P	4.05	1R4	2.65	6A8G	2.20	6E6	2.90	*6SK7GT	1.85	7W7	2.65
1A4T	2.40	1R5	2.10	6A8GT	2.30	6E7	3.55	6SL7GT	2.45	7X7/XXFM	2.65
1A5G	2.40	1S4	2.20	6A84	1.80	*6F5	1.75	*6SN7GTA	2.20	7Y4	1.80
1A5GT	1.80	1S5	1.80	6AB5/6N5	2.65	6F5G	1.65	*6SQ7	1.50	7Z4	1.80
1A6	3.35	1SA6GT	2.40	*6AB7/1853	3.20	6F5GT	1.65	6SQ7GT	1.60	8	2.00
1A7G	2.40	1SB6GT	2.40	6AC5G	2.00	*6F6	2.10	*6SR7	1.50	9	2.00
1A7GT	2.20	1T1G	1.65	6AC5GT	2.90	6F6G	1.65	6SR7GT	1.80	10	3.90
1AB5	3.20	1T4	2.10	*6AC7/1852	2.90	6F6GT	1.65	*6SS7	2.10	10Y	3.90
1B1	1.65	1T5GT	2.40	6AD6G	2.40	6F7	3.20	*6ST7	2.65	12A	2.40
1B3GT	2.55	1U4	2.10	6AD7G	3.20	6F7S	3.55	*6SV7	3.20	12A5	3.55
1B4P	3.90	1U5	1.80	6AE5G	2.40	6F8G	3.20	6SV8GT	2.00	12A6	2.40
1B5/25S	3.35	1V	2.20	6AE5GT	2.00	6G6G	2.65	*6SZ7	2.20	12A6GT	2.90
1B7G	2.90	1V2	1.50	6AE6G	2.00	6H4GT	2.90	6T5	3.55	12A7	3.20
1B7GT	3.35	1V5	2.20	6AE7GT	2.00	*6H6	1.65	6T7G	3.35	12A8G	2.00
1C1	1.65	1W5	2.20	6AF4	3.90	6H6G	1.65	6T8	2.90	12A8GT	2.20
1C5G	2.40	1X1	1.65	6AF5G	2.00	6H6GT	1.80	6U5/6G5	2.00	12AH7GT	2.65
1C5GT	2.30	1X2	2.65	6AF6G	2.65	*6J5	1.50	6U6CT	2.20	12AL5	1.80
1C6	3.35	1X2A	2.65	6AG5	2.15	6J5G	1.50	6U7G	2.20	12AT6	1.55
1C7G	3.35	1Y1	1.65	*6AG7	3.20	6J5GT	1.50	6U8	3.40	12AT7	2.90
1C8	2.40	1Z1	1.65	6AH6	3.90	6J6	2.50	*6V6	3.35	12AU6	1.80
1D1	1.65	2	2.00	6AH7GT	2.40	*6J7	2.10	6V6G	2.00	12AU7	2.40
1D5G	2.00	2A3	3.20	6AJ4	6.00	6J7G	2.20	*6V6GT	2.00	12AV6	1.55
1D5GP	4.05	2A4G	4.80	6AK5	3.90	6J7GT	2.20	*6V7	3.55	12AW6	2.40
1D5GT	2.00	2A5	2.20	6AK6	2.20	6J8G	3.20	6V7G	2.00	12AX7	2.50
1D7G	3.35	2A6	2.65	6AL5	1.80	6K5G	1.65	6W4GT	1.80	12B8GT	4.80
1D8GT	3.90	2A7	2.65	6AL7GT	2.90	6K5GT	2.40	6W5G	2.90	12BA6	1.90
1E1	1.65	2A7S	3.55	6AM4	6.00	6K6G	2.40	6W6GT	2.20	12BA7	2.40
1E4G	2.00	2B7	3.20	6AQ5	2.00	6K6GT	1.60	6W7G	2.65	12BD6	2.00
1E5G	4.80	2B7S	3.55	6AQ6	1.80	*6K7	1.85	6X4	1.55	12BE6	1.90
1E5GP	3.90	2E5	2.65	6AQ7GT	2.65	6K7G	2.20	*6X5	2.65	12BH7	2.40
1E5GT	4.80	2G5	2.40	6AR5	1.65	6K7GT	2.15	6X5G	1.65	12BH6	2.90
1E7GT	3.90	2S/4S	3.55	6AS5	2.10	*6K8	2.70	6X5GT	1.55	*12C8	3.20
1F1	1.65	*2W3	2.00	6AT6	1.55	6K8G	2.90	6Y5	4.80	12F5GT	1.80
1F4	2.75	2W3GT	2.00	6AU6	1.80	6K8GT	2.40	6Y5V	3.55	*12H6	1.80
1F5G	2.75	2Z2	3.55	6AV5GT	2.65	6L5G	2.65	6Y6G	2.50	*12J5	1.50
1F6	3.90	3	2.00	6AV6	1.55	*6L6	3.75	6Y7G	2.40	12J5GT	1.55
1F7G	3.90	3A8GT	4.80	6AX5GT	1.65	6L6G	3.20	6Z5	3.55	12J7G	2.00
1F7GH	3.55	3B5GT	2.40	6B4G	3.20	6L6GA	2.90	6Z7G	3.90	12J7GT	2.20
1F7GV	3.55	3B7	2.65	6B5	3.90	*6L7	2.40	6ZY5G	2.20	12K7G	2.00
1G1	1.65	3C6/XXB	3.20	6B6G	2.00	6L7G	3.20	7	2.00	12K7GT	2.10
1G4G	2.00	3D6	2.65	6B7	3.20	6N6G	3.90	7A4/XXL	2.00	*12K8	2.75
1G4GT	2.40	3E6	2.65	6B7S	3.55	*6N7	2.55	7A5	1.80	12K8GT	2.65
1G5G	3.15	3LF4	2.65	*6B8	3.20	6N7G	2.40	7A6	2.20	12Q7G	2.00
1G6G	2.40	3Q4	2.20	6B8G	3.20	6N7GT	2.40	7A7	1.80	12Q7GT	1.80
1G6GT	2.65	3Q5G	2.40	6B8GT	2.00	6P5G	2.00	7A8	1.80	12S8GT	2.65
1H4G	2.20	3Q5GT	2.50	6BA6	1.90	6P5GT	2.40	7AD7	3.20	*12SA7	1.75
1H5G	2.00	3S4	2.00	6BA7	2.40	6P7G	3.55	7AF7	1.80	12SA7GT	1.85
1H5GT	1.70	3V4	2.00	6BC5	2.00	*6Q6	2.90	7AG7	2.20	*12SC7	2.30
1H6G	3.20	4	2.00	6BD6	2.00	6Q6G	2.90	7AH7	2.20	*12SF5	1.90
1H6GT	3.20	4A1	3.55	6BE6	1.90	*6Q7	2.10	7B4	1.80	12SF5GT	2.00
1J1	1.65	4A6G	2.90	6BF5	2.10	6Q7G	1.80	7B5	1.80	*12SF7	2.10
1J5G	2.65	5	2.00	6BF6	1.65	6Q7GT	1.80	7B6	1.80	*12SG7	2.00
1J6G	2.90	5AZ4	1.35	6BG6G	4.80	6R6G	4.80	7B7	1.80	*12SH7	2.20
1J6GT	3.20	*5T4	4.80	6BH6	2.10	*6R7	2.65	7B8	1.80	12SH7GT	2.00
1K1	1.65	5U4G	1.50	6BJ6	2.10	6R7G	1.65	7C4	3.20	12SJ7	1.75
1L4	2.10	5V4G	2.45	6BK5	2.45	6R7GT	2.65	7C5	1.80	12SJ7GT	1.65
1LA4	2.65	*5W4	1.65	6BK7	3.20	6S4	1.70	7C6	1.80	*12SK7	1.75
1LA6	2.65	5W4G	1.35	6BL7GT	3.20	*6S7	2.65	7C7	1.80	12SK7GT	1.85
1LB4	2.65	5W4GT	1.65	6BN6	2.90	6S7G	3.20	7C8	2.65	12SL7GT	2.50
1LC5	2.65	5X4G	1.80	6BQ6GT	3.40	6S8GT	2.65	7E5	2.65	12SN7GT	2.30
1LC6	2.65	5Y3G	1.35	6BX7GT	3.40	6SA7	1.75	7E6	2.20	*12SQ7	1.50
1LD5	2.65	5Y3GT	1.10	6C4	1.70	6SA7GT	1.85	7E7	2.65	12SQ7GT	1.60
1LE3	2.65	5Y4G	1.55	*6C5	1.75	*6SB7Y	2.55	7F7	2.20	*12SR7	2.10
1LG5	2.65	5Y4GT	1.15	6C5G	1.65	*6SC7	2.00	7F8	3.20	12SR7GT	2.20
1LH4	2.65	5Z3	1.75	6C5GT	1.65	6SC7GT	2.00	7G7/1232	2.65	12Z3	2.40
1LN5	2.65	*5Z4	2.65	6C6	2.20	6SD7GT	2.90	7G8	3.90	14	2.90
1N5G	2.40	5Z4GT	2.00	6C7	3.55	*6SF5	1.75	7H7	2.00	14A4	2.65
1N5GT	2.10	6	2.00	6C8G	3.20	6SF5GT	1.80	7J7	2.65	14A5	3.90

\*Metal types

†Matched pair

**G.E. ELECTRONIC TUBES—RECEIVING TYPES (Cont.)**

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price				
14A7/12B7	\$2.20	25BQ6GT	\$3.35	35Z6G	\$2.65	56AS	\$3.55	117Z3	\$1.50	G10A	\$3.25				
14AF7/XXD	2.40	25C6G	3.20	36	2.65	56S	3.55	117Z4GT	2.90	G10B	4.85				
14B6	2.20	25D8GT	4.80	37	1.85	57	2.00	117Z6GT	2.40	G10C	6.50				
14B8	2.20	*25L6	3.20	38	2.20	57AS	3.55	FM-1000	3.20	G11	29.00				
14C5	2.65	25L6G	2.00	39/44	2.65	57S	3.55			G11A	29.00				
14C7	2.40	25L6GT	1.70	40	2.40	58	2.10	<b>GERMANIUM DIODES</b>							
14E6	2.20	25N6G	4.80	40Z5	1.65	58AS	3.55								
14E7	2.65	25W4GT	1.80	41	2.00	58S	3.55								
14F7	2.20	25Y5	2.90	42	2.00	59	3.55								
14F8	3.20	25Z5	1.65	43	2.00	70A7GT	3.55								
14H7	2.40	*25Z6	2.20	45	2.10	70L7GT	3.90					1N48	\$1.40	<b>SELENIUM RECTIFIERS</b>	
14J7	2.65	25Z6G	1.50	45Z3	1.80	71A	2.40					†1N48	4.45		
14N7	2.65	25Z6GT	1.50	45Z5GT	1.80	75	2.00					1N51	.85		
14Q7	2.20	26	2.00	46	2.90	75S	3.55					1N52	2.85		
14R7	2.65	27	1.80	46A1	2.00	76	1.65					†1N52	7.35		
14S7	2.65	27S	3.55	46B1	2.00	77	2.00	1N63	6.35						
14W7	2.65	30	2.25	47	2.90	78	2.00	†1N63	14.35						
14X7	2.65	31	2.65	48	4.80	79	2.65	1N64	1.20						
14Y4	2.40	32	3.70	49	2.65	80	1.35	1N65	1.40						
15	3.20	32L7GT	3.20	50	6.00	81	4.80	1N69	2.05						
18	2.90	33	3.35	50A5	2.20	82	2.65	1N70	5.25	<b>SPECIAL TYPES with Industrial Applications</b>					
19	3.20	34	3.55	50B5	2.00	83	2.65	†1N72/G7	2.00						
19BG6G	6.00	35/51	2.20	50C5	2.00	83V	3.20	1N73/G9	47.55						
19J6	3.20	35A5	1.80	50C6G	2.90	84 6Z4	1.80	1N74/G9A	36.50						
19T8	2.90	35B	2.00	50L6GT	1.70	85	2.20	1N75	5.55						
20	4.80	35C5	2.00	50X6	2.20	85A5	3.55	†1N75	12.65						
22	3.55	35L6G	2.00	50Y6G	1.80	89	2.20	G6	3.75						
24A	2.35	35L6GT	1.70	50Y6GT	1.80	99V	3.55	G7A	2.00						
24S	3.55	35S/51S	3.55	50Y7GT	2.00	99X	3.55	G7B	4.00						
*25A6	3.20	35W4	1.30	50Z7G	2.00	100-70	2.00	G7C	4.00						
25A6G	2.65	35Y4	1.80	52	4.80	100-77	2.00	G7D	4.00						
25A6GT	2.90	35Z3	1.80	53	2.65	100-79	2.00	G7E	4.00						
25AC5G	4.80	35Z4GT	1.50	55	2.20	117L7/M7GT	3.90	G7F	2.00						
25AC5GT	2.90	35Z5G	2.00	55S	3.55	117N7GT	3.90	G7G	2.00						
25AV5GT	2.90	35Z5GT	1.25	56	1.80	117P7GT	3.90	G10	9.00						

\*Metal types

†Matched pair

Sugg'd User

**TELEVISION PICTURE TUBES**

TYPE	LIST PRICE	ENVELOPE	FACEPLATE
*5TP4	\$60.00	Round, Glass	Clear
7JP4	25.00	Round, Glass	Clear
8AP4-A	24.20	Round, Metal	Filter
10BP4-A	26.60	Round, Glass	Filter
10FP4	33.65	Round, Glass	Clear, Aluminized
10FP4-A	33.65	Round, Glass	Filter, Aluminized
12KP4-A	37.90	Round, Glass	Filter, Aluminized
12LP4-A	32.30	Round, Glass	Filter
12UP4-B	37.35	Round, Metal	Filter, Etched
14CP4	33.50	Rectangular, Glass	Filter
16AP4-A	50.75	Round, Metal	Filter
16GP4	40.50	Round, Metal	Filter
16GP4-B	40.50	Round, Metal	Filter, Etched
16KP4/16RP4	34.75	Rectangular, Glass	Filter
16KP4-A	42.50	Rectangular, Glass	Filter, Aluminized
16LP4-A	34.75	Round, Glass	Filter
16WP4-A	34.75	Round, Glass	Filter
17BP4-A	56.50	Rectangular, Glass	Filter
17BP4-B	39.75	Rectangular, Glass	Filter, Aluminized
17CP4	35.35	Rectangular, Glass	Filter
†17FP4-A	33.75	Rectangular, Glass	Filter
†17RP4/17HP4	33.75	Rectangular, Glass	Filter, Cylindrical Face
17QP4	32.50	Rectangular, Glass	Filter, Cylindrical Face
17VP4/17LP4	33.75	Rectangular, Metal	Filter, Etched
19AP4-A	60.00	Round, Metal	Filter
19AP4-B	60.00	Round, Metal	Filter, Etched
20CP4	48.75	Rectangular, Glass	Filter
20CP4-A	48.75	Rectangular, Glass	Filter
20HP4-A/20LP4	50.75	Rectangular, Glass	Filter
21EP4-A	51.25	Rectangular, Glass	Filter, Cylindrical Face
21EP4-B	59.50	Rectangular, Glass	Filter, Cylindrical Face
21FP4-A	53.50	Rectangular, Glass	Filter, Aluminized
24AP4	101.00	Round, Metal	Filter, Cylindrical Face

†Electrostatic Focus

\*Projection Type

**LIST AND SUGGESTED DEALER PRICES INCLUDE FEDERAL EXCISE TAX**  
Prices and other data subject to change without notice.





# INDUSTRIAL AND TRANSMITTING TYPES

PLIOTRONS—GRID-CONTROLLED HIGH-VACUUM TUBES FOR USE AS MODULATORS, AMPLIFIERS, OSCILLATORS



GL-813 Pliotron



GL-592 Pliotron



GL-7D21 Pliotron



GL-502A Midget Thyatron



FG-95 Thyatron



Type No.	Price	No. of Electrodes	CATHODE		PLATE				MAX. FREQ. MC.	
			Volts	Amp.	Max. Volts	Max. Amp.	Max. Input, Watts	Max. Dissipation, Watts	@ Max. Plate Input	@ 50% Max. Plate Input
GL-2C39-A	\$34.00	3	6.3	1.1	350	0.045	15.8	4.8	500	.....
GL-2C43	21.50	3	6.3	0.9	500	0.040	16.7	6.7	3370	.....
⊙GL-7D21	320.00	4	6.3	30.0	4000	1.0	3000	1200	110	.....
⊙GL-9C24	570.00	3	6.3	240.	6500	2.0	12000	5000	220	.....
GL-592	30.25	3	10	5.0	3500	0.250	600	200	110	.....
GL-805	13.50	3	10	3.25	1500	0.210	315	125	30	80
GL-807	2.50	5	6.3*	0.90	600	0.100	60	25	60	125 @ 55%
					750	0.100	75	30		
GL-812-A	5.00	3	6.3	4.00	1250	0.175	175	45	60	100 @ 55%
					1500	0.175	260	65		
GL-813	18.00	5	10.0	5.00	2000	0.180	360	100	30	60 @ 75%
GL-814	14.25	5	10.0	3.25	1250	0.150	180	50	30	100
					1500	0.150	225	65		
⊙GL-833-A	49.50	3	10.0	10.0	1000	0.500	1800	100	30	75 @ 72%
					4000	0.500	2000	450		
⊙GL-862-A**	1450.00	3	33	207.0	20000	10.00	200000	100000	1.6	.....
⊙GL-880	540.00	3	12.6	320.0	15000	4.5	67500	20000	25	100
⊙GL-889-A	210.00	3	11	120	8500	2.00	16000	5000	50	150
⊙GL-889-R-A ★	295.00	3	11	120	8500	2.00	16000	5000	40	100
⊙GL-893-A ★	700.00	3	10§	61.0§	20000	4.00	70000	20000	5	40
⊙GL-893A-R ★	1250.00	3	10§	61.0§	20000	4.00	70000	20000	5	25
GL-8000	14.50	3	10	4.5	2500	0.300	750	175	30	100
⊙GL-8002	160.00	3	16	38	3500	1.00	3000	1200	150	300
⊙GL-8002-R	190.00	3	16	38	3500	1.00	3000	1200	120	200

Figures in bold type are ICAS ratings.  
 \*Heater-type cathode.  
 †Lower prices apply when new tube is purchased and radiator in good condition is returned prepaid, to Schenectady.  
 ‡Credit for return, prepaid, to Schenectady—carton \$5.00; tube \$10.00.  
 §Single-, three-, or six-phase filament. Voltage is per strand, current is per terminal.  
 ⊙ Forced-air cooled type.  
 ⊙ Water-cooled type.

## THYRATRONS—GRID-CONTROLLED GASEOUS-DISCHARGE-RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		ANODE			Starting Grid Voltage
			Volts	Amp	Peak Volts	Peak Amp	Avg Amp	
GL-3C23	\$12.50	3	2.5	7.0	1250	6.0	1.5	Neg
FG-27-A	26.00	3	5.0	4.5	1000	10.0	2.5	Neg
			5.0	10.0	2500	40.0	6.4	Var
FG-105	49.50	4	5.5	11.0	750	77.0	2.5	Var
			5.5	10.0	10000	16.0	4.0	Var
FG-172	74.00	4	5.0	10.0	2000	40.0	6.4	Var
			5.5	11.0	750	77.0	2.5	Var
GL-502-A	1.85	4	6.3	0.6	1300	0.100	0.100	Neg
GL-5557/FG-17	8.50	3	2.5	5.0	5000	2.0	0.5	Neg
			5.0	4.5	1000	15.0	2.5	Var
GL-5560/FG-95	28.00	4	5.5	4.5	1000	30.0	0.5	Var

†These ratings apply only when the tube is used for ignitor firing.  
 ‡These ratings apply only when the tube is used in thyatron welding-control service.

Prices and other data subject to change without notice.

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

- Pliotrons
- Thyratrons
- Phanotrons
- Kenotrons
- Ignitrons
- Phototubes
- Lighthouse Tubes
- Phasitron
- Ballast Tubes
- Cathode-Ray Tubes
- Glow Tubes
- Vacuum Capacitors
- Vacuum Switches

Ask for—ETX-10  
 For complete Prices, Descriptions and Ratings.



# INDUSTRIAL AND TRANSMITTING TYPES



FG-32 Phanotron



GL-872A/872 Phanotron



GL-8020 Kenotron



FG-235-A Ignitron



FG-271 Ignitron

## PHANOTRONS—GASEOUS OR MERCURY-VAPOR RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		ANODE		
			Volts	Amp	Peak Volts	Peak Amp	Avg Amp
FG-280	\$62.00	2	5.0	10	2000	40	6.4
GL-866-A	2.10	2	2.5	5	10000	1	0.25
GL-869-B	150.00	2	5	19	20000	15	2.5
GL-870-A	1475.00	2	5	65	16000	.....	75.0
GL-872-A/872	8.20	2	5	7.5	10000	5	1.25
GL-5558/FG-32	15.50	2	5.0	4.5	5000	15	2.5
GL-5561/FG-104	40.00	2	5.0	10	3000	40*	6.4

\*Quadrature operation

## KENOTRONS—HIGH-VACUUM RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		PLATE		
			Volts	Amp	Max. Inv. Volts	Max. Amp.	Average Amp.
GL-411	\$250.00	2	10	14.5	100000	0.300	.....
GL-836	9.00	2	2.5*	5.0	5000	1.0	0.25
GL-5625/KC4	250.00	2	20	21.5	150000	1.0	.....
GL-8013-A	10.30	2	2.5	5.0	40000	0.150	0.020
GL-8020	24.00	2	{ 5.0 5.8Δ	{ 6.0 .....	{ 40000 12500Δ	{ 0.750 2.Δ	{ 0.100 .....

\*Heater-type cathode.  
ΔSurge-limiting diode operation.

## IGNITRONS—HIGH-PEAK CURRENT, POOL-CATHODE TUBES

Type No.	Price	Supply Volts	MAXIMUM RATINGS			
			Kva Demand	Corresponding Average Anode Current, Amps.	Maximum Average Anode Current, Amps.	Corresponding Kva Demand
GL-5550/GL-415*	\$ 50.00	250-600 rms	300	12.1	22.4	100
GL-5551/FG-271*	80.50	250-600 rms	600	30.2	56.0	200
GL-5552/FG-235-A*	121.00	250-600 rms	1200	75.6	140	400
GL-5553/FG-258-A*	265.00	250-600 rms	2400	192	355	800
MAXIMUM CURRENT†						
			Peak Amp.	Average Amp.	Average Amp. 1 Minute	
GL-5554/FG-259-B†	190.00	{ 300 600	{ 900 600	{ 150 112.5	{ 200 150	
GL-5555/FG-238-B†	370.00	{ 300 600	{ 1800 1200	{ 300 225	{ 400 300	

\*Ratings are for voltages of 600 volts rms and below. Ignitor requirements for all welding-control types are 200 volts and 30 amperes.

†Typical ignitor requirements for power-rectifier ignitrons are 75-125 volts, 15-20 amperes. Maximum requirements are 150 volts, 40 amperes.

Prices and other data subject to change without notice.

# RCA ELECTRON TUBES REPLACEMENT DIRECTORY

for INDUSTRY and COMMUNICATIONS



## Direct Replacement Types

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

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

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
OA3/VR75	OA3	FG-104	5561	FG-259B	5554	889	889-A
OC3/VR105	OC3	VR105-30	OC3	WT-261	6H6	893	893-A
OD3/VR150	OD3	HF120	211	WE-261A	835	902	902-A
CE-1(A-D)	868, 918	VR150-30	OD3	WT-262	866-A	UE-905	805
1P32	927	WT-210-0001	2D21	WT-263	6Z4	905	905-A
2AP1	2AP1-A	WT-210-0003	884	WT-269	OC3	906-P1	3AP1-A
2B4	885	WT-210-0004	2050	WT-270	80	908	908-A
2X2/879	2X2-A	WT-210-0006	6116	WT-270X	5Z3	914	914-A
3AP1	3AP1-A	WT-210-0008	866-A	FG-271	5551	931	931-A
3BP1	3BP1-A	WT-210-0009	84/6Z4	WT-272	5557	UE-938	838
4D21	4-125A/4D21	WT-210-0011	OC3	WE-274B	5R4-GY	UE-949	849
4-250A	4-250A/5D22	WT-210-0012	80	WE-289A	41B26/2000	UE-966A	866-A
5BP1	5BP1-A	WT-210-0013	5Z3	WT-294	OD3	UE-967	5557
5CP1	5CP1-A	WT-210-0015	5557	WE-295A	203-A	UE-972A	872-A
5CP7	5CP7-A	WT-210-0018	OD3	WT-301	83	UE-975A	575-A
5D22	4-250A/5D22	WT-210-0019	83	UE-303A	203-A	1642	2C21/1642
5FP7	5FP7-A	WT-210-0021	6X5	WE-304B	834	1802-P1	5BP1-A
5HP1-A	5BP1-A†	WT-210-0025	117Z6-GT	F-307A	207	1803-P4	12AP4
7BP7	7BP7-A	WT-210-0027	872-A	WT-308	6X5-GT	1804-P4	9AP4
PJ-8	5556	WT-210-0028	3Q5-GT	CE-309	5557	1811-P1	7CP1
G9	868	WT-210-0029	6C5	CE-311	3C23	1849	1850-A
BW-11	834	WT-210-0031	902-A	UE-311	211	1850	1850-A
CE-11V(A-D)	917	WT-210-0037	117L7/M7-GT	UE-311C	835	2000	4B26/2000
RK-11	1623	WT-210-0038	172	UE-317C	217-C	2051	2050
12DP7	12DP7-A	WT-210-0040	6X4	WE-322A	803	2525A5	5BP1-A
FG-17	5557	WT-210-0042	5Y3-GT	WE-350A	807	5728	1904
CE-20	927	WT-210-0044	575-A	375-A	575-A	8001	4E27/8001
RK-20A	804	WT-210-0045	892	WT-377	117Z6-GT	8016	1R3-GT
CE-21(A-D)	920	WT-210-0048	5U4-G	WT-389	3Q5-GT	198049	4B26/2000
CE-23(A-D)	923	WT-210-0052	2AP1-A	WT-390	6C5	289416D	4B26/2000
PJ-23	868	WT-210-0053	3AP1-A	WE-397A	2K56	WTT-100	6X4
CE-25(A-D)	927	WT-210-0056	5559	FJ-401	1P29	WTT-102	5Y3-GT
RK-25	802	WT-210-0057	5560	WE-403A	6AK5	WTT-103	6H6
RK-25B	802	WT-210-0058	676	GL-415	5550	WTT-104	575-A
CE-28(A-D)	928	WT-210-0060	OZ4	GL-451	8020	WTT-105	892
RK-28	803	WT-210-0061	117N7-GT	WT-606	2D21	WTT-111	5559
RK-28A	803	WT-210-0062	5557	WL-630	2050	WTT-112	5560
CE-29(A-D)	929, 1P39	WT-210-0069	5557	WL-631	5559	WTT-113	676
CE-30(A-D)	930, 1P40	WT-210-0070	5550	KU-634	677	WTT-114	0Z4
CE-30V	925	WT-210-0071	5551	WL-651/656	5552	WTT-115	117N7-GT
RK-30	800	WT-210-0072	5552	WL-652/657	5551	WTT-117	5557
FG-32	5558	WT-210-0073	5553	WL-653B	5555	WTT-118	105
RK-33	2C21/1642	WT-210-0074	105	WL-655/658	5553	WTT-119	172
CE-34	934	WT-210-0078	172	672	672-A	WTT-122	6SJ7
RK-39	807	WT-210-0079	105	WL-679	5554	WTT-123	6V6
CE-41	921	WT-210-0081	6SJ7	WL-681/686	5550	WTT-124	7K7
CE-42	922	WT-210-0082	6V6	NL-715	5557	WTT-125	6N7-GT
RK-44	837	WT-210-0083	7K7	WL-735	868	WTT-126	50B5
RK-47	814	WT-210-0084	6N7-GT	801	801-A	WTT-127	833-A
UH-50	834	WT-210-0085	50B5	811	811-A	WTT-128	6K8-GT
RS1A	927	WT-210-0086	833-A	812	812-A	WTT-129	6J5-GT
CE-55	924	WT-210-0087	6K8-GT	829	829-B	WTT-130	6G6-G
FG-57	5559	WT-210-0088	6J5-GT	829-A	829-B	WTT-131	6C6
RK-57	805	WT-210-0089	6G6-G	832	832-A	WTT-132	OA4-G
RK-58	838	WT-210-0090	6C6	833	833-A	WTT-135	5U4-G
CE-59	5581	WT-210-0091	OA4-G	C-833	833-A	WTT-136	2AP1-A
R59A	868, 918	211-D	211	857	857-B	WTT-137	3AP1-A
R60A	920	CE-226	41B26/2000	862	862-A	WTT-149	172
HY-61/807	807	FG-235A	5552	866	866-A		
R61A	930	FG-238B	5555	866-A/866	866-A		
CE-64	5583	242A	211	869-A	869-B		
FG-67	1904	242B	211	872	872-A		
VR75-30	OA3	WT-245	884	872-A/872	872-A		
FG-95	5560	WT-246	2050	F-872B	872-A		
CE-98	5582	FG-258A	5553	879	2X2-A		

See next page for a complete listing and suggested user's prices of more than 340 RCA Non-Receiving Tube Types.

† Except in high-altitude service.

NOTE: For additional replacement data on RCA Tubes for Industry and Communications, refer to the 20-page RCA Interchangeability Directory (Form ID-1020) which lists 1600 tube type numbers used by 24 manufacturers.

For complete technical information on RCA Tubes, see your RCA Distributor or write: Commercial Engineering, RCA Tube Department, Harrison, New Jersey.



# RCA ELECTRON TUBES

for INDUSTRY and COMMUNICATIONS



Type	Sugg'd User Price	Type	Sugg'd User Price	Type	Sugg'd User Price	Type	Sugg'd User Price	Type	Sugg'd User Price
OA2	\$2.90	6AB7-Y†*	\$1.85	805	\$13.50	930	\$1.65	5651	\$3.14
OA3	2.65	6AC7-W†*	3.75	806	34.25	931-A	8.60	5652	6.55
OA4-G	2.90	6AC7-Y†*	1.40	807	2.50	934	3.40	5653	2.40
OB2	3.20	6AG7-Y*	1.75	808	10.75	935	7.80	5654*	5.75
OC3	2.65	6AK5-W†*	3.38	809	4.00	954*	5.65	5671	1250.00
OD3	2.65	6AL5-W†*	2.95	810	16.25	955*	3.60	5675	17.30
1C21	2.85	6AS6*	3.65	811-A	5.00	956*	7.00	5691	8.55
1P21	50.00	6F4*	6.40	812-A	5.00	957*	3.75	5692	8.55
1P22	14.75	6J4*	8.05	813	18.00	958-A*	6.50	5693	6.95
1P28	15.50	6L4*	6.60	814	14.25	959*	6.25	5696	1.90
1P29	2.95	6L6-Y;*	2.90	815	8.20	991	.75	5713	176.00
1P37	2.85	6SA7-Y†*	1.10	816	1.65	1608	7.90	5734	18.00
1P39	1.75	6SJ7-Y*	1.00	826	12.50	1609	10.25	5762	169.00
1P40	1.95	6SK7-W†*	3.44	827-R	172.50	1610	2.50	5763	1.75
1P41	2.80	6SK7-Y;*	1.06	828	13.75	1612	2.70	5770	995.00
1P42	5.70	6SN7-GTY*	1.40	829-B	16.25	1613	2.45	5771	543.00
2A4-G	3.20	6V6-GTY†*	1.08	830-B	11.50	1614	2.00	5786	78.00
2AP1-A	10.55	6V6-Y;*	4.25	832-A	12.90	1616	8.65	5794	16.75
2BP1	9.60	7BP7-A	48.50	833-A	49.50	1619	2.50	5819	55.00
2BP11	11.00	7C24	169.00	834	14.50	1620	6.25	5820	1200.00
2C21/1642*	1.90	7CP1	30.75	835	19.50	1621	1.95	5822	143.00
2C22*	1.60	7CP4	33.00	836	9.00	1622	2.50	5823	1.32
2C40*	24.00	7JP1	23.50	837	5.80	1623	4.05	5825	13.00
2C43	21.50	7MP7	39.50	838	13.75	1624	4.00	5826	1300.00
2D21	2.00	7MP14	39.50	841*	4.35	1625	2.65	5876	18.70
2D21W †	3.15	7NP4	600.00	842	4.05	1626	1.85	5879	1.75
2E24	4.65	7QP4	39.50	843	2.60	1629	1.40	5890	26.00
2E26	3.85	7TP4	52.00	845	13.75	1631*	3.10	5893	19.40
2F21	105.00	7WP4	630.00	846	250.00	1632*	3.25	5915	1.20
2J50	192.00	8D21	1300.00	849	138.00	1633*	1.95	5946	115.00
2K26	107.15	9C21	922.00	851	340.00	1634*	1.40	5963	1.40
2V3-G*	5.25	9C22	1300.00	857-B	218.50	1635	2.00	5964	1.50
2X2-A	4.35	9C25	1080.00	860	34.50	1644*	3.10	6012	4.50
3A4	1.20	10KP7	50.00	861	178.25	1654	4.55	6026	2.95
3A5	1.95	10SP4	54.00	862-A	1322.00	1699	‡‡	6073	8.00
3AP1-A	14.25	10-Y	3.90	864	5.00	1816P4-A	47.00	6074	8.90
3B25	6.90	12A6*	2.90	865	11.50	1850-A	540.00	6080*	6.00
3E28	8.85	12DP7-A	72.50	866-A	2.10	1904	23.00	6082	5.30
3BP1-A	16.50	12K6-Y†*	1.75	868	2.50	1945	135.00	6146	4.90
3C23	12.50	12L8-GT	2.35	869-B	138.00	1946	10.90	6159	4.90
3C33	21.25	12SA7-Y;*	1.25	872-A	8.20	1947	9.80	6161	115.00
3D22	15.00	12SG7-Y	3.40	874	3.10	1949	11.30	6166	780.00
3E22	8.30	12SP7	47.46	878	12.75	1950	7.80	6173	15.80
3E29	20.25	12SW7*	1.20	880	540.00	2050	1.85	6181	750.00
3FP7-A	23.00	12SX7-GT†*	1.55	884	1.85	5527	49.90	6198	360.00
3JP1	19.00	12SY7*	1.45	885	2.00	5550	50.00	6199	55.00
3JP7	23.00	16ADP7	55.00	886	4.60	5551	80.50	8000	14.50
3K P1	14.50	26A6*	3.10	889-A	210.00	5552	121.00	8003	14.00
3KP11	16.50	26A7-GT*	6.55	889R-A	295.00	5553	265.00	8005	8.40
3MP1	14.75	26C6*	2.10	891	237.00	5554	190.00	8008	8.20
JRP1	14.50	26D6*	2.85	891-R	385.00	5555	370.00	8012-A	15.50
4-65A	20.40	89-Y*	1.10	892	237.00	5556	13.50	8013-A	10.30
4-125A/4D21	30.25	105	49.50	892-R	385.00	5557	8.50	8020	24.00
4-250A/5D22	41.25	172	74.00	893-A	664.00	5558	15.50	8025-A	11.30
4C33	182.75	203-A	13.75	893A-R	1212.00	5559	22.00	9001*	3.40
4E27/8001	24.50	204-A	130.00	898-A	1322.00	5560	28.00	9002*	2.50
4E27A/5-125B	35.75	207	240.00	902-A	12.50	5561	40.00	9003*	3.40
4X150A	48.00	211	13.75	905-A	65.25	5563	47.00	9004*	2.30
4X500A	121.00	217-C	21.17	908-A	16.50	5581	2.25	9005*	3.45
5ABP1	38.20	502-A	1.85	912	155.00	5582	2.65	9006*	1.60
5BP1-A	22.50	559	5.35	913	15.50	5583	3.05		
5CP1-A	23.25	575-A	21.00	914-A	93.50	5584	3.95		
5CP7-A	27.25	579-B	15.00	917	3.50	5588	120.00		
5CP11-A	27.50	627	22.00	918	3.10	5592	1229.00		
5CP12	27.00	629	13.00	919	3.50	5618	3.60		
5FP4-A	41.75	672-A	35.00	920	4.15				
5FP7-A	30.25	673	21.00	921	2.05				
5FP14	30.25	676	55.00	922	1.95				
5R4-GY*	1.85	677	55.00	923	2.05				
5UP1	17.75	715-C	63.00	924	3.30				
5UP7	20.25	800	11.50	925	2.40				
5UP11	22.00	801-A	4.85	926	2.90				
5WP11	70.00	802	4.75	927	2.50				
5WP15	70.00	803	24.25	928	2.85				
5ZP16	71.25	804	17.50	929	1.50				

\*Subject to Federal Excise Tax. Suggested User prices listed in this schedule include Federal Excise Tax.  
†Supplied only against orders giving government contract number. ‡Quotation on request.  
Prices in effect May 28, 1952.



# RCA ELECTRON TUBES

## RECEIVING • TELEVISION • SPECIAL



SUGGESTED LIST PRICES • MAY 1, 1952

Type	Sug'd List Price	Type	Sug'd List Price	Type	Sug'd List Price	Type	Sug'd List Price	Type	Sug'd List Price	Type	Sug'd List Price
OY4	\$4.80	5AZ4	\$1.35	6F5GT	\$1.70	6X4	\$1.55	12SC7	\$2.30	37	\$1.85
OZ4	1.65	5T4	4.40	6F6	2.10	6X5	2.75	12SF5	1.90	38	2.30
OZ4G	1.65	5U4G	1.50	6F6G	1.75	6X5GT	1.55	12SF7	2.10	39/44	2.75
1A3	2.30	5V4G	2.45	6F6GT	1.65	6X8	2.75	12SG7	2.00	41	1.90
1A4P	4.05	5W4	1.65	6F7	3.35	6Y6G	2.50	12SH7	2.20	42	1.90
1A5GT	1.85	5X4G	1.80	6F8G	3.35	6Z7G	4.05	12SJ7	1.75	43	2.05
1A6	3.35	5Y3G	1.35	6G6G	2.75	6ZY5G	2.30	12SJ7GT	1.65	45	2.10
1A7GT	2.20	5Y3GT	1.10	6I6	1.65	7A4	2.00	12SK7	1.75		
1AC5	2.20	5Y4G	1.55	6I6GT	1.85	7A5	2.35	12SK7GT	1.85	45Z3	1.80
1AD5	2.20	5Z3	1.75	6J5	1.50	7A6	1.90	12SL7GT	2.50	45Z5GT	1.80
1B3GT	2.55	5Z4	2.80	6J5GT	1.50	7A7	1.90	12SN7GT	2.30	46	2.90
1B4P	4.05	6A3	3.35	6J6	2.50	7A8	1.80	12SQ7	1.50	47	2.90
1B5/2S5	3.35	6A6	2.75	6J7	2.10	7AD7	3.35	12SQ7GT	1.60	49	2.75
1C5GT	2.30	6A7	2.30	6J7G	2.25	7AF7	1.80	12Z3	2.60	50	5.15
1C6	3.35	6A8	2.20	6J7GT	2.20	7AG7	2.20	14A4	2.65	50A5	2.20
1C7G	3.35	6A8G	2.30	6J8G	3.20	7A117	2.20	14A5	3.90	50B5	2.00
1D5GP	4.05	6A8GT	2.30	6K5GT	2.40	7B4	1.80	14A7/12B7	2.20	50C5	2.00
1D7G	3.35	6AB4	2.00	6K6GT	1.60	7B5	1.80	14A F7	2.40	50C6G	2.90
1D8GT	4.05	6AB5/6N5	2.75	6K7	1.85	7B6	1.80	14B6	2.20	50L6GT	1.70
1E5GT	4.05	6AB7	3.25	6K7G	2.15	7B7	1.90	14B8	2.20	50X6	2.20
1E7GT	4.05	6AC5GT	3.00	6K7GT	2.15	7B8	1.90	14C5	2.20	50Y6GT	1.85
1E8	2.20	6AC7	2.90	6K8	2.70	7C5	1.90	14C7	2.40	50Y7GT	2.10
1F4	2.75	6AD7G	3.35	6K8G	3.30	7C6	1.80	14E6	2.35	53	2.75
1F5G	2.75	6AF6G	2.75	6L5G	2.75	7C7	1.90	14E7	2.75	55	2.30
1F6	4.05	6AG5	2.25	6L6	3.75	7E6	2.35	14F7	2.20	56	1.85
1F7G	4.05	6AG7	3.20	6L6G	3.20	7E7	2.75	14F8	3.20	57	2.10
1G4GT	2.55	6AH6	3.90	6L7	2.55	7F7	2.20	14H7	2.40	58	2.10
1G5G	3.15	6AK5	4.15	6L7G	3.30	7F8	2.90	14J7	2.75	59	3.70
1G6GT	2.70	6AK6	2.35	6N6G	3.90	7G7/1232	2.75	14N7	2.65	14Q7	2.20
1H4G	2.30	6AL5	1.80	6N7	2.55	7H7	2.20	14R7	2.75	14R7	2.75
1H5GT	1.70	6AL7GT	2.90	6N7GT	2.50	7I7	2.75	19	3.35	19B6G	6.00
1H6G	3.35	6AQ5	2.00	6P5GT	2.40	7K7	2.75	19J6	2.65	19S7	2.65
1J6GT	3.35	6AQ6	1.90	6Q7	2.10	7L7	2.75	19T8	2.90	22	3.20
1L4	2.10	6AQ7GT	2.65	6Q7G	1.85	7N7	2.20	24A	2.35	25A6	3.40
1LA4	2.65	6AR5	1.65	6Q7GT	1.85	7Q7	2.10	25AC5GT	2.90	25B6GT	3.40
1LA6	2.65	6AS5	2.10	6R7	2.65	7R7	2.35	25BQ6GT	3.40	26	2.05
1LB4	2.65	6AT6	1.55	6R7GT	2.65	7S7	2.65	25L6GT	1.70	27	1.75
1LC5	2.65	6AU5GT	2.65	6S4	1.70	7V7	2.65	25W4GT	2.00	30	2.25
1LC6	2.65	6AU6	1.80	6S7	2.75	7W7	2.65	25Z5	1.65	31	2.75
1LD5	2.65	6AV6	1.55	6S7G	3.35	7X7	2.65	25Z6GT	1.50	32	3.70
1LE3	2.65	6AX5GT	1.65	6S8GT	2.65	7Y4	1.80	26	2.05	32L7GT	3.20
1LG5	2.65	6B4G	3.20	6SA7	1.75	7Z4	1.80	33	3.35	33	3.35
1LH4	2.65	6B5	3.35	6SA7GT	1.85	10Y	3.90	34	3.50	35A5	1.80
1LN5	2.65	6B6G	2.10	6SB7Y	2.55	12A7	3.35	35B5	2.00	35B5	2.00
1N5GT	2.10	6B7	3.35	6SC7	2.00	12A8GT	2.20	35C5	2.00	35L6GT	1.70
1P5GT	2.65	6B8	3.35	6SF5	1.75	12AH7GT	2.75	35W4	1.30	35Y4	1.80
1Q5GT	2.65	6B8G	3.35	6SF5GT	1.80	12AL5	1.80	35Y3	1.80	35Z3	1.80
1R5	2.10	6RA6	1.90	6SF7	2.00	12AT6	1.55	35Z4GT	1.50	35Z5GT	2.65
1S4	2.25	6RA7	2.50	6SG7	2.00	12AT7	2.90	36	2.75	12SA7	1.75
1S5	1.90	6BC5	2.00	6SH7	2.20	12AU6	1.80	12K7GT	2.10	12SA7GT	1.85
1T4	2.10	6BD6	2.00	6SI7	1.65	12AU7	2.40	12K8	2.70	12Q7GT	1.85
1T5GT	2.60	6RE6	1.90	6SI7GT	1.65	12AV6	1.55	12S8GT	2.65	12S8GT	2.65
1T6	2.20	6RF6	1.70	6SK7	1.65	12AW6	2.50	12SA7	1.75	12SA7GT	1.85
1U4	2.10	6RG6G	4.80	6SK7GT	1.85	12AX7	2.50	12S8GT	2.65		
1U5	1.90	6BH6	2.10	6SL7GT	2.45	12BA6	1.90				
1V	2.30	6RJ6	2.10	6SN7GT	2.20	12BA7	2.50				
1V2	1.55	6BL7GT	2.90	6SQ7	1.50	12BD6	2.00				
1X2A	2.65	6RQ6GT	3.40	6SO7GT	1.60	12BE6	1.90				
2A3	3.35	6RQ7	3.05	6SR7	1.80	12BH7	2.40				
2A5	2.30	6C4	1.70	6SS7	1.70	12C8	3.35				
2A6	2.65	6C5	1.75	6ST7	2.65	12F5GT	1.85				
2A7	2.75	6C5GT	1.65	6SZ7	2.20	12H6	1.80				
2B7	3.40	6C6	2.20	6T7G	3.35	12J5GT	1.55				
2E5	2.75	6C8G	3.35	6T8	2.90	12J7GT	2.20				
3A8GT	4.80	6CB6	2.10	6U5	2.00	12K7GT	2.10				
3LP4	2.65	6CD6G	6.60	6U7G	2.20	12K8	2.70				
3Q4	2.25	6D6	2.20	6V6	3.35	12Q7GT	1.85				
3Q5GT	2.50	6D8G	3.35	6V6GT	2.00	12S8GT	2.65				
3S4	2.00	6E5	2.25	6W4GT	1.85	12SA7	1.75				
3V4	2.00	6F5	1.75	6W7G	2.75	12SA7GT	1.85				

OTHERS	
Type	Sug'd List Price
6AS7G	\$7.10

Suggested list prices include Federal Excise Tax where applicable, and are subject to government price regulations. All prices subject to change without notice.



# RCA KINESCOPIES

## DEALER PRICE SCHEDULE

JULY 1, 1952



Type	Suggested List Price†	Suggested Dealer Price††	DESCRIPTION				
			Shape	Material	Face	Focus	Deflection
3KP4	20.00	15.00	Round	Glass	Clear	Electrostatic	Electrostatic
5TP4	60.00	45.00	Round	Glass	Clear	Electrostatic	Magnetic
7DP4	31.50	26.20	Round	Glass	Clear	Electrostatic	Magnetic
7JP4	25.00	18.75	Round	Glass	Clear	Electrostatic	Electrostatic
10BP4-A	27.00	20.00	Round	Glass	Filter	Magnetic	Magnetic
10FP4-A	33.75	25.25	Round	Glass	Filter	Magnetic	Magnetic
12KP4-A	38.00	28.40	Round	Glass	Filter	Magnetic	Magnetic
12LP4-A	31.00	23.25	Round	Glass	Filter	Magnetic	Magnetic
14CP4	33.50	25.00	Rectangular	Glass	Filter	Magnetic	Magnetic
14EP4	33.50	25.00	Rectangular	Glass	Filter	Magnetic	Magnetic
16AP4-A	43.00	32.00	Round	Metal	Filter	Magnetic	Magnetic
16DP4-A	36.00	27.00	Round	Glass	Filter	Magnetic	Magnetic
16GP4	40.00	30.00	Round	Metal	Filter	Magnetic	Magnetic
16GP4-B	40.00	30.00	Round	Metal	Fil.-Fr.	Magnetic	Magnetic
16KP4	35.00	26.00	Rectangular	Glass	Filter	Magnetic	Magnetic
16LP4-A	35.00	26.00	Round	Glass	Filter	Magnetic	Magnetic
16RP4	35.00	26.00	Rectangular	Glass	Filter	Magnetic	Magnetic
16TP4	35.00	26.00	Rectangular	Glass	Filter	Magnetic	Magnetic
16WP4-A	35.00	26.00	Round	Glass	Filter	Magnetic	Magnetic
17BP4-A	33.00	24.50	Rectangular	Glass	Filter	Magnetic	Magnetic
17CP4	33.00	24.50	Rectangular	Metal	Fil.-Fr.	Magnetic	Magnetic
17GP4	35.00	26.25	Rectangular	Metal	Fil.-Fr.	Electrostatic	Magnetic
17HP4	34.00	25.50	Rectangular	Glass	Filter	Electrostatic*	Magnetic
17JP4	33.00	24.50	Rectangular	Glass	Filter	Magnetic	Magnetic
17LP4	34.00	25.50	Rectangular	Glass	Filter	Electrostatic*	Magnetic
17QP4	33.00	24.50	Rectangular	Glass	Filter	Magnetic	Magnetic
17TP4	33.00	24.50	Rectangular	Metal	Fil.-Fr.	Electrostatic*	Magnetic
19AP4-A	50.00	37.50	Round	Metal	Fil.-Fr.	Magnetic	Magnetic
19AP4-B	50.00	37.50	Round	Metal	Filter	Magnetic	Magnetic
20CP4	49.00	36.50	Rectangular	Glass	Filter	Magnetic	Magnetic
20MP4	51.00	38.00	Rectangular	Glass	Filter	Electrostatic*	Magnetic
21AP4	51.50	38.50	Rectangular	Metal	Fil.-Fr.	Magnetic	Magnetic
21MP4	53.50	40.00	Rectangular	Metal	Fil.-Fr.	Electrostatic*	Magnetic

†Suggested List Prices effective June 15, 1952.

\*Low Voltage

††See your RCA distributor for kinescope return allowance information.

Suggested List and Dealer Prices include Federal Excise Tax and are subject to Government Ceiling Price Regulations.

All prices subject to change without notice.

*For the latest Service Aids — for the Best Tubes . . .*

**ALWAYS KEEP IN TOUCH WITH YOUR RCA DISTRIBUTOR**



# TUNG-SOL ELECTRON TUBES

REVISED APRIL 1, 1952

This Price List Is Supplied For Your Convenience By Tung-Sol Electric Inc.

All prices are subject to change without notice. The listing of price for any tubes does not necessarily indicate availability.

Type	Sugg'd Retail Price	Type	Sugg'd Retail Price	Type	Sugg'd Retail Price	Type	Sugg'd Retail Price
0Y4	\$4.80	2A5	\$2.30	6B7	\$3.35	6R7GT	\$2.65
0Z4	1.65	2A6	2.65	6B8	3.35	6R8	3.20
0Z4G	1.65	2A7	2.75	6B8G	3.35	6S4	1.70
01A	1.25	2B7	3.40	6BA6	1.90	6S7	2.75
1A3	2.30	2E5	2.75	6BA7	2.50	6S7G	3.35
1A4P	4.05	3A8GT	4.80	6BC5	2.00	6S8GT	2.65
1A5GT	1.85	3B7/1291	2.65	6BD5GT	3.35	6SA7	1.75
1A6	3.35	3C6/XXB	3.20	6BD6	2.00	6SA7GT	1.85
1A7GT	2.20	3D6/1299	2.65	6BE6	1.90	6SB7Y	2.55
1B3GT	2.55	3E6	2.65	6BF5	2.35	6SC7	2.00
1B4P (1B4/951)	4.05	3LF4	2.65	6BF6	1.70	6SC7GT	2.00
1B5/25S	3.50	3Q4	2.25	6BG6G	4.80	6SD7GT	2.90
1B7GT	3.35	3Q5GT	2.50	6BH6	2.10	6SF5	1.75
1C5GT	2.30	3S4	2.00	6BJ6	2.10	6SF5GT	1.80
1C6	3.35	3V4	2.00	6BL7GT	2.90	6SF7	2.00
1C7G	3.35	5AX4GT	1.25	6BN6	3.20	6SF7GT	1.80
1C8	2.65	5AZ4	1.35	6BQ6GT	3.40	6SG7	2.00
1D5GP	4.05	5T4	4.40	6BY5G	2.65	6SG7GT	2.20
1D7G	3.35	5U4G	1.50	6C4	1.70	6SH7	2.20
1D8GT	4.05	5V4G	2.45	6C5	1.75	6SH7GT	2.20
1E5GP	4.05	5W4	1.65	6C5GT	1.65	6SJ7	1.65
1E7GT	4.05	5W4GT	1.65	6C6	2.20	6SJ7GT	1.65
1F4	2.75	5X4G	1.80	6C8G	3.35	6SK7	1.65
1F5G	2.75	5Y3G	1.35	6CB6	2.10	6SK7GT	1.85
1F6	4.05	5Y3GT	1.10	6CD6G	6.60	6SL7GT	2.45
1F7G	4.05	5Y4G	1.55	6DG	2.20	6SN7GT	2.20
1G4GT	2.55	5Z3	1.75	6D8G	3.35	6SQ7	1.50
1G5G	3.15	5Z4	2.80	6E5	2.25	6SQ7GT	1.60
1G6GT	2.70	6A3	3.35	6F5	1.75	6SR7	1.80
1H4G	2.30	6A4 (LA)	3.20	6F5GT	1.70	6SF7GT	1.80
1H5GT	1.70	6A5G	4.05	6F6	2.10	6SS7	2.15
1H6G	3.35	6A6	2.75	6F6G	1.75	6ST7	2.65
1J5G	2.65	6A7	2.30	6F6GT	1.65	6SV7	3.55
1J6G	3.20	6A8	2.20	6F7	3.35	6SZ7	2.20
1J6GT	3.35	6A8G	2.30	6F8G	3.35	6T7G (6Q6G)	3.35
1L4	2.10	6A8GT	2.30	6G6G	2.75	6T8	2.90
1LA4	2.65	6AB4	2.00	6H4GT	2.65	6U4GT	2.65
1LA6	2.65	6AG5/6N6	2.75	6H6	1.65	6U5/6G5	2.00
1LB4	2.65	6AB7/1853	3.25	6H6GT	1.85	6U6GT	2.00
1LC5	2.65	6AC5GT	3.00	6J5	1.50	6U8	2.90
1LC6	2.65	6AC7/1852	2.90	6J5GT	1.50	6U7G	2.20
1LD5	2.65	6AD7G	3.35	6J6	2.50	6V6	3.35
1LE3	2.65	6AF6G	2.75	6J7	2.10	6V6GT	2.00
1LG5	2.65	6AG5	2.25	6J7GT	2.20	6V7	3.20
1LH4	2.65	6AG7	3.20	6J8G	3.20	6V7G	1.80
1LN5	2.65	6AH6	3.90	6K5GT	2.40	6W4GT	1.85
1N5GT	2.10	6AK5	3.90	6K6GT	1.60	6W6GT	2.20
1N6G	1.80	6AK6	2.35	6K7	1.85	6W7G	2.75
1P5GT	2.65	6AL5	1.80	6K7G	2.15	6X4	1.55
1Q5GT	2.65	6AL7GT	2.90	6K7GT	2.15	6X5	2.75
1Q6	2.65	6AQ5	2.00	6K8G	2.70	6X5GT	1.55
1R5	2.10	6AQ6	1.90	6K8GT	2.50	6Y6G	2.50
1S4	2.25	6AQ7GT	2.65	6L5G	2.75	6Z7G	4.05
1S5	1.90	6AR5	1.65	6L6	3.75	6ZY5G	2.30
1T4	2.10	6AS5	2.10	6L6G	3.20	7A4/XXL	2.00
1T5GT	2.60	6AT6	1.55	6L6GA	3.20	7A5	2.35
1U4	2.10	6AU5GT	2.65	6L7	2.55	7A6	1.90
1U5	1.90	6AU6	1.80	6L7G	3.30	7A7	1.90
1V	2.30	6AV5GT	2.65	6N6G	3.90	7A8	1.80
1V2	1.55	6AV6	1.55	6N7	2.55	7AD7	3.35
1V5	2.65	6AX4GT	2.40	6N7GT	2.50	7AF7	1.80
1X2A	2.65	6AX5GT	1.65	6P5GT	2.40	7AG7	2.20
1W5	2.65	6B4G	3.20	6Q7	2.20	7AH7	2.20
2A3	3.35	6B5	3.35	6Q7GT	1.85	7B4	1.80
2A4G	3.20	6B6G	2.10	6R7	2.65	7B5	1.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

# TUNG-SOL ELECTRON TUBES (con.)

Type	Sugg'd Retail Price	Type	Sugg'd Retail Price	Type	Sugg'd Retail Price	Type	Sugg'd Retail Price
7B6	\$1.80	12Q7GT	\$1.85	25Z5	\$1.65	82	\$2.75
7B7	1.90	12S8GT	2.65	25Z6	2.30	83	2.75
7B8	1.90	12SA7	1.75	25Z6GT	1.50	83V	3.20
7C4/1203	3.35	12SA7GT	1.85	26	2.05	84/6Z4	1.80
7C5	1.90	12SC7	2.30	27	1.75	85	2.30
7C6	1.80	12SF5	1.90	30	2.25	89	2.30
7C7	1.90	12SF5GT	2.00	31	2.75	117L7/M7GT	3.90
7E5/1201	2.65	12SF7	2.10	32	3.70	117N7GT	4.05
7E6	2.35	12SF7GT	2.00	32L7GT	3.20	117P7GT	4.05
7E7	2.75	12SG7	2.00	33	3.35	111Z3	1.55
7F7	2.20	12SH7	2.20	34	3.50	117Z4GT	2.90
7F8	3.00	12SJ7	1.75	35/51	2.35	117Z6GT	2.50
7G7/1232	2.75	12SJ7GT	1.65	35A5	1.90	485	2.65
7H7	2.20	12SK7	1.75	35B5	2.00	FM1000	3.20
7J7	2.75	12SK7GT	1.85	35C5	2.00	XXD/14AF7	2.40
7K7	2.75	12SL7GT	2.50	35L6GT	1.70	XXFM/7X7	2.65
7L7	2.75	12SL7GT	2.30	35W4	1.30	XXL/7A4	1.80
7N7	2.20	12SQ7	1.50	35Y4	1.80		
7Q7	2.10	12SQ7GT	1.60	35Z3	1.80		
7R7	2.35	12SR7	2.10	35Z4GT	1.50		
7S7	2.65	12SR7GT	2.20	35Z5GT	1.25		
7V7	2.65	12Z3	2.60	35Z6G	1.80		
7W7	2.65	14A4	2.65	36	2.75		
7X6	2.20	14A5	3.90	37	1.85		
7X7 (XXFM)	2.65	14A7/12B7	2.20	38	2.30		
7Y4	1.80	14AF7 (XXD)	2.40	39/44	2.75		
7Z4	1.80	14B6	2.20	41	1.90		
10	3.90	14B8	2.20	42	1.90		
12A6	2.90	14C5	2.75	43	2.05		
12A6GT	2.90	14C7	2.40	45	2.10		
12A7	3.35	14E6	2.35	45Z3	1.80		
12A8GT	2.20	14E7	2.75	45Z5GT (40Z5GT)	1.80		
12AH6GT	2.20	14F7	2.20	46	2.90		
12AH7GT	2.75	14F8	3.00	47	2.90		
12AL5	1.80	14H7	2.40	48	3.90		
12AT6	1.55	14J7	2.75	49	2.75		
12AT7	2.90	14N7	2.65	50	5.15		
12AU6	1.80	14Q7	2.20	50A5	2.20		
12AU7	2.40	14R7	2.75	50B5	2.00		
12AV6	1.55	14S7	2.65	50C5	2.00		
12AV7	2.90	14W7	2.65	50C6G	2.90		
12AX4GT	2.40	14X7	2.65	50L6GT	1.70		
12AX7	2.50	14Y4	2.40	50X6	2.20		
12AW6	2.50	15	3.20	50Y6GT	1.85		
12AY7	6.00	19	3.35	50Y7GT	2.10		
12BA6	1.90	19C8	3.20	53	2.75		
12BA7	2.50	19BG6G	6.00	55	2.30		
12BD6	2.00	19J6	2.65	56	1.85		
12BE6	1.90	19T8	2.90	57	2.10		
12BF6	1.65	22	3.20	58	2.10		
12BH7	2.40	24A	2.35	59	3.70		
12C8	3.35	25A6	3.40	70L7GT	3.90		
12E5GT	2.20	25A6G	2.65	71A	2.35		
12F5GT	1.85	25AC5GT	2.90	75	1.70		
12H6	1.80	25BQ6GT	3.20	76	1.70		
12J5GT	1.55	25C6G	2.90	77	2.15		
12J7GT	2.20	25L6	3.40	78	2.15		
12K7GT	2.10	25L6GT	1.70	79	2.75		
12K8	2.70	25W4GT	2.00	80	1.30		
12K8GT	2.65	25Y5	3.00	81	4.65		

## CATHODE RAY PICTURE TUBES

7JP4	\$25.00
10BP4A	27.00
12LP4A	31.00
14BP4	35.00
16GP4B	40.00
16RP4	35.00
17BP4A	33.00
19AP4B	50.00
16AP4A	50.00
17HP4	34.00
17LP4	34.00
20DP4	49.00
20HP4	51.00

## SPECIAL PURPOSE TUBES

2E22	\$6.00
3A4	1.20
5A6	5.50
6AJ5	3.50
6AK5W	3.90
6AR6	5.75
6SC7GT	3.25
6SU7GT	4.25
6X4W	2.25
25A7GT	4.00
26Z5W	4.00
5654	4.95
5687	6.00
5881	3.50

## TUNG-SOL RADIO DIAL LAMPS

Tung-Sol Lamp No.	Bulb Type	Base	Bead Color	Volts	Amperes	List Price
40	T-3 1/4	Miniature Screw	Brown	6-8	.15	\$0.11
41	T-3 1/4	Miniature Screw	White	2.5	.50	.11
42	T-3 1/4	Miniature Screw	Green	3.2	.50	.12
43	T-3 1/4	Miniature Bayonet	White	2.5	.50	.11
44	T-3 1/4	Miniature Bayonet	Blue	6-8	.25	.11
45	T-3 1/4	Miniature Bayonet	Green	3.2	.50	.12
46	T-3 1/4	Miniature Screw	Blue	6-8	.25	.11
47	T-3 1/4	Miniature Bayonet	Brown	6-8	.15	.11
48	T-3 1/4	Miniature Screw	Pink	2.0	.06	.16
49	T-3 1/4	Miniature Bayonet	Pink	2.0	.06	.16
50	G-3 1/2	Miniature Screw	White	6-8	.20	.11
*51	G-3 1/2	Miniature Bayonet	White	6-8	.20	.09
*55	G-4 1/2	Miniature Bayonet	White	6-8	.40	.09
291	T-3 1/4	Miniature Bayonet	White	2.9	.17	.15
292	T-3 1/4	Miniature Screw	White	2.9	.17	.15
416	G-4 1/2	Miniature Bayonet	Black	3.2	.60	.47
1490	T-3 1/4	Miniature Bayonet	White	3.2	.16	.13

\*Taxable at 2.3% of list. All other taxable at 6.3% of list.

**ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**





# NATIONAL UNION



## RADIO & TV RECEIVING TUBES

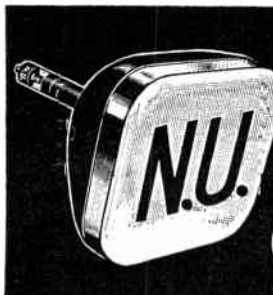
PRICE LIST EFFECTIVE MAY 15, 1952

ALL LIST PRICES INCLUDE TAX. PRICES & TYPES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

Type	List	Type	List	Type	List	Type	List	Type	List	Type	List	Type	List
00A	\$3.20	1R5	2.10	6AG7	3.20	6K7G	2.15	7A6	1.90	12S8GT	2.65	35A5	1.90
01A	1.25	1S4	2.25	6AH6	3.90	6K7GT	2.15	7A7	1.90	12SA7	1.75	35B5	2.00
0A2	2.90	1S5	1.90	6AH7GT	2.20	6K8	2.70	7A8	1.80	12SA7GT	1.85	35C5	2.00
0A3/VR75	2.65	1S6	2.65	6AK5	4.15	6K8G	3.30	7AB7	2.65	12SC7	2.30	35L6GT	1.70
0A4G	2.90	1SA6GT	2.20	6AK6	2.35	6K8GT	2.50	7AD7	3.35	12SF5	1.90	35W4	1.30
0B2	3.20	1SB6GT	2.20	6AL5	1.80	6L5G	2.75	7AF7	1.80	12SF5GT	2.00	35Y4	1.80
0B3/VR90	3.35	1T4	2.10	6AL7GT	2.65	6L6	3.75	7AG7	2.20	12SF7	2.10	35Z4GT	1.50
0C3/VR105	2.65	1T5GT	2.60	6AQ5	2.00	6L6G	3.20	7AH7	2.20	12SF7GT	2.00	35Z5G	1.80
0D3/VR150	2.65	1T6	2.65	6AO6	1.90	6L6GA	3.20	7AJ7	2.35	12SG7	2.00	35Z5GT	1.25
0Y4	4.80	1U4	2.10	6AQ7GT	2.40	6L7	2.55	7AU7	2.20	12SG7GT	2.20	35Z6G	1.80
0Y4G	4.80	1U5	1.90	6AR5	1.65	6L7G	3.30	7B4	1.80	12SH7	2.20	36	2.75
0Z4	1.65	1U6	2.20	6AS5	2.10	6N6G	3.90	7B5	1.80	12SH7GT	2.20	37	1.85
0Z4G	1.65	1V	2.30	6AT6	1.55	6N7	2.55	7B6	1.80	12SI7	1.75	38	2.30
1A3	2.30	1V2	1.55	6AU5GT	2.65	6N7G	2.50	7B7	1.90	12SJ7GT	1.65	39/44	2.75
1A4	3.90	1V5	2.65	6AU6	1.80	6N7GT	2.50	7B8	1.90	12SK7	1.75	40	2.20
1A4P	4.05	1W4	2.90	6AV5GT	2.65	6P5G	1.15	7C4/1203A	3.35	12SK7GT	1.85	40Z5	1.65
1A4T	3.90	1W5	2.65	6AV6	1.55	6P5GT	2.40	7C5	1.90	12SL7GT	2.50	41	1.90
1A5G	2.20	1X2	2.65	6AN4GT	2.40	6P7G	3.20	7C6	1.80	12SN7GT	2.30	42	1.90
1A5GT	1.85	1X2A	2.65	6AX5GT	1.65	6Q6G/6T7G	3.20	7C7	1.90	12SO7	1.50	43	2.05
1A6	3.35	2A3	3.35	6AX6G	2.40	6Q7	2.10	7C8	2.65	12SO7GT	1.60	45	2.10
1A7G	2.20	2A4G	3.20	6B4G	3.20	6O7G	1.85	7E5/1201	2.65	12SR7	2.10	45Z3	1.80
1A7GT	2.20	2A5	2.30	6B5	3.20	6R7	2.65	7E6	2.35	12SR7GT	2.20	45Z5GT	1.80
1AB5	3.50	2A6	2.65	6B6G	2.10	6R7GT	2.65	7E7	2.75	12T3	2.60	46	2.90
1AC5	2.65	2A7	2.75	6B7	3.35	6R8	3.20	7F7	2.20	14A4	2.65	47	2.90
1AD5	2.65	2A7S	3.20	6B7S	3.20	6S4	1.70	7F8	3.00	14A5	3.90	48	4.80
1AF4	2.20	2B7	3.40	6B8	3.35	6S7	2.75	7G7	2.75	14A7/12B7	2.20	49	2.75
1AF5	2.00	2B7S	3.20	6B8G	3.35	6S7G	3.35	7G8	3.90	14AF7/XXD	2.40	50	5.15
1B3GT	2.55	2E5	2.65	6B8GT	1.80	6S8GT	2.65	7H7	2.20	14B6	2.20	50A5	2.20
1B4P	4.05	2G5	2.40	6BA6	1.90	6SA7	1.75	7J7	2.75	14B8	2.20	50AX6G	2.40
1B5/25S	3.35	2S/4S	3.20	6BA7	2.50	6SA7GT	1.85	7K7	2.75	14C5	2.75	50B5	2.40
1B7G	1.80	2W3	1.80	6BC5	2.00	6SB7Y	2.55	7L7	2.75	14E6	2.35	50C5G	2.00
1B7GT	3.35	2W3GT	1.80	6BC7	2.65	6SC7	2.00	7M7	2.20	14C7	2.40	50C5G	2.00
1C3	2.75	2X2A	4.35	6BD5GT	3.35	6SD7GT	2.90	7N7	2.20	14E7	2.75	50L6GT	1.70
1C5G	2.20	2Z2/G84	3.20	6BD6	2.00	6SF5	1.75	7R7	2.65	14F7	3.20	50X6	2.20
1C5GT	2.30	3A8GT	4.80	6BE6	1.90	6SF5GT	1.80	7S7	2.65	14F8	2.00	50V6G	1.85
1C6	3.35	3B5GT	2.20	6BF5	2.35	6SF7	2.00	7V7	2.65	14H7	2.75	50Y6GT	2.10
1C7G	3.35	3B7	2.65	6BF6	1.70	6SG7	2.20	7W6	2.20	14N7	2.65	50Z7G	1.80
1C8	2.65	3C6/XXB	3.20	6BG6G	4.80	6SH7	2.20	7X7/XXFM	2.65	14O7	2.65	52	3.90
1D5G	3.90	3D6	2.65	6BH6	2.10	6SH7GT	2.20	7Y4	2.20	14R7	2.20	53	2.75
1D5GP	4.05	3E5	2.20	6B16	2.10	6SH7GT	1.65	7Z4	1.80	14S7	2.65	55	2.30
1D5GT	3.90	3E6	2.65	6BK7	3.20	6S17	2.20	10	3.90	14W7	2.65	55S	3.20
1D7G	3.35	3LE4	3.20	6BL7GT	2.90	6SK7	1.65	10Y	3.90	14Y4	2.40	56	1.85
1D8GT	4.05	3LF4	2.65	6BN6	2.90	6SK7GT	1.85	12A	2.20	15	3.20	56S	3.55
1E4G	1.80	3O4	2.25	6BO6GT	3.40	6SLGT	2.45	12A5	3.20	17	2.65	57	2.10
1E5GP	4.05	3O5G	2.40	6BO7	3.05	6SN7GT	2.20	12A6	2.90	18	2.65	57S	3.20
1E7G	3.20	3O5GT	2.50	6BY5G	2.65	6SN7GTA	2.20	12A6GT	2.90	19	3.35	58	2.10
1E8	2.20	3V4	2.00	6C4	1.70	6SO7	1.50	12A7	3.35	19BG6G	6.00	58AS	3.20
1F4	2.75	4A6G	2.65	6C5G	1.35	6SO7GT	1.60	12A8G	2.20	19CP	3.20	58S	3.20
1F5G	2.75	5AX4GT	1.25	6C5GT	1.65	6SR7	1.80	12A8GT	2.20	19J6	2.65	59	3.70
1F6	4.05	5AZ4	1.35	6C6	2.20	6SR7GT	2.00	12AH6GT	2.20	19T8	2.90	70A7GT	3.20
1F7G	4.05	5T4	4.40	6C7	3.20	6SS7	2.15	12AH7GT	2.75	19V8	3.55	70L7GT	3.90
1F7GH	3.90	5U4G	1.50	6C8G	3.35	6SS7GT	2.00	12AL5	1.80	20	3.90	71A	2.35
1F7GV	3.90	5V4G	2.45	6CB6	2.10	6ST7	2.65	12AT6	1.55	22	3.20	75	1.70
1G4G	1.80	5W4	1.65	6CD6G	6.60	6SV7	3.35	12AT7	2.90	24A	2.35	75S	2.20
1G4GT	2.55	5W4G	1.25	6D5G	2.20	6SV8GT	2.00	12AU6	1.80	24S	3.20	76	1.70
1G5G	3.15	5W4GT	1.75	6D6	3.20	6SZ7	2.20	12AU7	2.40	25A6	3.40	77	2.15
1G6G	2.65	5X4G	1.80	6D7	2.20	6T5	3.20	12AV6	1.55	25A6G	2.75	78	2.15
1G6GT	2.70	5X3	2.20	6D8G	3.35	6U5/6G5	2.00	12AV7	2.90	25A6GT	3.40	79	2.75
1H4G	2.30	5Y3G	1.35	6E5	2.25	6U6GT	2.20	12AW6	2.50	25A7GT	7.40	80	1.30
1H5G	1.80	5Y3GT	1.10	6E6	2.65	6U7G	2.20	12AX4GT	2.40	25AC5G	2.65	81	4.65
1H5GT	1.70	5Y4G	1.55	6E7	3.20	6U8	2.90	12AX7	2.50	25AC5GT	2.90	82	2.75
1H6G	3.35	5Y4GT	1.05	6F5	1.75	6V3	3.60	12AX7	6.00	25AV5GT	2.65	83	2.75
1H6GT	3.35	5Z3	1.75	6F5G	1.65	6V5GT	3.90	12AZ7	2.65	25B5	3.20	83V	3.20
1J5G	2.65	5Z4	2.80	6F5GT	1.70	6V6	3.35	12B8GT	3.90	25B6G	3.90	84/6Z4	1.80
1J6G	3.20	6A3	3.35	6F6	2.10	6V6G	2.00	12BA6	1.90	25BQ6GT	3.35	85	2.30
1J6GT	3.20	6A4	3.20	6F6G	1.75	6V7	3.20	12BA7	2.50	25B8GT	4.80	85A5	3.20
1L4	2.10	6A5G	4.05	6F6GT	1.65	6V7G	1.80	12BD6	2.00	25C6G	3.90	89	2.30
1L6	2.75	6A6	2.75	6F7	3.35	6V8	3.55	12BE6	1.90	25D8	3.90	89Y	2.20
1L4A	2.65	6A7	2.30	6F7S	3.20	6W4GT	1.85	12BF6	1.65	25L6	3.40	99V	3.20
1L6A	2.65	6A7S	3.20	6F8G	3.35	6W5G	2.65	12BH7	2.40	25L6G	1.80	117L7GT/	
1L7B4	2.65	6A8	2.20	6G6G	2.75	6W6GT	2.20	12BJ6	1.50	25L6GT	1.70	117M7GT	3.90
1L7C5	2.65	6A8G	2.30	6H4GT	2.65	6W7G	2.75	12BY7	2.65	25N6GT	3.90	117N7GT	4.05
1L7C6	2.65	6A8GT	2.30	6H6	1.65	6X4	1.55	12BZ7	2.40	25W4GT	2.00	117P7GT	4.05
1L7D5	2.65	6AB4	2.00	6H6G	1.65	6X5	2.75	12C8	3.35	25Y5	3.00	117Z3	1.55
1L7E3	2.65	6AB5/6N5	2.75	6H6GT	1.85	6X5G	1.65	12E5GT	2.20	25Z5	1.65	117Z4GT	2.90
1L7G5	2.65	6AB7/1853	3.25	6J5	1.50	6X8	2.75	12F5GT	1.85	25Z6G	1.50	117Z6G	2.40
1L7H4	2.65	6AC5G	1.80	6J5G	1.50	6X5GT	1.55	12H6	1.80	25Z6	2.30	117Z6GT	2.50
1L7N5	2.65	6AC5GT	3.00	6J5GT	1.50	6Y3G	3.90	12J5	1.50	25Z6GT	1.50	182B/482B	2.65
1N5G	2.20	6AC7/1852	2.90	6J6	2.50	6Y5	3.90	12J5GT	1.55	26	2.05	183/483	2.65
1N5GT	2.10	6AD6G	2.20	6J7	2.10	6Y5G	3.90	12J7G	2.20	27	1.75	484	2.65
1N6G	1.80	6AD7G	3.35	6J7G	2.25	6Y6G	2.50	12J7GT	2.20	30	2.25	485	2.50
1P5G	2.65	6AE5G	2.20	6J7GT	2.20	6Y7G	2.20	12K7G	2.00	31	2.75	950	2.50
1P5GT	2.65	6AE6G	1.80	6J8G	3.20	6Z5/1Z75	3.20	12K7GT	2.10	32	3.70	1232	2.65
1O5G	2.65	6AE7GT	1.80	6K5G	1.50	6Z7G	4.05	12K8	2.70	32L7GT	3.20	1273	2.40
1O5GT	2.65	6AF5G	1.80	6K5GT	2.40	6ZY5G	2.30	12K8GT	2.65	33	3.35	1280	2.40
1O6	2.20	6AF6G	2.75	6K6GT	1.60	7A4/XXL	2.00	12Q7G	1.80	34	3.50	FM1000	3.20
1R4	2.65	6AG5	2.25	6K7	1.85	7A5	2.35	12Q7GT	1.85	35/51	2.35	5642	2.20

# NATIONAL UNION RADIO CORP.

Main Office: Orange, N. J. Research Division: Orange, N. J. Plants: Newark, N. J. - Hatboro, Pa.



# NATIONAL UNION

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## PICTURE TUBES ELECTRON TUBES

PRICE LIST EFFECTIVE APRIL 15, 1952  
ALL LIST PRICES INCLUDE TAX. PRICES & TYPES SUBJECT  
TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

### VIDEOTRON TELEVISION PICTURE TUBES

Type	Description	Users	Price	Type	Description	Users	Price
71P4	Electrostatic Deflection	25.00		17FP4	Electrostatic — High Voltage — Rectangular	34.00	
81P4	Electrostatic Deflection	30.50		17FT4A	Electrostatic — High Voltage — Rectangular	34.00	
10B1P4	White Face — Electrostatic Focus	27.00		17HP4A/17HP4F	Electrostatic — Low Voltage — Rectangular — Etched Face	36.00	
10B1P4A	Gray Face — Electrostatic Focus	27.00		17JP4	Magnetic — Rectangular Glass	33.00	
121P4	White Face — Magnetic Focus	31.00		17KP4	Zero Voltage — Electrostatic Glass	33.00	
121P4A	Gray Face — Magnetic Focus	31.00		17LP4/17VP4	Low Voltage — Electrostatic — Cylindrical Glass	33.00	
14CP4/14BP4	Rectangular — Gray Face — Magnetic Focus	33.50		17Q4	Magnetic — Cylindrical Glass	33.00	
14EP4	Rectangular — High Voltage	33.50		17R1P4/17HP4	Low Voltage — Electrostatic Glass	34.00	
14FP4	Electrostatic Focus — Low Voltage	33.50		19AP4A	Round Metal — Filtered Glass	60.00	
16P4A	Round Metal — Magnetic Focus	50.00		19AP4B	Round Metal — Filtered Glass	60.00	
16P4A	Magnetic Focus — Round Glass	51.00		19FP4	Electrostatic Glass	65.00	
16D4A	Electrostatic Focus — Round Glass	51.00		20CP4	Magnetic Glass	49.00	
16GP4	Magnetic Focus — Round Glass	40.00		20CP4A	Magnetic Glass — Etched Face	51.25	
16GP4B	Magnetic Focus — Round Glass — Etched Face	40.00		20FP4	High Voltage — Electrostatic Glass	49.00	
16J4A	Electrostatic Focus — Round Glass	34.75		20G4	High Voltage — Electrostatic Glass	49.00	
16J4A	Electrostatic Focus — Round Glass	34.75		20HP4	Low Voltage — Electrostatic Glass	51.00	
16KP4/16RP4	Magnetic Focus — Rectangular Glass	34.75		20HP4A	Low Voltage — Electrostatic Glass	51.00	
16TP4	Magnetic Focus — Rectangular Glass	34.75		20HP4B/20HP4F	Low Voltage — Electrostatic Glass — Etched Face	53.25	
16VE4	Round Glass	34.75		21EP4A	Magnetic — Cylindrical — Glass	51.25	
17B4A	Magnetic — Rectangular Glass	33.00		21FP4A	Low Voltage — Electrostatic — Cylindrical — Glass	53.25	
17B4A	Magnetic — Rectangular Glass — Etched Face	36.00					
17CP4	Magnetic — Rectangular Metal — Etched Face	35.00					

### TRANSMITTING AND POWER TUBES

Type	Description	Users	Price	Type	Description	Users	Price	Type	Description	Users	Price
2C22	V-h-f. triode amplifier	1.60		75A	H-w. mercury vapor rectifier	21.00		838	Power amplifier triode	13.75	
2C26A	V-h-f. triode amplifier	7.75		721B	Gas switch	25.80		843	Power amplifier triode	2.60	
2C34/NU34	Twin triode power amplifier	3.50		801A	Power amplifier triode	4.30		845	Power amplifier triode	13.75	
2C35	Twin triode power amplifier	7.50		802	Power amplifier pentode	4.75		852	Power amplifier triode	32.00	
2C55	High mu triode amplifier	12.00		803	Power amplifier pentode	24.25		865	Tetrode power amplifier	11.50	
2E24	Beam power amplifier	5.10		804	Power amplifier pentode	17.50		866A	H-w. mercury-vapor rectifier	1.95	
2E26	Beam power amplifier	3.85		805	Power amplifier triode	13.50		866B1K	H-w. mercury-vapor rectifier	1.30	
2E30	Beam power amplifier	2.45		806	Power amplifier triode	34.25		872A	H-w. mercury-vapor rectifier	8.20	
3B24	H-w. vacuum rectifier	7.50		807	Beam power amplifier	2.50		873/973	Grid-controlled mercury vapor rectifier	17.25	
3B25	H-w. gas rectifier	5.80		808	Power amplifier triode	10.75		878	H-w. vacuum rectifier	12.75	
3D22	Tetrode thyratron	15.00		809	Power amplifier triode	4.00		900 (VT90)	U-h-f. power amplifier triode	35.00	
3E23	Pulse beam power amplifier	20.25		810	Power amplifier triode	14.50		967	Triode thyratron	6.50	
4B26/200	H-w. gas rectifier	11.30		811	High-mu power amplifier	3.30		975A	H-w. gas rectifier	25.00	
152	H-w. vacuum rectifier	29.50		811A	High-mu power amplifier triode	4.05		1614	Tetrode amplifier	2.00	
31K	Twin triode amplifier	5.50		812	Power amplifier triode	3.30		1616	H-w. vacuum rectifier	8.65	
51A	Power amplifier triode	4.50		812A	Power amplifier triode	5.00		1624	Beam power amplifier	4.00	
51Z	High-mu power amplifier triode	4.50		812A	Power amplifier triode	5.00		1625	Beam power amplifier	2.65	
69	Beam power amplifier	5.50		812H	Power amplifier triode	7.50		1626	Power amplifier triode	1.83	
10*TH	High-mu power amplifier triode	16.65		813	Beam power amplifier	16.00		1627	Beam power amplifier	5.95	
114B	V-h-f. triode	2.25		814	Beam power amplifier	14.25		1628	U-h-f. triode amplifier	1.60	
200	Power amplifier triode	25.00		815	V-h-f. beam power amplifier	6.90		8005	Power amplifier triode	7.40	
203A	Power amplifier triode	13.75		816	H-w. mercury vapor rectifier	1.65		8020	H-w. vacuum rectifier	32.00	
211	Power amplifier triode	13.75		826	V-h-f. power amplifier triode	12.50		E1148	V-h-f. power amplifier triode	2.25	
217C	H-w. vacuum rectifier	21.50		828	Beam power amplifier	13.75		FK117	Triode thyratron	6.50	
300	Power amplifier triode	29.50		829B	V-h-f. beam power amplifier	16.00		11V18	Power amplifier triode	25.00	
307A	Pentode amplifier	7.67		830	Power amplifier triode	11.50		K1K23	Power amplifier triode	30.00	
311CH	Power amplifier triode	19.00		832	V-h-f. beam power amplifier	13.00		T55	Power amplifier triode	7.50	
350A	Tetrode amplifier	8.75		832A	V-h-f. beam power amplifier	12.90		V701	Power amplifier triode	7.50	
350B	Tetrode amplifier	8.75		834	V-h-f. power amplifier triode	14.50		V752	Power amplifier triode	2.00	
371B	H-w. vacuum rectifier	14.50		837	Power amplifier pentode	9.60		U10100	Power amplifier triode	15.00	
								Z235/866A	H-w. mercury vapor rectifier	1.95	

### SPECIAL PURPOSE AND CATHODE RAY OSCILLOSCOPE TUBES

Type	Description	Users	Price	Type	Description	Users	Price	Type	Description	Users	Price
OZ4A/1003	F-w. gas rectifier	1.20		5H4VGY	Ruggedized F-w. vacuum rectifier	6.80		1612	Pentagrid amplifier	2.70	
JAN5851	Beam power amplifier, sub-miniature	17.65		5X3	F-w. vacuum rectifier	3.50		1620	Pentode amplifier	6.25	
2D21	Tetrode thyratron	2.00		6A15	Pentode amplifier	3.50		1621	Power amplifier pentode	1.95	
2V3G	H-w. vacuum rectifier	3.15		6AN7G	Power amplifier triode	6.75		1622	Beam power amplifier	2.10	
3A4	Power amplifier pentode	1.20		6AZ6	Rugged u-h-f. double diode, sub-miniature	22.50		1629	Electron ray tuning indicator	1.40	
3A5	Twin triode	1.95		6BL5GT/2160	Space charge power amplifier	18.40		1633	Triode amplifier	1.95	
3BP1A	Oscilloscope Tube	16.50		6D4	Triode thyratron	2.85		1654	H-w. vacuum rectifier	4.55	
3JP1	Oscilloscope Tube	16.50		6J4	Triode, grounded grid	8.95		2050	Tetrode thyratron	1.85	
3JP2	Oscilloscope Tube	21.00		6K4A	Triode, sub-miniature	4.25		5851	Tetrode thyratron	1.90	
3JP7	Oscilloscope Tube	21.00		12LR0T	Pentode power amplifier	2.25		5857	Beam power amp. sub-miniature	17.65	
5CP1A	Oscilloscope Tube	23.25		28D7	Beam power amplifier	1.80		9001	Secondary omission amplifier	65.00	
5FP7A	Oscilloscope Tube	30.25		884	Triode thyratron	1.85		9002	V-h-f. triode amplifier	3.10	
10KP4	Oscilloscope Tube	61.75		885	Triode thyratron	2.00		9003	V-h-f. pentode amplifier	3.10	
12SP7	Oscilloscope Tube	47.75		955	U-h-f. triode, acorn	3.60		9006	V-h-f. diode	1.60	
8R4G	F-w. vacuum rectifier	1.50		1267	Cold cathode thyratron	1.85		R1038	Ionization gauge	29.50	

### PANEL LAMPS

Type No.	Rated Volts	Amps.	Min. Base	Bead Color	Bulb Style	User's Price	Type No.	Rated Volts	Amps.	Min. Base	Bead Color	Bulb Style	User's Price
N-13	3.8	.30	Screw	Green	G3 3/4	.11	N-48	2.0	.06	Screw	Pink	T3 3/4	.16
N-14	2.5	.30	Screw	Blue	G3 3/4	.11	N-49	2.0	.06	Bayonet	Pink	T3 3/4	.16
N-40	6-8	.15	Screw	Brown	T3 3/4	.11	N-50*	6-8	.20	Screw	White	G3 3/4	.11
N-40A§	6-8	.15	Bayonet	Brown	T3 3/4	.11	N-51*	6-8	.20	Bayonet	White	G3 3/4	.08
N-41	2.5	.50	Screw	White	T3 3/4	.11	N-55*	6-8	.40	Bayonet	White	G4 1/2	.09
N-42	3.2	.35	Screw	Green	T3 3/4	.12	N-291/N-292A	2.9	.17	Bayonet	White	T3 3/4	.15
N-43	2.5	.50	Bayonet	White	T3 3/4	.11	N-292	2.9	.17	Screw	White	T3 3/4	.15
N-44	6-8	.25	Bayonet	Blue	T3 3/4	.11	N-1455	18.0	.25	Screw	Brown	G5	.12
N-45	3-2	.35	Bayonet	Green	T3 3/4	.12	N-1455A†	18.0	.25	Bayonet	Brown	G5	.12
N-46	2.5	.35	Screw	Blue	T3 3/4	.11	N-1456	18.0	.25	Bayonet	Brown	G5	.12
N-47	6-8	.15	Bayonet	Brown	T3 3/4	.11	N-1490	3.2	.16	Bayonet	White	T3 3/4	.11

\* Used also in Coin Operated Machines      † Replace with N-1456      ‡ Replace with N-47

# NATIONAL UNION RADIO CORP.

Main Office: Orange, N. J. Research Division: Orange, N. J. • Plants: Newark, N. J. — Hatboro, Pa.



# RADIO and TV RECEIVING TUBES

**SUGGESTED LIST PRICES Effective May 1, 1952**

Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price
OY4	\$4.80	3A8GT	4.80	6BC5	2.00	6R7	2.65	7C4	3.35	12SH7	2.20	35Z3	1.80
OZ4	1.65	3B7/1291	2.65	6BC7	2.20	6R7G	2.65	7C5	1.90	12S7	1.75	35Z4GT	1.50
OZ4G	1.65	3C6/XXB	3.20	6BD5GT	3.35	6R7GT	2.65	7C6	1.80	12SJ7GT	1.65	35Z5GT	1.25
IA3	2.30	3D6/1299	2.65	6BD6	2.00	6R8	2.65	7C7	1.90	12SK7	1.75	35Z6G	2.65
IA4P	4.05	3E6	2.65	6BE6	1.90	6S4	3.20	7E5	2.65	12SK7GT	1.85	36	2.75
IA5GT	1.85	3LF4	2.65	6BF5	2.35	6S7	2.75	7E6	2.35	12SL7GT	2.50	37	1.85
IA6	3.35	3Q4	2.25	6BF6	1.70	6S7G	3.35	7E7	2.75	12SN7GT	2.30	38	2.30
IA7GT	2.20	3Q5GT	2.50	6BG6G	4.80	6S8GT	2.65	7F7	2.20	12SQ7	1.50	39/44	2.75
IB3GT/8016	2.55	3S4	2.00	6BH6	2.10	6SA7	1.75	7F8	3.00	12SQ7GT	1.60	41	1.90
IB4P	4.05	3V4	2.00	6BJ6	2.10	6SA7GT	1.85	7G7/1232	2.75	12SR7	2.10	42	1.90
IB5/25S	3.35	5AZ4	1.35	6BK7	3.20	6SB7Y	2.55	7H7	2.15	12Z3	2.60	43	2.05
IB7GT	3.35	5T4	4.40	6BL7GT	2.90	6SC7	2.00	7J7	2.75	14A4	2.65	45	2.10
IC5GT	2.30	5U4G	1.50	6BN6	2.90	6SD7GT	2.90	7K7	2.75	14A5	3.90	45Z3	1.80
IC6	3.35	5V4G	2.45	6BQ6GT	3.40	6SF5	1.75	7L7	2.75	14A7/12B7	2.20	45Z5GT	1.80
IC7G	3.35	5W4	1.65	6BQ7	3.05	6SF5GT	1.80	7N7	2.20	14AF7/XXD	2.40	46	2.90
ID5GP	4.05	5W4GT	1.65	6BY5G	2.65	6SF7	2.00	7Q7	2.10	14B6	2.20	47	2.90
ID7G	3.35	5X4G	1.80	6BZ7	3.05	6SG7	2.00	7R7	2.35	14B8	2.20	49	2.75
ID8GT	4.05	5Y3G	1.35	6C4	1.70	6SH7	2.20	7S7	2.65	14C5	2.75	50	5.15
IE5GP	4.05	5Y3GT	1.10	6C5	1.75	6SH7GT	2.20	7V7	2.65	14C7	2.40	50A5	2.20
IE7G-IE7GT	3.90	5Y4G	1.55	6C5GT	1.65	6SJ7	1.65	7W7	2.65	14E6	2.35	50B5	2.00
IF4	2.75	5Y4GT	1.50	6C6	2.20	6SJ7GT	1.65	7X6	2.20	14E7	2.75	50C5	2.00
IF5G	2.75	5Z3	1.75	6C8G	3.35	6SK7	1.65	7X7/XXFM	2.65	14F7	2.20	50C6G	2.90
IF6	4.05	5Z4	2.80	6CB6	2.10	6SK7GT	1.85	7Y4	1.80	14F8	3.00	50L6GT	1.70
IF7G	4.05	6A3	3.35	6CD4G	6.60	6SL7GT	2.45	7Z4	1.80	14H7	2.40	50X6	2.20
IG4GT	2.55	6A5G	4.05	6D6	2.20	6SN7GT	2.20	10Y	3.90	14J7	2.75	50Y6GT	1.85
IG5G	3.15	6A6	2.75	6D8G	3.35	6SQ7	1.50	12A6	2.90	14N7	2.65	50Y7GT	2.10
IG6GT	2.70	6A7	2.30	6E5	2.25	6SQ7GT	1.60	12A6GT	2.90	14Q7	2.20	52	3.90
IH4G	2.30	6A8	2.20	6F5	1.75	6SR7	1.80	12A7	3.35	14R7	2.75	53	2.75
IH5GT	1.70	6A8G	2.30	6F5GT	1.70	6SR7GT	1.80	12A8GT	2.20	14S7	2.65	55	2.30
IH6G	3.35	6A8GT	2.30	6F6	2.10	6SS7	2.10	12AH7GT	2.75	14W7	2.65	56	1.85
IJ6G	3.20	6AB4	2.00	6F6G	1.75	6ST7	2.65	12AL5	1.80	14X7	2.65	57	2.10
IJ6GT	3.20	6AB5/6N5	2.75	6F6GT	1.65	6SV7	3.20	12AT6	1.55	14Y4	2.40	58	2.10
IL4	2.10	6AB7/1853	3.25	6F7	3.35	6T7G/6Q6G	3.35	12AT7	2.90	19	3.35	59	3.70
IL6	2.75	6AC5GT	3.00	6F8G	3.35	6T8	2.90	12AU6	1.80	19B6G	6.00	70L7GT	3.90
IL4A	2.65	6AC7/1852	2.90	6G6G	2.75	6U5/6G5	2.00	12AU7	2.40	19C8	3.20	71A	2.35
ILA6	2.65	6AD7G	3.35	6H6	1.65	6U6GT	2.20	12AV6	1.55	19J6	2.65	75	1.70
ILB4	2.65	6AF4	3.90	6H6GT	1.85	6U7G	2.20	12AV7	2.90	19T8	2.90	76	1.70
ILC5	2.65	6AF6G	2.75	6J5	1.50	6U8	2.90	12AW6	2.50	22	3.20	77	2.10
ILC6	2.65	6AG5	2.25	6JS5GT	1.50	6V3	3.90	12AX4GT	2.40	24A	2.35	78	2.10
ILD5	2.65	6AG7	3.20	6J6	2.50	6V6	3.35	12AX7	2.50	25A6	3.40	79	2.75
ILE3	2.65	6AH6	3.90	6J7	2.10	6V6GT	2.00	12AY7	6.00	25A6G	2.75	80	1.30
ILG5	2.65	6AK5	4.15	6J7G	2.25	6V8	3.50	12AZ7	2.65	25A7GT	6.60	81	4.65
ILH4	2.65	6AK6	2.35	6J7GT	2.20	6W4GT	1.85	12BA6	1.90	25AC5GT	2.90	82	2.75
ILN5	2.65	6AL5	1.80	6J8G	3.20	6W6GT	2.20	12BA7	2.50	25BQ6GT	3.35	83	2.75
IN5GT	2.10	6AL7GT	2.65	6KS5GT	2.40	6W7G	2.75	12BD6	2.00	25C6G	3.00	83V	3.20
IP5GT	2.65	6AQ5	2.00	6K6GT	1.60	6X4	1.55	12BE6	1.90	25L6GT	1.70	84/6Z4	1.80
IQ5GT	2.65	6AQ6	1.90	6K7	1.85	6X5GT	1.55	12BF6	1.65	25W4GT	2.00	85	2.30
IR4/1294	2.65	6AQ7GT	2.40	6K7G	2.15	6X8	2.75	12BH7	2.40	25Y5	3.00	89Y	2.30
IR5	2.10	6AR5	1.65	6K7GT	2.15	6Y6G	2.50	12C8	3.35	25Z5	1.65	V99	3.20
IS4	2.25	6AS5	2.10	6K8	2.70	6Z7G	4.05	12F5GT	1.85	25Z6GT	1.50	X99	3.20
IS5	1.90	6AT6	1.55	6K8G	3.25	6ZY5G	2.30	12H6	1.80	26	2.05	117L/M7GT	3.90
IT4	2.10	6AU5GT	2.65	6K8GT	2.50	7A4/XXL	2.00	12J5GT	1.55	27	1.75	117N7GT	4.05
IT5GT	2.60	6AU6	1.80	6L5G	2.75	7A5	2.35	12J7GT	2.20	30	2.25	117P7GT	4.05
IU4	2.10	6AV5GT	2.65	6L6	3.75	7A6	1.90	12K7GT	2.10	31	2.75	117Z3	1.55
IU5	1.90	6AV6	1.55	6L6G	3.20	7A7	1.90	12K8	2.75	32	3.70	117Z4GT	2.90
IV	2.30	6AX4GT	2.40	6L6GA	3.20	7A8	1.80	12K8GT	2.65	32L7GT	3.20	117Z6GT	2.50
IV2	1.55	6AX5GT	1.65	6L7	2.55	7AD7	3.35	12Q7GT	1.85	33	3.35	FM1000	3.20
IX2A	2.65	6B4G	3.20	6L7G	3.30	7AF7	1.80	12S8GT	2.65	34	3.50	XXB (use 3C6)	
2A3	3.35	6B5	3.20	6N6G	3.90	7AG7	2.20	12SA7	1.75	35/51	2.35	XXD (use 14AF7)	
2A4G	3.20	6B6G	2.10	6N7	2.55	7AH7	2.20	12SA7GT	1.85	35A5	1.90	XXFM (use 7X7)	
2A5	2.30	6B7	3.35	6N7GT	2.50	7B4	1.80	12SC7	2.30	35B5	2.00	XXL use 7A4)	
2A6	2.65	6B8	3.35	6P5GT	2.40	7B5	1.80	12SF5	1.90	35C5	2.00		
2A7	2.75	6B8G	3.35	6Q7	2.10	7B6	1.80	12SF5GT	2.00	35L6GT	1.70		
2B7	3.40	6BA6	1.90	6Q7G	1.85	7B7	1.90	12SF7	2.10	35W4	1.30		
2E5	2.65	6BA7	2.50	6Q7GT	1.85	7B8	1.90	12SG7	2.00	35Y4	1.80		

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

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# ELECTRONIC TUBES

## TELEVISION PICTURE TUBES

### SUGGESTED LIST PRICES

Effective June 1, 1952

TYPE	Suggested List Price	TYPE	Suggested List Price
3KP4	\$20.00	16GP4C	\$40.00
7JP4	25.00	16KP4	35.00
8BP4	30.50	16KP4A	42.50
10BP4	Use Type 10BP4A	16LP4	Use Type 16ZP4
10BP4A	27.00	16LP4A	Use Type 16ZP4
10FP4	Use Type 10FP4A	16RP4	35.00
10FP4A	33.75	16TP4	35.00
10HP4	55.00	16ZP4	35.00
12AP4	91.00	17AP4	33.00
12KP4A	38.00	17BP4A	33.00
12LP4	31.00	17CP4	33.00
12LP4A	31.00	17HP4	34.00
14BP4	33.50	19AP4	Use Type 19AP4A
14CP4	33.50	19AP4A	50.00
16AP4	Use Type 16AP4A	19AP4B	50.00
16AP4A	40.00	20CP4	49.00
16DP4	Use Type 16DP4A	20CP4A	49.00
16DP4A	50.00	20DP4A	49.00
16GP4	40.00	21EP4A	51.25
16GP4B	40.00	21FP4A	53.25
		24AP4	101.00

## TRANSMITTING TUBES

### SUGGESTED USER PRICES

Effective May 1, 1952

TYPE	Description	Suggested User Price	Suggested List Price	TYPE	Description	Suggested User Price	Suggested List Price
2E24	VHF Beam Pent.	\$4.65	\$—	RK715C	Tetrode Pulse Amp.	\$63.00	\$—
2E26	VHF Beam Pent.	3.85	—	RK721B	S Band TR	25.80	—
2E30	Beam Pent.	2.60	—	RK807	RF Beam Tetrode	2.50	—
RK3B26	Clipper Diode	18.00	—	RK811A	Pwr. Triode	5.00	—
RK4B31	Clipper Diode	50.35	—	RK812A	Pwr. Triode	5.00	—
4C35	Thyratron Modulator	35.95	—	RK813	RF Beam Tetrode	18.00	—
RK4D22	RF Beam Tetrode	22.40	—	RK814	RF Beam Tetrode	14.25	—
RK4D32	RF Beam Tetrode	22.40	—	RK829B	RF Dual Beam Tetr.	16.25	—
5D23/RK65	RF Tetrode	42.15	—	RK832A	RF Dual Beam Tetr.	12.90	—
RK65	(Use 5D23/RK65)	—	—	RK837	RF Pent.	5.80	—
RK73	Clipper Diode	12.50	—	RK1625	RF Beam Tetrode	2.65	—

## RELIABLE AND RUGGED TUBES

6AK5W	RF Pentode	\$ 3.25	\$—	12J5WGT	Triode Volt. Amp.	\$4.85	\$—
6AL5W	Double Diode	1.70	—	CK5654	RF Pentode	4.75	—
6AS6W	Pentode Amp.	4.75	—	CK5686	RF-AF Pentode	5.25	—
6C4W	Triode	8.05	—	CK5725	Pentode	5.50	—
6J5WGT	Triode Volt. Amp.	4.85	—	CK5726	Dbl. Diode	2.25	—
6J6W	UHF Dbl. Triode	3.05	—	CK5749	RF Pentode	2.75	—
6SA7WGT	Heptode Converter	**	—	CK5751	Dbl. Triode Volt. Amp.	3.75	—
6SJ7WGT	RF-AF Pentode	8.05	—	CK5814	Dbl. Triode Volt. Amp.	3.75	—
6SN7WGT	Dbl. Triode Volt. Amp.	2.45	—				

## VOLTAGE REGULATOR — VOLTAGE REFERENCE TUBES

OA2	150 Volts	\$—	\$2.90	OD3/VR150	150 Volts	\$—	\$2.65
OA3/VR75	75 Volts	—	2.65	CK1017	700 Volts	11.30	—
OB2	108 Volts	—	3.20	CK1022	1000 Volts	15.00	—
OB3/VR90	90 Volts	—	2.65	CK5651	82 - 92 Volts	2.40	—
OC3/VR105	105 Volts	—	2.65	CK5962	700 Volts	11.30	—

## SUBMINIATURE CATHODE-TYPE RELIABLE TUBES

CK5702WA	RF Pentode	\$ **	\$—	CK6111	UHF Dbl. Tri.	\$ **	\$—
CK5703WA	Med-Mu Tri.	**	—	CK6112	Hi-Mu Dbl. Tri.	**	—
CK5744WA	Hi-Mu Tri.	**	—	CK6152	Low-Mu Tri.	**	—
CK5784WA	Pentode	**	—				

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\*\* Price Pending OPS Approval



# ELECTRONIC TUBES

## SUBMINIATURE TUBES

### SUGGESTED USER PRICES

Effective May 1, 1952

TYPE		Suggested User Price	Suggested List Price	TYPE		Suggested User Price	Suggested List Price
1AD4	RF Pentode	\$ —	\$4.00	CK573AX	(Use CK6029)	\$ —	\$ —
1AE4	RF Pentode	1.55	—	CK574AX	RF Pentode	1.60	—
1AG5	Diode-Pentode	**	—	CK605CX	(Use CK5702)	—	—
1AH4	RF Pentode	2.50	—	CK606BX	(Use CK5704)	—	—
1V6	Triode-Pentode	5.65	—	CK608CX	(Use CK5703)	—	—
2E31	RF Pent. (long leads)	**	—	CK619CX	(Use CK5744)	—	—
2E32	RF Pent. (0.2 leads)	**	—	CK1034	Radiation Counter	7.50	—
2E35	Pentode (long leads)	—	4.20	CK1035	Radiation Counter	7.50	—
2E36	Pentode (0.2) leads)	—	4.20	CK1036	Half Wave Rect.	7.50	—
2E41	(Use 1AG5)	—	—	CK1037	Voltage Reg.	7.50	—
2E42	(Use 1AG5)	—	—	CK1038	Voltage Reg.	7.50	—
2G21	Triode-Hept. (lg.-leads)	**	**	CK1039	Voltage Reg.	7.50	—
2G22	Triode-Hept. (0.2 leads)	**	**	CK5642	HW Rect.	—	2.20
CK501AX	Pentode Volt. Amp.	—	5.10	CK5672	Pent. Pow. Amp.	1.60	—
CK502AX	Pentode Pow. Amp.	—	4.20	CK5676	UHF Triode	1.90	—
CK503AX	Pentode Pow. Amp.	2.05	—	CK5677	UHF Triode	3.70	—
CK505AX	Pentode Volt. Amp.	—	3.80	CK5678	RF Pentode	1.60	—
CK506AX	Pentode Pow. Amp.	1.50	—	CK5697	Triode	3.75	—
CK510AX	Dbl. Tetr. Volt. Amp.	2.55	—	CK5702	RF Pentode	4.90	—
CK511X	Pent. Volt. Amp.	—	4.75	CK5703	UHF Triode	1.95	—
CK512AX	Pentode Volt. Amp.	1.50	—	CK5704	Diode	2.85	—
CK518AX	Pentode Pow. Amp.	2.15	—	CK5744	Triode	2.50	—
CK522AX	Pentode Pow. Amp.	1.50	—	CK5783	Volt. Ref. (82-92V)	7.50	—
CK525AX	Pentode Pow. Amp.	—	3.00	CK5784	Pentode Amp.	7.50	—
CK526AX	Pentode Pow. Amp.	—	3.80	CK5785	Diode-HW Rect.	2.35	—
CK527AX	Pentode Pow. Amp.	—	5.10	CK5787	Volt. Reg. (100V)	7.50	—
CK528AX	Pentode Pow. Amp.	—	3.15	CK5829	Double Diode	4.50	—
CK529AX	Pentode Pow. Amp.	—	3.95	CK5851	Beam Pentode	8.70	—
CK531DX	Pentode Pow. Amp.	—	5.10	CK5854	Pent. Pow. Amp.	2.05	—
CK532DX	Pentode Pow. Amp.	—	5.10	CK5875	Pentode	2.10	—
CK533AX	Pentode Pow. Amp.	—	3.00	CK5884	Dbl. Tetrode	15.00	—
CK534AX	Pentode Volt. Amp.	—	3.00	CK5885	Dbl. Tetrode	15.00	—
CK535AX	Pentode Pow. Amp.	—	4.30	CK5886	Pentode	4.60	—
CK536AX	Pentode Pow. Amp.	—	3.15	CK5889	Pentode	11.30	—
CK537AX	Pentode Pow. Amp.	—	5.20	CK5967	RF Dbl. Triode	15.00	—
CK538DX	Pentode Volt. Amp.	—	4.10	CK5968	Dbl. Triode	**	—
CK539DX	Pentode Pow. Amp.	—	5.10	CK5969	Dbl. Tetrode	**	—
CK541DX	Pentode Pow. Amp.	—	5.10	CK5970	RF Dbl. Pent.	**	—
CK542DX	Pentode Pow. Amp.	—	5.10	CK5971	Triode	5.25	—
CK542DXS	(Shielded CK542DX)	—	5.30	CK5972	RF Pentode	**	—
CK544DX	Pentode Pow. Amp.	—	5.10	CK5975	Triode	3.75	**
CK546DX	Pentode Pow. Amp.	—	5.10	CK5995	HW Diode	7.50	—
CK547DX	Pentode Pow. Amp.	—	5.10	CK6029	UHF Triode	4.50	—
CK548DX	Pentode Pow. Amp.	—	5.10	CK6050	UHF Triode	3.70	—
CK549DX	Pentode Volt. Amp.	—	4.10	CK6088	Pent. Pow. Amp.	1.50	—
CK556AX	(Use CK5676)	—	—	CK6147	Beam Pentode	**	—
CK568AX	(Use CK5677)	—	—	CK6148	(Use CK5702WA)	—	—
CK569AX	(Use CK5678)	—	—	CK6149	(Use CK5703WA)	—	—
CK570AX	(Use CK5697)	—	—	CK6150	(Use CK5784WA)	—	—
CK571AX	(Use CK5886)	—	—	CK6151	(Use CK5744WA)	—	—

## TRANSISTORS

CK703	(Use CK716)	\$ —	\$ —	CK716	Contact type	\$18.00	\$ —
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## GERMANIUM DIODES

IN66	Gen. Purpose	\$ .95	\$ —	CK709	4 Matched diodes	\$4.50	\$ —
IN67	50 Volts	2.40	—	CK710	UHF Converter	1.05	—
IN68	100 Volts	2.35	—	CK711	4 Matched diodes	16.50	—
CK705	Gen. Purpose	.85	—	CK712	200 Volts	18.10	—
CK706	Video Detect.	.55	—	CK713	Computer appli.	.95	—
CK707	50 Volts	2.00	—	CK714	8 Matched Diodes	21.00	—
CK708	100 Volts	2.00	—	CK715	Freq. Multiplier	.80	—

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\*\* Price Pending OPS Approval



# ELECTRONIC TUBES

## SPECIAL PURPOSE TUBES

### SUGGESTED USER PRICES

Effective May 1, 1952

TYPE		Suggested User Price	Suggested List Price	TYPE		Suggested User Price	Suggested List Price
OA4G	Triode	\$—	\$2.90	884	Gas Triode	\$1.85	\$—
2C33/RX233A	Triode	5.00	—	885	Gas Triode	2.00	—
2C34/RK34	HF Dual Triode	3.50	—	954	UHF Pentode	5.65	—
2C50	Dbl. Tri. Pwr. Amp.	7.50	—	955	UHF Triode	3.60	—
2C52	Dbl. Tri. Vlt. Amp.	7.50	—	956	UHF Pentode	7.00	—
3A4	RF, AF Pentode	1.20	—	957	UHF Triode	3.75	—
3A5	RF Dbl. Triode	1.95	—	CK1089	Gas Tetrode	5.30	—
3B4	RF Beam Pentode	3.60	—	2050	Gas Tetrode	1.85	—
6AJ5	RF-AF Pentode	3.90	—	2051	Gas Tetrode	1.90	—
6AN5	RF-AF Pentode	3.65	—	CK5608A	Dbl. Triode	3.15	—
6AR6	Pent. Pwr. Amp.	**	—	CK5656	RF Dbl. Tetrode	20.55	—
6AS6	Pent. Amp.	3.25	—	CK5694	Dbl. Tri. Pwr. Amp.	3.75	—
6AS7G	Dbl. Triode	—	6.75	CK5910	Pentode	.95	—
6J4	UHF Triode	8.05	—	9001	UHF Pentode	3.40	—
7AK7	Pent. Amp.	7.00	—	9002	UHF Triode	2.50	—
RK60	(Use 1641/RK60)	—	—	9003	UHF Pentode	3.40	—
RK61	Triode	3.30	—	9005	UHF Diode	3.45	—
CK118	Thermal Relay	3.40	—	9006	UHF Diode	1.60	—
310A	RF-AF Pent.	12.45	—				

## RECTIFIER TUBES

BH	Full Wave	\$4.50	\$—	RX215	FW Merc.	\$24.30	\$—
OZ4A/CK1003	Full Wave	1.30	—	RK866A	Half Wave Merc.	2.10	—
2X2A	Half Wave-Hi Vac.	—	4.35	RK872A	Half Wave Merc.	8.20	—
RK3B24W	Half Wave-Hi Vac.	11.75	—	CK1005	Full Wave	—	1.90
RK3B29	Half Wave-Hi Vac.	18.00	—	CK1006	Full Wave	5.85	—
5R4GY	Full Wave	1.85	—	CK1007	Full Wave	1.10	—
5R4WGY	Full Wave	7.25	—	CK1012	Full Wave	3.10	—
6X4W	Dbl. Tri. FW	1.80	—	CK1024	Full Wave	3.60	—
6X5WGT	Full Wave	**	—	CK1027	Half Wave	3.40	—
RK72	Half Wave-Hi Vac.	11.75	—	CK1028	Half Wave	22.50	—
RX120	HW, Merc. Argon	21.65	—	1641/RK60	FW—Hi Vac.	3.00	—
RX120A	HW Merc.	24.30	—	CK5517	Half Wave	3.40	—
RX212	HW Merc.	32.95	—				

## RADIATION COUNTER TUBES

1B90	\$14.25	\$—	CK1023	\$11.50	\$—
CK1018	14.25	—	CK1026	3.15	—
CK1019	14.25	—	CK1029	15.00	—
CK1020	12.00	—	CK1032	3.15	—
CK1021	11.50	—			

## MAGNETRONS

RK2J25	\$300.00	\$—	RK2J71	\$320.00	\$—
RK2J42	186.00	—	QK174B	320.00	—
RK2J55	186.00	—	QK312	320.00	—
RK2J70	170.00	—	RK5609	109.00	—

## KLYSTRONS

RK2K25	Inter. Cavity	\$ 65.00	\$—	QK292	Inter. Cavity	\$384.00	\$—
RK2K26	Inter. Cavity	78.50	—	QK293	Inter. Cavity	384.00	—
RK2K28	Exter. Cavity	67.85	—	QK294	Inter. Cavity	384.00	—
RK2K33	Inter. Cavity	384.00	—	QK295	Inter. Cavity	513.00	—
QK140	Inter. Cavity	384.00	—	QK306	Inter. Cavity	384.00	—
QK226	Inter. Cavity	384.00	—	RK707B	Exter. Cavity	67.85	—
QK227	Inter. Cavity	384.00	—	RK5721	Exter. Cavity	307.70	—
QK289	Inter. Cavity	384.00	—	RK5976	Exter. Cavity	78.55	—
QK290	Inter. Cavity	384.00	—	RK6043	Inter. Cavity	67.85	—
QK291	Inter. Cavity	384.00	—				

ALL PRICES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

\*\* Price Pending OPS Approval

MANUFACTURERS OF RECEIVING TUBES SINCE 1921



# CBS-HYTRON



Originator of  
Studio-Matched  
Rectangular Tubes

MAIN OFFICE: SALEM, MASS.

Originator of  
the famous  
Bantam GT

## LIST PRICES OF CBS-HYTRON TUBES

EFFECTIVE MARCH 15, 1952

TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST
OZ4	\$1.65	5Z4	\$2.80	6H6	\$1.65	7A4(XXL)	\$2.00	12SJ7	\$1.75	50C5	\$2.00
OZ4G	1.65	6A3	3.35	6H6GT	1.85	7A5	2.35	12SJ7GT	1.65	50L6GT	1.70
IA4P	4.05	6A6	2.75	6J5	1.50	7A6	1.90	12SK7	1.75	50X6	2.20
IA5GT	1.85	6A7	2.30	6J5GT	1.50	7A7	1.90	12SK7GT	1.75	50Y6GT	1.85
IA6	3.35	6A8	2.20	6J6	2.50	7A8	1.80	12SL7GT	2.50	50Y7GT	2.10
IA7GT	2.20	6A8G	2.30	6J7	2.10	7AD7	3.35	12SN7GT	2.30		
IAX2	2.55	6A8GT	2.30	6J7G	2.25	7AF7	1.80	12SQ7	1.50	53	2.75
IB3GT	2.55	6A8A	2.00	6J7GT	2.20	7AG7	2.20	12SQ7GT	1.50	56	1.85
IB4P	4.05	6AB7	3.25	6J8G	3.20	7AH7	2.20	12Z3	2.60	57	2.10
IB5/25S	3.35	6AC5GT	3.00	6K5GT	2.40	7B4	1.80	14A4	2.65	58	2.10
IC5GT	2.30	6AC7	2.90	6K6GT	1.60	7B5	1.80	14A7/12B7	2.20	70L7GT	3.90
IC6	3.35	6AD7G	3.35			7B6	1.80	14AF(XXD)	2.40	71A	2.35
		6AG5	2.25	6K7	1.85	7B7	1.90	14B6	2.20	75	1.70
IC7G	3.35	6AG7	3.20	6K7G	2.15			14B8	2.20	76	1.70
ID5GP	4.05	6AH4GT	2.20	6K7GT	2.15	7B8	1.90			77	2.15
ID7G	3.35	6AH6	3.90	6K8	2.50	7C5	1.90	14C5	2.75	78	2.15
ID8GT	4.05	6AK5	3.90	6K8GT	2.50	7C6	1.80	14C7	2.40	80	1.30
IF4	2.75	6AK6	2.35	6L5G	2.75	7C7	1.90	14E6	2.35		
IF5G	2.75	6AL5	1.80	6L6	3.75	7E5/1201	2.65	14E7	2.75	81	4.65
IF6	4.05	6AL7GT	2.90	6L6G	3.20	7E6	2.35	14F7	2.20	83	2.75
IF7G	4.05	6AQ5	2.00	6L6GA	3.20	7E7	2.75	14F8	3.00	83V	3.20
IG4GT	2.55	6AQ6	1.90	6L7	2.55	7F7	2.20	14H7	2.40	84/6Z4	1.80
IG6GT	2.70	6AQ7GT	2.65	6L7G	3.30	7F8	3.00	14J7	2.75	85	2.30
IH4G	2.30	6AR5	1.65			7G7/1232	2.75	14N7	2.65	117L/M7GT	3.90
		6AS5	2.10	6N6G	3.90	7H7	2.20	14Q7	2.20	117N7GT	4.05
IH5GT	1.70	6AT6	1.55	6N7	2.55			14R7	2.75	117P7GT	4.05
IH6GT	3.35	6AU5GT	2.65	6N7GT	2.50	7J7	2.75			117Z3	1.55
IJ6GT	3.20			6P5GT	2.40	7K7	2.75	14S7	2.65	117Z4GT	2.90
IL4	2.10	6AU6	1.80	6Q7	2.10	7L7	2.75	14W7	2.65	117Z6GT	2.50
ILA4	2.65	6AV5GT	2.65	6Q7G	1.85	7N7	2.20	14Y4	2.40	1273	2.65
ILA6	2.65	6AV6	1.55	6Q7GT	1.85	7Q7	2.10	19	3.35	1280	2.65
ILB4	2.65	6AW6	2.65	6R7	2.65	7R7	2.35	19B6G6	6.00	5642	2.20
ILC5	2.65	6AX4GT	2.40	6R7GT	2.65	7S7	2.65				
ILC6	2.65	6AX5GT	1.65	6S4	1.70	7V7	2.65	24A	2.90		
ILD5	2.65	6B4G	3.20	6S7G	3.35	7W7	2.65	25AC5GT	2.90		
ILE3	2.65	6B5	3.35	6S8GT	2.65	7X7(XXFM)	2.65	25AV5GT	2.90		
ILG5	2.65	6B6G	2.10	6SA7	1.75	7Y4	1.80	25BQ6GT	3.20		
ILH4	2.65	6B7	3.35	6SA7GT	1.75						
ILN5	2.65	6B8G	3.35	6SB7Y	2.55	7Z4	1.80				
IN5GT	2.10			6SC7	2.00	12A4	2.00	25L6GT	1.70		
IP5GT	2.65	6BA6	1.90	6SD7GT	2.90	12A7	3.35	25W4GT	1.80		
IO5GT	2.65	6BA7	2.50	6SF5	1.75	12A8GT	2.20	25Y5	3.00		
IR4	2.75	6BC5	2.00	6SF5GT	1.80	12AH7GT	2.75	25Z5	1.65		
IR5	2.10	6BD6	2.00	6SF7	2.00	12AL5	1.80	25Z6	2.30		
IS4	2.25	6BE6	1.90			12AT6	1.55	25Z6GT	1.50		
IS5	1.90	6BF5	2.35	6SG7	2.00	12AT7	2.90	26	2.05		
IT4	2.10	6BF6	1.70	6SH7	2.20	12AU6	1.80	27	1.75		
		6BG6G	4.80	6SJ7	1.65	12AU7	2.40	30	2.25		
IT5GT	2.60	6BH6	2.10	6SJ7GT	1.65	12AV6	1.55	32	3.70		
IU4	2.10	6BJ6	2.10	6SK7	1.65	12AV7	2.90	32L7GT	3.20		
IU5	1.90	6BK7	3.20	6SK7GT	1.65	12AW6	2.50				
IV	2.30			6SL7GT	2.45	12AX4GT	2.40	33	3.35		
IV2	1.55	6BL7GT	2.90	6SN7GT	2.20	12AX7	2.20	34	3.50		
IX2A	2.55	6BN6	2.90	6SQ7	1.50	12A27	2.65	35/51	2.35		
2A3	3.35	6BQ6GT	3.20	6SO7GT	1.50	12B4	2.00	35A5	1.90		
2A4G	3.20	6BQ7	3.05	6SR7	1.80	12BA6	1.90	35B5	2.00		
2A5	2.30	6BY5G	2.65			12BA7	2.50	35C5	2.00		
2A6	2.65	6R77	3.05	6SR7GT	2.00			35L6GT	1.70		
2A7	2.75	6C4	1.70	6SS7	2.15	12BD6	2.00	35W4	1.30		
		6C5	1.75	6CV7	3.55	12BE6	1.90	35Y4	1.80		
3ABGT	4.80	6C5G	1.65	6T7G	3.35	12BH7	2.40	35Z3	1.80		
3LF4	2.65	6C6	2.20	6T8	2.90	12BY7	2.65	35Z4GT	1.50		
3Q4	2.25	6C8G	3.35	6U4GT — Use		12BZ7	2.40	35Z5GT	1.25		
3O5GT	2.50	6CB6	2.10	6U5*	2.40	12J5GT	1.55	36	2.75		
3S4	2.00			6U7G	2.20	12J7GT	2.20	37	1.85		
3V4	2.00	6CD6G	6.60	6U8	2.90	12K7GT	2.10	38	2.30		
5AZ4	1.35	6D6	2.20	6V3	3.90	12K8	2.70	39/44	2.75		
5U4G	1.50	6D8G	3.35	6V6	3.35	12K8GT	2.65	41	1.90		
5V4G	2.45	6E5*	2.25			12Q7GT	1.85	42	2.65		
5W4	1.65	6F5	1.75	6V6GT	2.00			43	2.05		
5W4GT	1.65			6W4GT	1.85	12SA7	1.75	45	2.10		
		6F5GT	1.70	6W6GT	2.20	12SA7GT	1.75				
5X4G	1.80	6F6	2.10	6X4	1.95	12SF5	1.90	45Z3	1.80		
5Y3G	1.35	6F6G	1.75	6X5GT	1.95	12SF5GT	2.00	45Z5GT	1.80		
5Y3GT	1.10	6F6GT	1.65	6X8	2.75	12SF7	2.10	46	2.90		
5Y4G	1.95	6F8G	3.35	6Y6G	2.50	12SF7GT	2.00	47	2.90		
5Z3	1.75	6G6G	2.75	6ZY5G	2.30	12SG7	2.00	50A5	2.20		
						12SH7	2.70	50B5	2.00		

SPECIAL PURPOSE TYPES

TYPE	LIST
OA2*	\$2.90
OA3*	2.65
OB2*	3.20
OB3*	3.35
OC3*	2.65
OD3*	2.65
3A5*	1.95
5R4GY	1.85
6A57G	7.10
9001*	3.40
9002*	2.50

TV PICTURE TYPES

Type	Suggested Retail
7JP4	\$25.00
10BP4A	27.00
12LP4A	31.00
14BP4	35.00
14CP4	34.00
16AEP4	36.00
16AP4A	50.75
16GP4	40.50
16KP4	35.00
16RP4	35.00
16TP4	35.00
17BP4A	34.00
17CP4	33.25
17HP4 (17RP4)	34.50
17LP4 (17VP4)	34.50
17QP4	34.00
17YP4	34.00
19AP4A	60.00
20CP4A	50.00
20DP4A	50.00
20HP4A (20LP4)	52.00
21EP4A	52.00
21FP4A (21LP4)	54.00

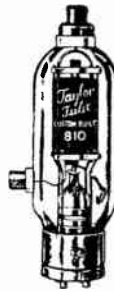
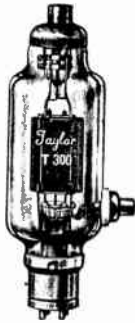
\* Non-taxable

# Taylor

**CUSTOM  
BUILT**

# Tubes

2312-18 WABANSIA AVENUE, CHICAGO 47, ILLINOIS



## TRIODES

Type	Filament		Max. Plate			Max. Grid Drive Watts	Amp. Factor	Base	Size		Max. Mc. For 100% Input	Price
	Volts	Amps	Dissipation Watts	D.C. Volts	D.C. M.A.				L.	D.		
TZ-20	7.5	1.75	20	750	85	3.5	62	4 P.MED.	6.0	2.37	60	\$4.00
T-40	7.5	3.0	40	1500	150	9.0	25	4 P.MED.	6.25	2.5	60	4.50
TZ-40	7.5	3.0	40	1500	150	9.0	62	4 P.MED.	6.25	2.5	60	4.50
T-55	7.5	3.0	55	1500	165	7.0	20	4 P.MED.	7.0	2.62	125	9.50
T-60	10.0	3.0	60	1500	150	9.0	15	4 P.MED.	6.75	2.5	60	11.50
T-125	10.0	4.5	125	2500	250	12.5	25	4 P.JUM.	8.25	3.0	60	13.50
T-200	10.0	5.75	200	2500	350	20.0	17	4 P.JUM.	9.5	3.75	30	25.00
T-300	10-11	6.0	300	3000	300	18.0	23	4 P.JUM.	12.0	4.87	30	30.00
805	10.0	3.25	125	1750	210	10.0	45	4 P.JUM.	8.5	2.32	30	13.50
810	10.0	4.5	125	2250	275	15.0	36	4 P.JUM.	8.75	3.0	30	14.50
822	10.0	4.0	200	2500	300	17.0	30	4 P.JUM.	9.0	2.62	30	20.00
845	10.0	3.25	100	1230	175	10.0	5	4 P.JUM.	7.5	2.32	20	13.75
8000	10.0	4.5	175	2500	250	20.0	16.5	4 P.JUM.	8.5	2.12	30	14.50

## RECTIFIERS AND \*CONTROL TUBES

Type	Filament		Anode			Base	Price
	Volts	Amps	Volts Peak Inverse	Amps. Peak	Amps Average		
866 JR	2.5	2.5	5000	.5	0.125	4 P.MED.	\$1.65
866A	2.5	5.0	10000	1.0	0.250	4 P.MED.	1.95
872A	5.0	6.75	10000	5.0	1.25	4 P.JUM.	8.20
875A	5.0	10.0	15000	6.0	1.5	4 P.JUM.	21.00
249C	2.5	7.5	10000	1.5	0.375	4 P.MED.	9.00
249S	2.5	7.5	5000	0.5	0.125	4 P.MED.	7.00
8008	5.0	6.75	10000	5.0	1.25	SPEC.	8.20
8013A	2.5	5.0	40000	0.15	0.02	4 P.MED.	10.30
8020	2.5	6.0	40000	0.75	0.10	4 P.MED.	22.00
TR40M	5.0	10.5	60000	1.0	0.25	4 P.MED.	20.00
*TT-17	2.5	5.0	2500	2.0	0.5	4 P.MED.	7.00
*873	5.0	6.75	3000	10.0	2.5	4 P.JUM.	17.25

TAYLOR MANUFACTURES SPECIAL TUBE TYPES FOR MANY INDUSTRIAL AND COMMERCIAL APPLICATIONS. CONTACT OUR APPLICATION ENGINEERING DEPARTMENT FOR YOUR REQUIREMENTS OF SPECIAL PURPOSE TUBE TYPES.



# CETRON ELECTRONIC TUBES



Engineered and Manufactured by Continental Electric Co.

## CETRON PHOTOTUBES

CETRON phototubes are either of the gas-filled or of the vacuum type. With the gas-filled type, greater effective response is obtained, particularly in low impedance circuits, while the vacuum type is recommended where maximum stability is desired.

CETRON phototubes are selected as to their sensitivity and priced accordingly. Phototubes of the Super Class A/B or Q are generally used for experimental purpose where very high sensitivities are required; Class C or R mostly for motion picture equipment; Class D for relay work, etc.

## CETRON RED SENSITIVE PHOTOTUBES

CETRON red sensitive phototubes are available in three sensitivity classes, A/B, C and D. The CETRON gas-filled red sensitive tubes comprise the most complete line of phototubes designed for sound reproduction. For complete engineering specifications, write for our PC 8/9.

## CETRON BLUE SENSITIVE PHOTOTUBES

CETRON blue sensitive phototubes are available in two sensitivity classes, Q and R. The gas-filled CETRON blue sensitive tubes comprise a most complete line for sound reproduction work from dye recorded film. For complete engineering specifications, write for our PC 8/9.

## CETRON LEAD SULFIDE PHOTOCELLS

CETRON lead sulfide photo conductive cells are made in a variety of miniature types. They are also available in a variety of sensitive areas and resistances. CETRON lead sulfide photocells are available in three sensitivity classes, A, C and D. For complete engineering specifications, write for our lead sulfide literature.

Continental Electric also manufactures a complete line of special purpose photocells, such as the CE-5, CE-7, CE-8, CE-10, CE-12, CE-15, CE-18, CE-26, etc. We will be happy to work with you on design and development problems, also on any special phototubes your application may require. Full data, price, etc. on special phototubes will be forthcoming upon request.

## LIST PRICES

### RED SENSITIVE TYPES, GAS-FILLED, RMA SPECTRAL RESPONSE S1.

Type	Class A/B	Class C	Class D
CE-1/918	\$6.20	\$4.10	\$2.50
CE-2/1P30	8.50	5.50	3.65
CE-3/1P31	8.50	5.50	3.30
CE-4/1P36	8.50	5.50	3.30
CE-21/920		5.60	3.60
CE-22		4.00	2.40
CE-23/923	5.50	2.90	1.75
CE-B25/927	12.00	5.50	2.50
CE-30/930	5.50	2.60	1.50
CE-36	12.00	5.50	2.50

### RED SENSITIVE TYPES, VACUUM, RMA SPECTRAL RESPONSE S1

CE-1V	\$8.50	\$4.20	\$2.60
CE-2V	10.00	6.00	3.30
CE-4V	10.00	6.00	3.65
CE-11V/917	12.00	5.00	3.00
CE-25V	12.00	5.50	3.00
CE-30V	8.50	2.80	1.85
CE-31V/919	12.00	5.00	3.00

### BLUE SENSITIVE TYPES, GAS-FILLED, RMA SPECTRAL RESPONSE S4

	Q	R
CE-59/5581	\$9.00	\$4.40
CE-64/5583	10.00	3.60
CE-74	12.00	6.50
CE-83/5612	16.00	10.00
CE-91	10.00	3.30
CE-97/5614	16.00	10.00

### BLUE SENSITIVE TYPES, VACUUM, RMA SPECTRAL RESPONSE S4

CE-29/929	\$9.00	\$2.00
CE-34	10.00	4.50
CE-61	10.00	6.60
CE-99	16.00	6.50



CE-B25



CE-1  
CE-91



CE-30

## MINIATURE TYPES

### LEAD SULFIDE TYPES

CE-701 Side Type	\$10.00
CE-702 Side Type	10.00
CE-703 End Type	10.00
CE-704 Double Side Type	15.00
CE-705 End Type	10.00
CE-711 Three-Pin Side Type	10.00



CE-702



CE-701

# CETRON ELECTRONIC TUBES



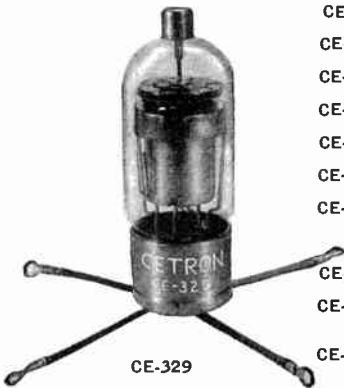
Engineered and Manufactured by Continental Electric Co.

## CETRON RECTIFIER and GRID CONTROL TUBES

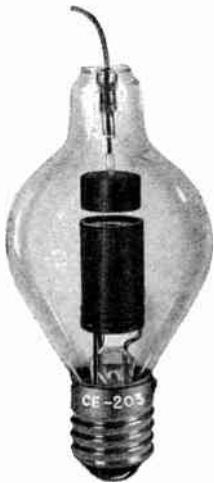
Type New No.	Old No.	Description	List Price	Data Sheet No.
CE-3B28	—	0.5 amp. half wave gas filled 1500 volts DC with medium 4 pin base.....	\$ 8.50	143
CE-200A	CE-200	2 amp. full wave mercury vapor 250 volts DC with standard 4 pin base.....	7.75	111
CE-201A	CE-201	2 amp. full wave mercury vapor 250 volts DC with special 4 long pin base.....	8.00	111
CE-202B	CE-202	15 amp. half wave mercury vapor 250 volts DC Mogul Screw base.....	35.00	108
CE-203	—	15 amp. half wave mercury vapor 150 volts DC Mogul Screw base.....	11.60	104
CE-205	2-RA-5	5 amp. half wave mercury vapor 250 volts DC Mogul Screw base.....	12.60	106
CE-206	2-RA-6	6 amp. half wave mercury vapor 90 volts DC Mogul Screw base.....	6.00	106
CE-207	—	15 amp. half wave mercury vapor 150 volts DC Mogul Screw base.....	35.00	108
CE-210A	CE-210	2 amp. full wave mercury vapor and gas 250 volts D.C. with standard 4 pin base.....	7.75	131
CE-212A	CE-212	2 amp. half wave gas filled 60 volts DC Medium Screw Base.....	4.00	120
CE-213A	CE-213	2 1/2 amp. half wave mercury vapor 600 volts DC standard 4 pin base.....	7.50	107
CE-215	2-RA-15	15 amp. half wave mercury vapor 75 volts DC Mogul Screw base.....	10.40	103
CE-220	CE-72	.020 amp. 20,000 half wave high vacuum, rect. tubes. Stand. 4 pin base.....	5.85	113
CE-221	4B25	6.4 amp. full wave gas filled 200 volts DC special 4 pin base.....	19.00	125
CE-222	—	1 amp. full wave gas filled 200 volts DC with medium 4 pin base.....	8.50	115
CE-225	—	6 amp. half wave gas filled 60 volts DC with Mogul Screw base.....	5.00	121
CE-226	R-6-A	6 amp. half wave gas filled 90 volts DC Mogul Screw base.....	5.00	112
CE-230	3B24	.060 amp. 20,000 half wave high vacuum rect. med. 4 pin base.....	13.20	123
CE-235	R-15-A	15 amp. half wave gas filled 60 volts DC Mogul Screw base.....	10.00	109
CE-235A	—	15 amp. half wave gas filled 60 volts DC Mogul Screw base and flexible anode lead.....	10.00	109
CE-249C	—	0.64 amp. half wave mercury vapor 2000 volts DC with medium 4 pin base.....	9.50	144
CE-303	3C31	1 amp. grid control tube, gas filled standard 4 pin base.....	13.25	114
CE-304	—	12.5 amp. grid control mercury vapor 125 amp. peak current No. 4310 4 pin ind. base.....	74.75	119
CE-305	—	2 amp. grid control tube, gas filled, standard 4 pin base.....	28.00	116
CE-306	—	6 amp. grid control tube, gas filled, 40 amp. peak current, 4 pin base No. 412.....	33.60	118
CE-309	FG17	.5 amp. grid control tube mercury vapor 5000 peak inverse med. 4 pin base.....	7.90	126
CE-311	3C23	1.50 amp. grid control tube mercury and gas filled 1000 peak inverse med. 4 pin base.....	15.75	127
CE-393A	—	1.50 amp. grid control tube mercury and gas filled 1250 peak inverse med. octal base.....	15.75	127
CE-323B	—	1.5 amp. grid control tube mercury vapor and gas filled 1250 peak inverse. Medium 5 pin base.....	15.75	133
CE-329	—	3 amp. grid controlled, gas filled, indirectly heated, short deionization time, peak inverse 1250V, flexible leads.....	45.00	137
CE-330	—	5 amp. grid controlled, gas filled, indirectly heated, short deionization time, peak inverse 1250V, flexible leads.....	50.00	138
CE-331	—	10 amp. grid controlled, gas filled, indirectly heated, short deionization time, peak inverse 1250V, flexible leads.....	95.00	139
CE-394A	—	0.64 amp. grid control tube mercury and gas filled with medium 4 pin base.....	9.50	141
CE-627	—	0.64 amp. grid control tube mercury vapor with medium 4 pin base.....	15.75	142



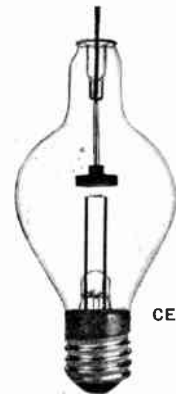
CE-202



CE-329



CE-203



CE-226

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

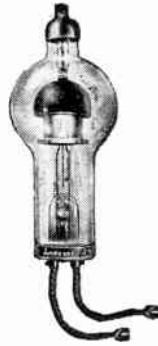
### WARRANTY

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

Continental Electric Co.



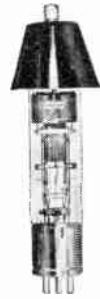
833A



857B



813



AGR-9951/5870



AX-9902/5868



AX-9903/5894



VC25  
VC50  
VC100



891R  
892R



889R-A

# AMPEREX

## ELECTRONIC TUBES

COMMUNICATION - RECTIFICATION - INDUSTRIAL  
ELECTRO-MEDICAL - RADIATION DETECTION  
SPECIAL PURPOSE

TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	MAGNETRONS **
3B28	\$ 9.00	450TH	\$77.00	893A	\$630.00	TYPE 2J55 2J56 4J47 4J52 725-A
4B32	12.00	450TL	77.00	893AR*	1150.00	
4C35**		468	28.50	1701 (FG17)	6.50	
AX4-125A	30.25	492	260.00	HF-3000	400.00	
AX4-250A	41.25	492R	260.00	ZB-3200	300.00	
5C22**		498	450.00	5604	540.00	
HF60	12.50	501R	100.00	5619	390.00	
98R	200.00	502	80.00	5658	510.00	
HF100	15.00	502R	130.00	5666	225.00	
100TH	18.25	504R	125.00	5667	302.50	
FG105	48.00	508	500.00	8002	132.00	
HF120	17.50	575A	24.00	8002R	160.00	
ZB120	17.50	673	24.50	8008	8.25	
HF125	25.00	805	13.50	8020	32.00	
HF130	19.00	807	2.50	AX-9900	22.00	
HF140	17.50	810	14.50	AX-9901	33.00	
HF150	19.00	813	16.00	AX-9902	60.00	
AB150	20.00	828	13.75	AX-9903	19.00	
HF175	20.00	832A	12.90	AX-9904	175.00	
HF200	28.50	833A	49.50	AX-9904R	225.00	
HF201A	28.50	834	14.50	AX-9905	6.00	
203A	13.75	838	13.75	AGR-9950	25.00	
203H	25.00	845	13.75	AGR-9951	110.00	
204A	115.00	846	250.00			
207	242.00	849	138.00			
211	13.75	849A	135.00			
211C	19.00	849H	135.00			
211D	17.50	851	253.00			
211H	19.00	857B	209.00			
212E	102.00	858	500.00			
221A	20.00	859	500.00			
222A	300.00	866A	2.25			
233	500.00	866AX	2.50			
237A	435.00	869B	132.00			
HF250	30.00	872A	8.20			
250TL	33.00	880	510.00			
250TH	33.00	889A	210.50			
258B	11.00	889RA*	285.00			
267B	22.00	891	223.00			
270A	194.70	891R*	362.00			
HF300	35.00	892	223.00			
311CH	19.00	892R*	362.00			

TYPE	PRICE	MAGNETRONS **
212F	\$102.00	tubes for use in West- ern Electric transmitters  <b>AMPEREX</b> tubes for use in West- ern Electric transmitters  TYPE 212F 220C 228A 232C 241B 242C 249B 249C 251A 255B 266B 279A 284D 308B 315AW 319A 321A 332A 342A 343A 343AA
220C	365.00	
228A	325.00	
232C	560.00	
241B	115.00	
242C	15.00	
249B	9.00	
249C	9.00	
251A	300.00	
255B	145.00	
266B	210.00	
279A	355.00	
284D	17.50	
308B	100.00	
315AW	38.60	
319A	22.00	
321A	38.60	
332A	50.00	
342A	582.00	
343A	370.00	
343AA	435.00	

TYPE	PRICE	CONDENSERS
VC6/20	\$22.50	<b>CONDENSERS</b> TYPE PRICE VC6/20 \$22.50 VC6/32 24.50 VC12/20 22.50 VC12/32 24.50 VC25/20 22.50 VC25/32 24.50 VC50/20 26.50 VC100/20 30.00 VC100/32 33.00 VC100A/20 37.50 VC100A/32 40.00 VC250/32 75.00 VC500/20 90.00
VC6/32	24.50	
VC12/20	22.50	
VC12/32	24.50	
VC25/20	22.50	
VC25/32	24.50	
VC50/20	26.50	
VC100/20	30.00	
VC100/32	33.00	
VC100A/20	37.50	
VC100A/32	40.00	
VC250/32	75.00	
VC500/20	90.00	

\* Credits will be allowed for return of radiator and crate in good condition prepaid to factory in Brooklyn, N. Y., in accordance with this schedule.

\$30.00 for Type No. 889-RA  
45.00 " " Nos. 891-R, 892-R  
150.00 " " No. 893-AR

\*\* Price on request

HELPFUL CHARTS AND LITERATURE FREE: Write for set of INTERCHANGEABILITY CHARTS, information at a glance, RAPID TUBE DATA REFERENCE TABLES, 19 pages of condensed information arranged for quick reference. Address your distributor or Amperex direct.



# AMPEREX ELECTRONIC CORP.

# CHATHAM ELECTRONICS

## Electronic Tubes and Equipment

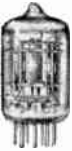
Tubes listed on this page can usually be supplied direct from stock. Many other types are available for immediate delivery — write for catalog. CHATHAM also designs, develops and manufactures special tubes to exact customer specifications — inquiries are invited.



● **CHATHAM RUGGEDIZED 2D21W THYRATRON**  
A ruggedized Xenon filled shield grid thyatron for grid controlled rectifier service. Permits use of high resistance in the grid circuit. Heater 6.3 volts, .6 amp. . . inverse peak plate voltage 1300 volts, average plate current 100 ma.



● **CHATHAM RUGGEDIZED 5R4WG1 RECTIFIER**  
A ruggedized full wave high vacuum rectifier designed for high altitude operation. Heater voltage 5 volts, heater current 2 amps. Peak inverse voltage 2800 volts, peak plate current 650 ma.



● **CHATHAM RUGGEDIZED 6AL5W TWIN TRIODE**  
A ruggedized miniature type twin triode. Heater voltage 6.3 volts, heater current .3 amps. Peak inverse plate voltage 330 volts, DC output current per plate 9 ma. max.



● **CHATHAM RUGGEDIZED OC3W REGULATOR**  
A ruggedized glow discharge regulator tube designed to maintain D.C. output voltage constant at 105 volts with a maximum regulation of 2 volts. Tube operating current 5 to 40 ma.

● **CHATHAM 1Z2 RECTIFIER**

A small bulb high voltage vacuum rectifier. Low cathode heating power and low dielectric losses make tube suitable for radio frequency supply circuits. Fil. 1.25 volts, .265 amp. . . Inverse peak plate voltage 15,000 volts, 1.5 ma. average, 8.5 ma. peak plate current.



● **CHATHAM 3B2B RECTIFIER**

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



● **CHATHAM 4B32 RECTIFIER**

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



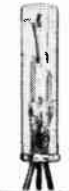
● **CHATHAM 394A THYRATRON**

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

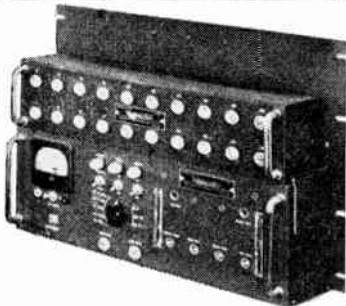


● **CHATHAM 395A COLD CATHODE GAS TRIODE**

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



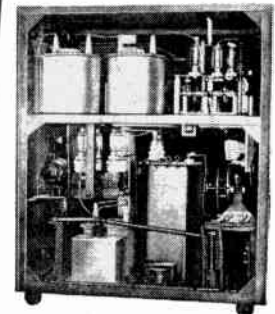
## Custom-Built Electronic Equipment



● Pulse life test equipment built by CHATHAM checks receiver type tubes under pulse operating conditions.

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

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



● 5 Megawatts radar modulator built by CHATHAM to rigid government standards.



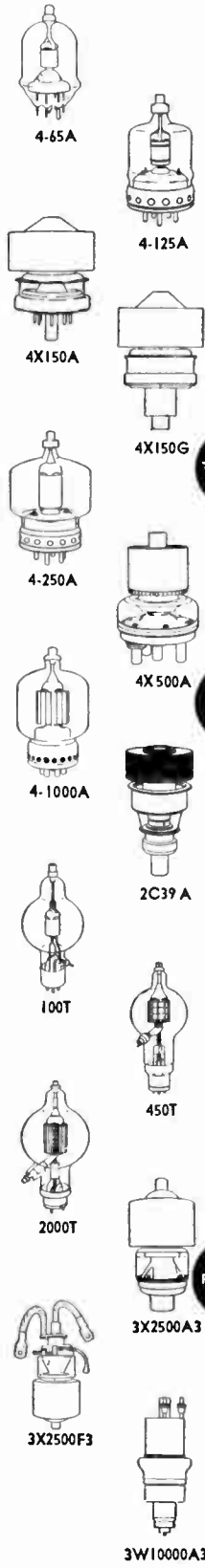
# CHATHAM ELECTRONICS • INC

475 WASHINGTON STREET • NEWARK 2, NEW JERSEY



Long the criteria of good design in any electronic equipment, Eimac tubes are today the undisputed leaders of their field. Complete data on any of the Eimac products listed are available by writing direct.

## TRANSMITTING TYPE TUBES



**TETRODES**

**TRIODES**

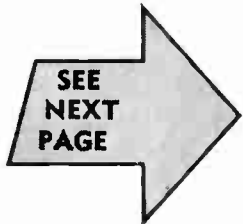
**PENTODE**

EIMAC TUBE TYPE	PRICE	MAXIMUM RATINGS						ELECTRICAL CHARACTERISTICS				
		Plate Dissipation Watts	Plate Voltage	Plate Current Milliamperes	Grid Dissipation Watts	Screen Voltage	Screen Dissipation Watts	Filament, Volts	Filament, Amperes	Amplification Factor	Transconductance umhos	
4-65A	\$ 20.00	65	3000	150	5	400	10	6.0	3.5	5	4000	
4-125A	30.25	125	3000	225	5	400	20	5.0	6.5	6.2	2450	
4-250A	41.25	250	4000	350	5	600	35	5.0	14.5	5.1	4000	
4-400A	60.50	400	4000	350	5	600	35	5.0	14.5	5.1	4000	
4-1000A	132.00	1000	6000	700	25	1000	75	7.5	21	7.2	10,000	
4PR60A	90.00	60	20,000	†	†	1500	8	26	2.25	†	†	
4X150A	48.00	150	1000	250	2	300	12	6.0	2.8	5	12,000	
4X150G	54.00	150	1250	250	2	300	15	2.5	6.25	5.0	12,000	
4X500A	121.00	500	4000	350	10	500	30	5.0	13.5	6.2	5200	
4X500F	93.50	500	4000	350	10	500	30	5.0	12.2	6.2	5200	
		†Pulse Modulator										
2C39A	36.50	100	1000	125	2	...	...	6.3	1.0	100	22,000	
3C24	9.00	25	2000	75	8	...	...	6.3	3.0	23	2500	
3W10000A3	957.00	10,000	5000	10,000	100	...	...	7.0	15	20	55,000	
3X2500A3	198.00	2500	6000	2000	150	...	...	7.5	51	20	20,000	
3X2500F3	198.00	2500	6000	2000	150	...	...	7.5	51	20	20,000	
3X3000A1*	198.00	3000	6000	2500	50	...	...	7.5	51	5	11,000	
3X12500A3*	962.50	12,500	6000	8000	600	...	...	7.5	192	20	80,000	
25T	9.00	25	2000	75	7	...	...	6.3	3.0	24	2500	
35T	10.50	50	2000	150	15	...	...	5.0	4.0	39	2850	
35TG	11.00	50	2000	150	15	...	...	5.0	4.0	39	2850	
75TH	13.25	75	3000	225	16	...	...	5.0	6.25	20	4150	
75TL	13.25	75	3000	225	13	...	...	5.0	6.25	12	3350	
100TH	18.25	100	3000	225	20	...	...	5.0	6.3	40	5500	
100TL	18.25	100	3000	225	15	...	...	5.0	6.3	14	2300	
152TH	28.75	150	3000	450	30	...	...	5 or 10	12.5 or 6.2	20	8300	
152TL	28.75	150	3000	450	25	...	...	5 or 10	12.5 or 6.2	12	7150	
250TH	33.00	250	4000	350	40	...	...	5.0	10.5	37	6650	
250TL	33.00	250	4000	350	35	...	...	5.0	10.5	14	2650	
304TH	60.50	300	3000	900	60	...	...	5 or 10	25 or 12.5	20	16,700	
304TL	60.50	300	3000	900	50	...	...	5 or 10	25 or 12.5	12	16,700	
450TH	77.00	450	6000	600	80	...	...	7.5	12.0	38	6650	
450TL	77.00	450	6000	600	65	...	...	7.5	12.0	18	6060	
592/3-200A3	30.25	200	3500	250	25	...	...	10.0	5.0	25	3600	
750TL	137.50	750	10,000	1000	100	...	...	7.5	21.0	15	3500	
1000T	137.50	1000	7500	750	80	...	...	7.5	17.0	35	9050	
1500T	220.00	1500	8000	1250	125	...	...	7.5	24.0	24	10,000	
2000T	275.00	2000	8000	1750	150	...	...	10.0	25.0	23	11,000	
4E27A/5-125B	35.75	125	4000	200	5	750	20	5.0	7.5	5.0	2150	

\*External Anode requiring forced-air cooling  
 \*\*Water-cooled  
 †Cathode Current

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

COMPLETE DATA AVAILABLE UPON REQUEST



EITEL-McCULLOUGH, INC.  
 San Bruno, California



Eimac product-reputation is the result of years of efficient, dependable performance in varied fields of service. It is the reason the criteria of good design of any electronic equipment are components trademarked "Eimac."

**RECTIFIERS**

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

HIGH VACUUM TYPES						
TYPE	PRICE	FILAMENT VOLTAGE	FILAMENT CURRENT AMPS.	PEAK INVERSE VOLTAGE	CURRENT AMPS. PEAK PLATE	AVERAGE PLATE CURRENT MA
2-01C	\$ 15.25	6.3	0.4	1,000	0.010	..
2-25A	11.00	6.3	3.0	25,000	.....	50
2-50A	13.75	5.0	4.0	30,000	.....	75
2-150D	19.25	5.0	13.0	30,000	.....	150
2-240A	66.00	7.5	12.0	40,000	.....	500
2-3000A	214.50	10.0	25.0	75,000	.....	750
250R	22.00	5.0	10.5	60,000	.....	250
253	20.50	5.0	10.0	15,000	.....	350
8020(100R)	15.00	5.0	6.5	40,000	.....	100
MERCURY VAPOR TYPES						
*KY21A	13.25	2.5	10.0	11,000	3	750
RX21A	9.00	2.5	10.0	11,000	3	750
866A	1.95	2.5	5.0	10,000	1	250
872A	8.20	5.0	7.5	10,000	5	1250

\*Grid Controlled

**VACUUM CAPACITORS**

TYPE	PRICE	VARIABLE CAPACITY	RATING RF PEAK	TYPE	PRICE	FIXED CAPACITY	RATING RF PEAK
VVC60-20	\$ 66.00	10-60 mmfd	20-KV	VC6-20	\$15.00	6 mmfd	20-KV
VVC2-60-20	147.50	Split Stator	40-KV	VC6-32	17.25	6 mmfd	32-KV
		Parallel	20-KV	VC12-20	16.50	12 mmfd	20-KV
VVC4-60-20	284.00	20-120 mmfd	20-KV	VC12-32	20.00	12 mmfd	32-KV
		Split Stator	40-KV	VC25-20	20.00	25 mmfd	20-KV
		Parallel	20-KV	VC25-32	23.25	25 mmfd	32-KV
		40-250 mmfd	20-KV	VC50-20	24.25	50 mmfd	20-KV
				VC50-32	27.50	50 mmfd	32-KV

**AIR-SYSTEM SOCKETS**

TYPE	4X150A/4501	4-400A/4000	4-1000A/4000
COMPLETE ASSEMBLY PRICE	\$18.00	\$16.00	\$22.50
REPLACEMENT CHIMNEY PRICE	.60	6.00	7.50
FOR USE WITH TUBE TYPE	4X150A	4-400A	4-1000A

**HEAT DISSIPATING CONNECTORS**

TYPE	Price	HOLE DIA.
HR-1	\$ .60	.052
HR-2	.60	.0625
HR-3	.60	.070
HR-4	.80	.1015
HR-5	.80	.125
HR-6	.80	.360
HR-7	1.60	.125
HR-8	1.60	.570
HR-9	3.00	.570

**VACUUM PUMP**

**HY-1 DIFFUSION PUMP**

Price \$125.00

An air-cooled, oil diffusion type, vacuum pump. Ultimate vacuum, 4x10<sup>-7</sup>mm. of mercury. Speed (without baffle) approx. 67 liters/seconds.

**100 IG, IONIZATION GAUGE**

\$22.50

An electronic vacuum pressure gauge. Filament voltage 3.5 to 7.5 volts.

**DIFFUSION PUMP OIL A**

\$5.00 qt.

**VACUUM SWITCH**

VS-2

Price \$13.25

Single pole double throw switch within a high vacuum adaptable for high voltage switching. Contact spacing .015". Switch will handle R-F potentials as high as 20 Kv. In DC switching will handle approximately 1.5 Amps. at 5 Kv.



2-01C



866A



872A



RX21A



KY21A



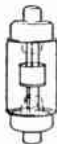
8020



2-150D



250R



FIXED VACUUM CAPACITOR



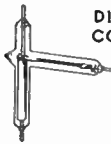
VARIABLE VACUUM CAPACITOR



DIFFUSION PUMP



HEAT DISSIPATING CONNECTOR



VACUUM SWITCH



AIR-SYSTEM SOCKET

**EITEL-McCULLOUGH, INC.**  
San Bruno, California



# WESTINGHOUSE ELECTRONIC TUBES



Westinghouse will be in production on RECEIVING TUBES and CATHODE RAY TUBES during the last half of 1952. Complete data on these tubes is available on request. WESTINGHOUSE ELECTRONIC TUBE DIVISION, Elmira, N. Y.

## PHOTOTUBES



WL-767  
WL-773  
WL-775



SR-50

Type Number	Spectral Ranges Au.	Vacuum or Gas	Cathode Surface	Luminous Sensitivity Microamperes per lumen (o cycles)	Anode Volts Max.	List Price
WL-1P29	3300-9000	Gas	S3	.40	100	\$ 2.95
SR-50		REPLACEMENT ONLY	REPLACEMENT ONLY			7.35
SK-60		REPLACEMENT ONLY	REPLACEMENT ONLY			7.35
WL-734	4000-12000	Vac.	S1	15	500	2.75
WL-767	2000-3150	Vac.	Zirconium	—	500	82.50
WL-773	2000-3675	Vac.	Thorium	—	500	82.50
WL-775	2000-3000	Vac.	Tantalum	—	500	82.50
WL-789	Below 2100	Vac.	Platinum	—	500	137.50
WL-868	4000-12000	Gas	S1	90	100	2.50
WL-917	4000-12000	Vac.	S1	20	500	3.50
WL-918	4000-12000	Gas	S1	150	90	3.50
WL-919	4000-12000	Vac.	S1	20	500	3.50
WL-920	4000-12000	Gas	S1	100	90	4.15
WL-921	4000-12000	Gas	S1	135	90	2.05
WL-922	4000-12000	Vac.	S1	20	500	1.95
WL-923	4000-12000	Gas	S1	135	90	2.05
WL-924	4000-12000	Gas	S1	90	90	3.30
WL-925	4000-12000	Vac.	S1	20	250	2.40
WL-926	3300-9000	Vac.	S3	6.5	500	2.90
WL-927	4000-12000	Gas	S1	125	90	2.50
WL-928	4000-12000	Gas	S1	65	90	2.85
WL-929	3000-6700	Vac.	S4	45	250	1.50
WL-930	4000-12000	Gas	S1	135	90	1.65
WL-931A ‡	3000-6700	Vac.	S4	*	1250	9.75

\*Sensitivity 10 amps. per lumen at 100 volts per stage.  
‡ Multiplier.

## THYRATRONS

### GRID CONTROLLED GAS OR MERCURY VAPOR RECTIFIERS

Type Number	Filament		Volts Peak Inverse	Amps. Peak	Amps. Ave.	Gas	Number of Electrodes	List Prices
	Volts	Amps.						
WL-2D21	6.3	0.6	1300	0.5	0.1	Inert	4	\$ 2.00
WL-3C23	2.5	7.0	1250	6.0	1.0	Hg.	3	12.50
WL-33	See WL-5720/33							
WL-41	See WL-5830/41							
WL-81A	2.5	5.0	500	2.0	0.5	Inert	3	16.00
WL-105	5.0	10.0	2500	40.0	6.4	Hg.	4	48.00
WL-172	5.0	10.0	2000	40.0	6.4	Hg.	4	65.00
WL-414	5.0	20.0	2000	100.0	12.5	Hg.	4	120.00
WL-502A	6.3	0.6	1300	1.0	0.1	Inert	4	1.85
KU-610	2.5	6.5	500	0.4	0.1	Inert	3	22.00
KU-618	REPLACEMENT ONLY							15.75
WL-624	5.0	10.0	2500	80.0	6.4	Hg.	3	48.00
KU-627	2.5	5.0	5000	2.5	0.64	Hg.	3	22.00
KU-628	5.0	11.5	2500	8.0	2.0	Hg.	3	34.00
WL-629	2.5	2.6	350	0.2	0.04	Inert	3	13.00
WL-632B	5.0	5.0	1500	30.0	2.5	Hg.	4	29.00
KU-636	2.5	7.5	350	0.4	0.1	Inert	3	25.00
WL-672A	5.0	5.0	2500	40.0	3.2	Hg.	4	35.00
KU-676	5.0	10.0	2500	40.0	6.4	Hg.	3	55.00
WL-677	5.0	10.0	10000	15.0	4.0	Hg.	3	55.00
WL-678	5.0	7.5	15000	6.0	1.6	Hg.	3	47.00
WL-759	REPLACEMENT ONLY							25.00
WL-884	6.3	0.6	350	0.3	0.075	Inert	3	1.85
WL-885	2.5	1.5	350	0.3	0.075	Inert	3	2.00
WL-2050	6.3	0.6	1300	1.0	0.1	Inert	4	1.85
WL-5557/17	2.5	5.0	5000	2.0	0.5	Hg.	3	7.75
WL-5559/57	5.0	4.5	1000	15.0	2.5	Hg.	3	19.50
WL-5664	2.5	6.3	1250	8.0	1.0	Inert	3	9.80
WL-5665	2.5	31.0	1250	160.0	16.0	Inert	3	59.50
WL-5683	2.5	6.3	1250	8.0	1.0	Inert	3	10.20
WL-5684	2.5	9.0	1250	30.0	2.5	Inert	3	15.60
WL-5685	2.5	21.0	1250	77.0	6.4	Inert	3	31.90
WL-5720/33	5.0	4.5	1000	15.0	2.5	Hg.	3	21.00
WL-5796	2.5	8.5	1500	20.0	1.6	Inert	3	13.75
WL-5830/41	5.0	20.0	10000	75.0	12.5	Hg.	3	182.00

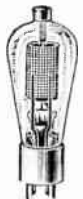
Prices subject to change without notice.



WL-632B



KU-676



KU-627



WL-629



# WESTINGHOUSE ELECTRONIC TUBES



## PIOTRONS — Modulators, Amplifiers, Oscillators



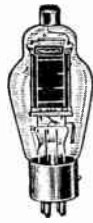
WL-211



WL-803



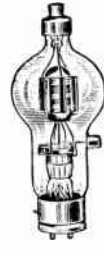
WL-807



WL-809



WL-5736



WL-806

Type Number	Filament		Max. Plate D-C** Volts	Max. Plate D-C** Ma.	Max. Plate Diss** Watts	Plate Output Watts Class C	Ampl. Factor	Max. MC For 100% Input	List Prices
	Volts	Amps.							
WL-4D21/4-125A	5.0	6.5	3000	225	125	375	Tetrode	120	\$ 30.25
WL-4X150A	6.0	2.8	1000	250	150	74	Tetrode	500	48.00
WL-4X500A	5.0	13.5	4000	350	500	1320	Tetrode	120	121.00
WL-4-1000A	7.5	21.0	6000	700	1000	2200	Tetrode	110	132.00
WL-5D22/4-250A	5.0	14.5	4000	350	250	1000	Tetrode	75	41.25
WL-203A	10.0	3.25	1250	175	100	120	25	15	13.75
WL-204A	11.0	3.85	2500	275	250	450	23	3	115.00
WL-207	22.0	50.00	15000	2000	10000	20000	20	1.6	242.00
WL-211	10.0	3.25	1250	175	100	130	12	15	13.75
WL-450TH	7.5	12.0	6000	600	450	1800	38	40	77.00
WL-473	6.0	60.00	5000	1400	2500	3900	22	60	165.00
RH-507	2.0	0.06	9	0.6	.....	.....	0.8	.....	48.00
R E P L A C E M E N T O N L Y									
RJ-571			600	70	20	25	8	60	15.75
WL-801A	7.5	1.25	500	60	10	15	.....	30	4.30
WL-802	6.3	0.90	2000	175	125	225	.....	20	4.75
WL-803	10.0	5.00					.....		24.25
WL-805	10.0	3.25	1500	210	125	215	50	30	13.50
WL-806	5.0	9.50	3000	200	150	450	12.6	30	34.25
WL-807	6.3	0.90	600	100	25	40	.....	60	2.50
WL-808	7.5	4.00	1500	150	50	150	47	30	10.75
WL-809	6.3	2.50	750	100	25	55	50	60	4.00
WL-810	10.0	4.50	2000	250	125	375	36	30	14.50
WL-811A	6.3	4.00	1250	125	40	115	160	60	4.05
WL-812A	6.3	4.00	1250	125	40	115	29	60	4.05
WL-813	10.0	5.00	2000	180	100	260	.....	30	16.00
WL-814	10.0	3.25	1250	150	50	130	.....	30	14.25
WL-815	6.3	1.60	400	150	20	44	.....	150	6.90
WL-826	7.5	4.00	1000	125	60	25	31	250	12.50
WL-828	10.0	3.25	1250	160	70	150	.....	30	13.75
WL-829B	6.3	1.125	750	240	40**	87**	.....	200	16.25
WL-832A	6.3	0.80	750	90	15	26	.....	200	12.90
WL-833A	10.0	10.00	4000	500	400**	1440**	35	20	49.50
WL-837	12.6	0.70	500	80	12	20	.....	20	5.80
WL-838	10.0	3.25	1250	175	100	130	54	30	13.75
WL-845	10.0	3.25	1250	120	100	57	5.3	.....	13.75
WL-849	11.0	5.00	2500	350	400	560	19	3	138.00
WL-862A	33.0	207.0	20000	10000	100000	100000	45	1.6	1,322.00
WL-880	12.6	315.00	10500	6000	20000	45000	20	25	483.00
WL-889A	11.0	120.00	8500	2000	5000	10000	21	50	210.50
WL-889RA	11.0	120.00	8500	2000	5000	10000	21	40	285.00
★WL-891	22.0	60.00	12000	2000	6000	12000	8	1.6	225.00
★WL-891R	22.0	60.00	10000	2000	4000	11000	8	1.6	362.00
★WL-892	22.0	60.00	15000	2000	10000	20000	50	1.6	223.00
★WL-892R	22.0	60.00	12500	2000	4000	14000	50	1.6	362.00
†WL-893A	20.0	183.00	20000	4000	20000	50000	36	5	630.00
†WL-893AR	20.0	183.00	20000	4000	20000	50000	36	5	1,150.00
†WL-895	19.0	138.00	17000	9000	40000	100000	37	6	950.00
†WL-895R	19.0	138.00	17000	9000	20000	90000	37	6	1,300.00

See notes at end of this table on next page.

(PIOTRONS continued on next page)

Prices subject to change without notice.





# WESTINGHOUSE ELECTRONIC TUBES



WL-880



WL-889A

## PLIOTRONS— Cont'd

**MODULATORS**  
**AMPLIFIERS**  
**OSCILLATORS**



WL-891, 892



WL-892R

Type Number	Filament		Max. Plate D-C** Volts	Max. Plate D-C** Ma.	Max. Plate Diss** Watts	Plate Output Watts Class C	Ampl. Factor	Max. MC For 100% Input	List Prices
	Volts	Amps.							
WL-1000T	7.5	17.0	7500	750	1000	4625	35	50	\$ 137.50
WL-1623	6.3	2.50	750	100	25	55	20	60	4.05
WL-5604#	11.0	176.00	12500	3000	10000	22500	19.5	22.5	540.00
WL-5619	11.0	176.0	12500	3000	20000	22500	19.5	22.5	390.00
WL-5671#	11.0	285.0	15000	8000	25000	75000	39	10	1,225.00
WL 5691	6.3	0.60	275	2.3	1	.....	70	.....	7.75
WL 5692	6.3	0.60	275	6.5	1.75	.....	20	.....	7.75
WL 5693	6.3	0.30	300	3.0	2.0	.....	.....	.....	6.40
WL-5736#	6.0	60.0	5000	1400	2500	4100	22	60	160.00
WL-5833	20.0	143.00	18000	10000	35000	136000	37	6	1,885.00
WL-5891	11.0	95.00	15000	8000	25000	70000	36	10	1,350.00
WL-5936	20.0	143.00	18000	10000	70000	136000	37	15	1,100.00
WL-8000	10.0	4.50	2000	250	125	375	16.5	30	14.50
WL-8003	10.0	3.25	1350	250	100	256	12	30	14.00
WL-8005	10.0	3.25	1250	200	75	170	20	60	7.40
WL-8025A	6.3	1.92	1000	80	40	35	18	500	10.00

\*\* Max. C.C.S. ratings in Class C oscillator service.

★ Two filament strands in series with large post at neutral junction; operate in series at 22 volts or two phase with 11 volts per strand.

★ ★ This rating applies only with forced air cooling.

° Per unit, heater can be arranged to operate from either a 6.3 or 12.6 volt supply.

† Six filament strands connected from each post to floating neutral. See individual data sheets for connections.

‡ Three filament terminals Y-connected in 3 phase. Values are per phase.

§ Three filament terminals Y-connected in 3 phase with neutral center terminal. Values are per phase.

# or R Indicates forced air-cooled radiator.

## KENOTRONS — Vacuum Rectifiers



WL-456

Type Number	Filament		Anode		Amp. Average	Type of Cooling	List Price
	Volts	Amperes	Volts Peak Inverse	Amp. Peak			
WL-456	11.0	20	140000	0.50	0.06	Air	\$100.00
WL-481A	2.5	5	25000	0.015	0.005	Air	4.50
WL-579B	2.5	6	20000	0.27	0.025	Air	15.00
WL-585	5.0	1.1	1500	0.011	0.003	Air	19.00
WL-608		R E P L A C E M E N T			O N L Y		168.00
WL-612		R E P L A C E M E N T			O N L Y		299.00
WL-613		R E P L A C E M E N T			O N L Y		210.00
WL-616	20.0	24.5	150000	0.75	0.25	Air	225.00
WL-660	10.0	10	230000	0.10	0.03	Air	273.00
WL-836	2.5	5	5000	1.0	0.25	Air	9.00
WL-8020	5.0	6	40000	0.75	0.1	Air	22.00

## PHANOTRONS — Gas and Mercury Vapor Rectifiers

Type Number	Filament		Anode		Amp. Average	Type of Cooling	List Price
	Volts	Amperes	Volts Peak Inverse	Amp. Peak			
WL 3B22/1C	2.5	6.0	725	4.0	1.0	Air	\$ 7.80
WL 4B24/3C	2.5	11.5	725	10.0	2.5	Air	8.90
WL-575A	5.0	10.0	15000	6	1.5	Air	21.00
WL-670A	2.5	24	1000	9.5	6.0	Air	17.30
WL-816	2.5	2	7500	.5	.125	Air	1.65
WL-857B	5.0	30	22000	40	10.0	Forced Air	209.00
WL-866A	2.5	5	10000	1	0.25	Air	1.95
WL-869B	5.0	18	20000	10	2.5	Forced Air	132.00
WL-872A	5.0	7.5	10000	5	1.25	Air	8.20
WL-5558/32	5.0	4.5	2000	15	2.5	Air	14.00
WL-5561/104	5.0	10.0	3000	40	6.4	Air	38.00
WL-8008			Same as WL-872A except for Base				8.20



WL-866A



WL-872A

Prices subject to change without notice.



# WESTINGHOUSE ELECTRONIC TUBES



## IGNITRONS

### WELDER CONTROL SERVICE



WL-5550/681

WL-5552/651



WL-5555/653B

Type Number	Size	RMS Volts Range	Max. KVA Demand and Corresponding Average Current		Max. Aver. Current and Corresponding KVA Demand		Type Cooling	List Price
			KVA	Amps	KVA	Amps		
WL-5550/681	A	200-600	300	12.1	100	22.4	Clamp	\$ 50.00
WL-5551/652	B	200-600	600	30.2	200	56	Water	80.50
WL-5552/651	C	200-600	1200	75.6	400	140	Water	121.00
WL-5553/655	D	200-600	2400	192.0	800	355	Water	265.00
WL-5554/679		2400	1200	75.0	300	113	Water	190.00
WL-5555/653B		2400	2400	135.0	1105	207	Water	370.00
WL-654/659	Replacement only							

### POWER RECTIFICATION SERVICE

Type Number	D-C Output Voltage	Max. Average Amps Per Tube			Type Cooling	List Price
		Continuous	2-Hour Overload	1 Min. Overload		
WL-5554/679	300 600	100 75	150 112.5	200 150	Water Water	\$190.00
WL-5555/653B	300 600	200 150	300 225	400 300	Water Water	370.00

## MICROWAVE TUBES

Type No.	Class	Resonant Frequencies Megacycles	Loaded Q	Insertion Loss at Resonant Frequency
WL-1Q22	Reference Cavity	9250 ±0.3	1900-2400	4-6 db
WL-1Q23	Reference Cavity	9280 ±0.3	1900-2400	4-6 db
WL-5846*	Reference Cavity	9280 ±0.3	1900-2400	4-6 db
WL-1Q24	Reference Cavity	9310 ±0.3	1900-2400	4-6 db
WL-1Q25	Reference Cavity	9375 ±0.6	1900-2400	4-6 db

\* Interchangeable with 1Q23 except for attenuator card slot.

Type No.	Class	Frequency (Megacycles)
WL-1B24	TR Tuneable	8490-9600
WL-1B35	ATR	9000-9600
WL-1B37	ATR	8500-9000
WL-1B60	TR Tuneable	8490-9600
WL-5939	Pre TR (Gas-switching)	1300

Type No.	Class	Breakdown Voltage (KV per Tube)	Nominal Peak Modulator Power for 2 Tubes (Megawatts)
WL-1B41	Series Spark Gap	8.7-10.2	2
WL-1B45	Series Spark Gap	13.1-15.1	4
WL-1B49	Series Spark Gap	11.2-12.7	3

## MISCELLANEOUS



KX-642

Type Number	Use	Cathode	D-C Anode Volts Min	D-C Operating Current Ma	D-C Operating Volts	Regulation Volts (5-40 Ma)	List Price
OA3	Voltage Regulator	Cold	105	5-40	75	5	\$1.35
OC3	Voltage Regulator	Cold	133	5-40	105	2	1.35
OD3	Voltage Regulator	Cold	185	5-40	150	4	1.30

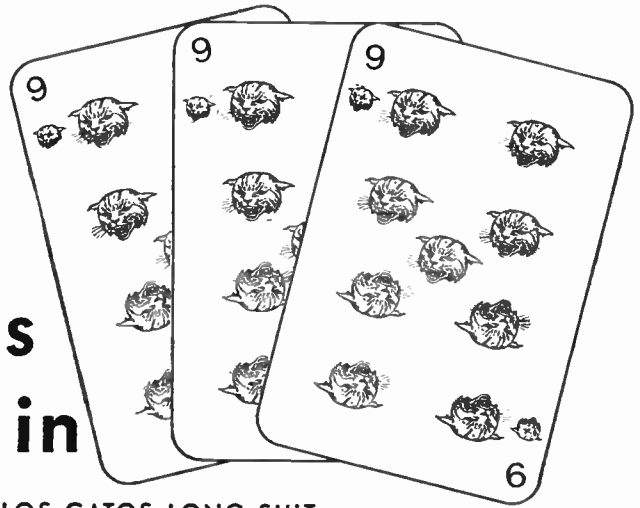
Type Number	Use	Filament		Ion Collector Voltage	Grid Voltage	Sensitivity	List Price
		Volts	Amps.				
WL-5966	Ionization Vacuum Gauge	6.0	2.5	-22.5	150	1 μamp/10 <sup>-5</sup> mm Hg.	\$25.00

Type Number	Use	Volts, RMS		Current		List Price
		Breakdown	Maximum Operating	Maximum 2 Sec.	Maximum 10 Min.	
KX-642	Protector	300-500	230	50 Amps.	7 Amps.	\$12.60

Prices subject to change without notice.

# TUBES

with nine-plus  
lives  
built in



THE LOS GATOS LONG SUIT

LOS GATOS TYPE NUMBER	TUBE TYPE	LIST PRICE
<b>4E27</b>	Beam Pentode	\$24.50
<b>4E27TV</b>	Pentode specially designed for TV transmitters	27.50
<b>4E27A</b>	Beam Pentode	35.75
<b>100R</b>	Rectifier	13.50
<b>100TH</b>	Triode	16.50
<b>100TL</b>	Triode	16.50
<b>250R</b>	Rectifier	20.00
<b>250TH</b>	Triode	22.50
<b>250TL</b>	Triode	22.50
<b>254</b>	Triode	16.50
<b>332A</b>	Pentode	32.00
<b>705A</b>	Rectifier	19.00
<b>719A</b>	Clipper Diode	32.00
<b>8020</b>	Rectifier	22.00

Los Gatos Brand Tubes in both JAN and commercial types are setting new performance records throughout the electronic field. Exclusive new SINTERCOTE black-body surface on molybdenum anodes improves

heat dissipation, keeps tubes hard during operation. Send for technical data bulletins. Inquiries are welcomed for special tubes designed to your specifications.

**LEWIS AND KAUFMAN, INC.**  
LOS GATOS CALIFORNIA



# "EL" XENON GAS-FILLED TUBES

## RECTIFIERS



FULL WAVE RECTIFIER EL 1C		FULL WAVE RECTIFIER EL 3C		FULL WAVE RECTIFIER EL 6C		HALF WAVE RECTIFIER EL 6B & EL 6F		HALF WAVE RECTIFIER EL 16F		
D.C. Output (Amps.) ..	1.0	D.C. Output (Amps.) ..	2.5	D.C. Output (Amps.) ..	6.4	D.C. Output (Amps.) ..	6.4	D.C. Output (Amps.) ..	16.0	
Peak Anode Current ..	4.0	Peak Anode Current ..	10.0	Peak Anode Current ..	25.6	Peak Anode Current ..	40.0	Peak Anode Current ..	96.0	
Peak Inverse Volts ....	725	Peak Inverse Volts ....	725	Peak Inverse Volts ....	725	Peak Inverse Volts ....	920	Peak Inverse Volts ....	620	
Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	
Filament Amperes .....	6.0	Filament Amperes .....	11.5	Filament Amperes .....	17.0	Filament Amperes .....	21	Filament Amperes .....	36	
Overall Length .....	5½"	Overall Length .....	7"	Overall Length .....	7½"	Overall Length (6B) ..	9"	Overall Length .....	15½"	
Price .....	\$7.52	Price .....	\$8.90	Price .....	\$16.63	Overall Length (6F) ..	8¼"	(Panel Mounting)	Price .....	\$24.30
						(Panel Mounting)	Price .....			

## GRID CONTROL RECTIFIERS (THYRATRONS)



EL C1K		EL C3J		EL C6J		EL C16J		EL C6C		
D.C. Output (Amps.) ..	1.0	D.C. Output (Amps.) ..	2.5	D.C. Output (Amps.) ..	6.4	D.C. Output (Amps.) ..	16.0	D.C. Output (Amps.) ..	6.4	
Peak Anode Current ..	8.0	Peak Anode Current ..	30.0	Peak Anode Current ..	77.0	Peak Anode Current ..	160.0	Peak Anode Current ..	77.0	
Peak Forward Volts ....	1000	Peak Forward Volts ....	750	Peak Forward Volts ....	750	Peak Forward Volts ....	1000	Peak Forward Volts ....	2000	
Peak Inverse Volts ....	1250	Peak Inverse Volts ....	1250	Peak Inverse Volts ....	1250	Peak Inverse Volts ....	1250	Peak Inverse Volts ....	4000	
Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5	
Filament Amperes .....	6.3	Filament Amperes .....	9.0	Filament Amperes .....	21.0	Filament Amperes .....	31.0	Filament Amperes .....	24.0	
Overall Length .....	4¼"	Overall Length .....	6½"	Overall Length .....	9"	Overall Length .....	10"	Overall Length .....	11"	
Price .....	\$9.43	Price .....	\$12.15	Price .....	\$30.90	(Panel Mounting)	Price .....	\$56.67	Price .....	\$43.22

EL C1B/A		EL C3J/A		EL C6J/A	
D.C. Output (Amps.) ..	1.0	D.C. Output (Amps.) ..	2.5	D.C. Output (Amps.) ..	6.4
Peak Anode Current ..	8.0	Peak Anode Current ..	30.0	Peak Anode Current ..	77.0
Peak Forward Volts ....	750	Peak Forward Volts ....	1000	Peak Forward Volts ....	1000
Peak Inverse Volts ....	1250	Peak Inverse Volts ....	1250	Peak Inverse Volts ....	1250
Filament Volts .....	2.5	Filament Volts .....	2.5	Filament Volts .....	2.5
Filament Amperes .....	6.3	Filament Amperes .....	9.0	Filament Amperes .....	21.0
Overall Length .....	4½"	Overall Length .....	6½"	Overall Length .....	9"
Price .....	\$9.43	Price .....	\$15.04	Price .....	\$31.90

**ELECTRONS, INCORPORATED**  
127 SUSSEX AVENUE  
NEWARK 4, N. J.

ENGINEERING MANUAL &  
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# NATIONAL ELECTRONICS, INC.

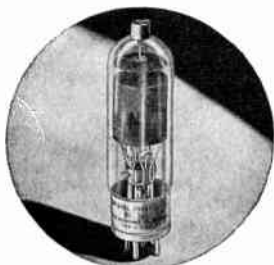
GENEVA • ILLINOIS • U.S.A.

## QUICK-HEATING INDUSTRIAL ELECTRONIC TUBES

### THYRATONS



NL-3C23 THYRATRON



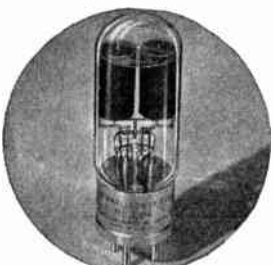
NL-740 THYRATRON



NL-618P RECTIFIER



NL-649/5834/249R  
RECTIFIER



NL-604 RECTIFIER

TYPE NUMBER	GAS FILLING	DC OUTPUT AMPERES	PEAK AMPS. RATING	PEAK INVERSE VOLTAGE	FILA-MENT VOLTS	FILA-MENT AMPERES	PRICE
NL-3C23	Arg. & Merc.	1.5	6	1250	2.5	7	\$12.50
NL-3238	Arg. & Merc.	1.5	6	1250	2.5	7	\$13.25
NL-393A	Arg. & Merc.	1.5	6	1250	2.5	7	\$13.25
NL-710/ 6011	Arg. & Merc.	2.5	30	1250	2.5	9	\$12.15
NL-714	Arg. & Merc.	1	3	1250	2.5	5	\$7.75
NL-715/ 5557	Mercury	1	3	5000	2.5	5	\$7.75
NL-740	Arg. & Merc.	4	50	1250	2.5	16	\$20.50
NL-741	Mercury	4	50	5000	2.5	16	\$20.50

### HALF-WAVE RECTIFIERS

NL-249C	Mercury	.64	2.5	7500	2.5	7.5	\$12.75
NL-614	Xenon	2.5	15	900	2.5	8.5	\$8.90
NL-615	Mercury	2.5	10	2000	2.5	7	\$7.50
NL-617	Mercury	5	20	1000	2	12	\$11.60
NL-618	Xenon	6.4	40	750	2.5	18	\$12.40
NL-623	Mercury	15	45	500	2.5	20	\$11.60
NL-625	Mercury	15	45	900	2.5	20	\$29.00
NL-627	Mercury	20	120	1000	2.5	26	\$35.00
NL-635	Mercury	6.4	40	1000	2.5	18	\$12.60
NL-643	Mercury	15	90	700	2.5	23	\$13.50
NL-649/ 5834/249R	Mercury	2	10	900	2.5	7	\$7.50
NL-653/ 5835/8R-3	Mercury	3	12	900	2.5	10	\$10.75

### FULL-WAVE RECTIFIERS

NL-600	Arg. & Merc.	1	4	900	2.5	6	\$8.20
NL-602	Arg. & Merc.	2	4	900	2.5	9	\$10.20
NL-604	Arg. & Merc.	2.5	10	900	2.5	12	\$8.90

### IGNITRONS

TYPE NUMBER	SUPPLY VOLTS	MAXIMUM RATINGS				PRICE
		Maximum Kva Demand	Corresponding Current DC-Amps.	Maximum Current DC-Amps.	Corresponding Kva Demand	
NL-1001	250 - 600	150	4.9	9.0	50	\$37.50
NL-5552	250 - 600	1200	75.6	140	400	\$121.00

Prices and other data subject to change without notice.

WRITE FOR INDIVIDUAL TUBE DATA SHEETS FOR FULL DETAILS.

This is Britain's famous power amplifying tube . . . for years the favorite tube of experimenters and research laboratories; acknowledged in every country of the world to be the finest tetrode ever made. It is currently used in the Leak, Williamson, Radio Craftsmen and other fine amplifiers.

The KT66 is a versatile power tetrode with a number of useful applications. It may be used in the output stage of an audio-frequency power amplifier, either tetrode-connected for maximum sensitivity and power output or triode-connected for high quality working. In transmitting circuits using frequencies up to 30 Mc/s it may also be used as an oscillator or as a radio frequency amplifier.

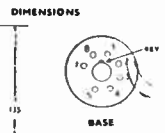
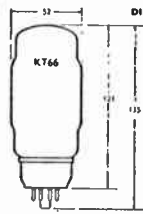
A high slope, indirectly heated beam tetrode, the KT66 is suitable for either single or push-pull audio operation and may be employed as a beam tetrode with aligned grids. This alignment of the grids reduces losses in the screen and makes for the highest possible power conversion efficiency. With this system of construction high orders of power output may be obtained with a low screen dissipation, and the anode is designed to dissipate 25 watts continuously with a reliable life performance.



**THE FINEST AUDIO TUBE EVER MADE!**  
**KT66**



NOTE: The KT66 and the American tube 6L6 can work interchangeably in any circuit; the pins and connections of both are identical.



7-PIN "OCTAL"  
Pin 1: Not connected  
2: Heater  
3: Anode  
4: Screen Grid, g2  
5: Control Grid, g1  
6: Omitted  
7: Heater  
8: Cathode

All dimensions are in mm. and are the maximum except where otherwise stated.

**OPERATING CONDITIONS**

	Single Valve A.F. Amplifier	Tetrode connected	Triode connected		
Anode and Screen Voltage	250	400	250	volts	
Bias Voltage	...	-15	-38	-19	volts
Anode Current	...	85	63	60	m.A.
Screen Current	...	6.3	—	—	m.A.
Input Voltage	...	15	38	19	volts peak
Bias Resistance	...	160	600	315	ohms.
Anode Load Resistance	...	2200	4500	2750	ohms.
Distortion	...	9	7	6	%
Power Output	...	7.25	5.8	2.2	watts

**Two Valves Push-Pull, A.F. Amplifier.**  
**Tetrode connected, Auto Bias.**

(Data per pair of valves unless otherwise stated.)

	450v. supply	250v. supply		
Anode Voltage, Full load	390	250	volts	
Screen Voltage, Full load	275	250	volts	
Bias Voltage	...	-22.5	-17.5	volts
Anode Current	{ No load ... 104	162	m.A.	
	{ Full load ... 125	185	m.A.	
Screen Current	{ No load ... 5	12	m.A.	
	{ Full load ... 18	20	m.A.	
Anode Dissipation, per valve	{ No load ... 9.5	12	watts.	
Screen Dissipation, per valve	{ No load ... 2.5	2.5	watts.	
Bias Resistance, per valve	...	500	200	ohms.
Input Voltage, grid to grid	...	70	36	volts
Load Resistance, anode to anode	...	8000	4000	ohms.
Distortion	...	6	4	%
Power Output	...	30	17	watts

**Two Valves Push-Pull, A.F. Amplifier.**  
**Triode connected, Auto Bias.**

(Data per pair of valves unless otherwise stated.)

	450v. supply	250v. supply		
Anode and Screen Voltage	...	400	250	volts
Bias Voltage	...	-38	-20	volts
Anode Current	...	125	110	m.A.
Input Voltage, grid to grid	...	80	40	volts
Bias Resistance, per valve	...	600	360	ohms.
Load Resistance, anode to anode	...	4000	2500	ohms.
Distortion	...	3.5	2	%
Power Output	...	14.5	4.5	watts

**Two Valves Push-Pull, A.F. Amplifier.**  
**Tetrode connected, Fixed Bias.**

For low distortion and permitting continuous full load operation,  
(Data per pair of valves unless otherwise stated.)

	No signal	Full signal		
Anode Voltage	...	510	475	volts
Screen Voltage†	...	395	360	volts
Bias Voltage	...	-40	-40	volts
Anode Current	...	80	175	m.A.
Screen Current	...	3	19	m.A.
Anode Dissipation, per valve	...	21	17	watts
Screen Dissipation, per valve	...	0.6	3.5	watts
Input Voltage, grid to grid	...	—	80	volts
Load Resistance, anode to anode	...	5000	5000	ohms.
Distortion	...	—	5	%
Power Output	...	—	50	watts.

† Stabilised screen supply voltage

**RATINGS**

	Tetrode connected	Triode connected	
Heater Voltage	6.3	6.3	volts
Heater Current	1.27	1.27	amps.
Anode Voltage	500	400	volts max.
Screen Voltage	400	—	volts max.
Anode Dissipation	25	25	watts max.
Screen Dissipation	3.5	—	watts max.
Anode Impedance*	22500	1450	ohms.
Mutual Conductance*	6.3	5.5	m.A./volt
*measured at { Va ... 250	250	400	
	{ Vg2 ... 250	—	
	{ Vg1 ... -15	-38	

**Capacitances :**

Grid to all	16.0	pF approx.	
Anode to all	11.5	" "	
Anode to Grid	1.1	" "	
Grid to Cathode	8.7	" "	
Anode to Cathode	15.8	" "	
Anode to Grid	7.2	" "	

**PRECAUTIONS IN USE**

- For the prevention of parasitic oscillation, always connect a resistance of 100/300 ohms close to the screen grid terminal of the valve holder. When used as a triode this resistance is connected between screen and anode. A control grid (stopper) resistance of 10,000 ohms to 50,000 ohms is also recommended.
  - The maximum permissible D.C. resistance from control grid to cathode is limited to 0.5 megohms for auto bias and 0.1 megohm for fixed bias application.
  - The heater-cathode voltage should not exceed 100 volts when used as a cathode-coupled driver valve, the heater and cathode should be joined and a separate heater supply used for each valve.
  - In push-pull applications showing a large change in anode current between the quiescent and full output conditions, a choke input smoothing circuit having a good regulation should be used. A badly regulated supply will lead to a fall in power output and/or excessive quiescent anode dissipation.
  - The use of a common auto-bias resistance is not recommended except in applications where the maximum anode dissipation is not attained under any condition of operation.
  - Ventilation: Adequate ventilation around the bulb should be provided.
- The circuit information given does not imply any license under any patents which may be involved.

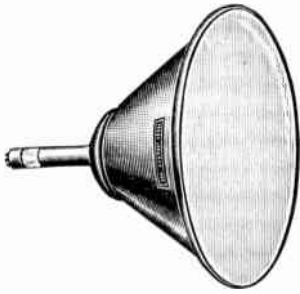
**BRITISH INDUSTRIES CORPORATION**

**NEW YORK 13, N. Y.**

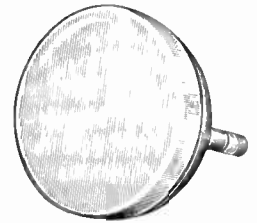
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Radio's Master — 17th Edition

A-35



# DU MONT TELETRONS



Du Mont Teletrons have consistently led the field of television picture tubes since 1939. Life-like pictures along with unsurpassed dependability and uniformity have made Teletrons the choice of the most discriminating receiver manufacturers for original equipment. These same qualities make Du Mont Teletrons the finest

replacement picture tube on the market. The Selfocus\* types listed below may be used for replacing either magnetic or electrostatic tube types of the same mechanical characteristics without any alterations. They provide automatic focus at all times without a focusing coil or control.

## TUBE TYPES OFFERED BY DU MONT AT TIME OF PRINTING

Tube	Type	Picture Area	Deflection Angle	Focusing
12LP4A	Round Glass	88 sq. in.	55°	Magnetic
12QP4, } 12QP4A }	Round Glass	88 sq. in.	55°	Magnetic
B1034	Round Glass	88 sq. in.	55°	Magnetic
B1014	Round Glass	145 sq. in.	57°	Magnetic
16FP4	Round Glass	152 sq. in.	62°	Magnetic
16TP4	Rectangular Glass	145 sq. in.	70°	Magnetic
17AP4	Rectangular Glass	150 sq. in.	70°	Magnetic
17BP4A	Rectangular Glass	150 sq. in.	70°	Magnetic
17HP4	Rectangular Glass	150 sq. in.	70°	Low-Voltage Electrostatic
17KP4	Rectangular Glass	150 sq. in.	70°	Selfocus*
17LP4	Rectangular Glass Cylindrical face	152 sq. in.	70°	Low-Voltage Electrostatic
19AP4 19AP4A	Round Metal	203 sq. in.	66°	Magnetic
20CP4 } 20CP4A }	Rectangular Glass	215 sq. in.	70°	Magnetic
20HP4A	Rectangular Glass	215 sq. in.	70°	Low-Voltage Electrostatic
20JP4	Rectangular Glass	215 sq. in.	70°	Selfocus*
21EP4A	Rectangular Glass Cylindrical face	245 sq. in.	70°	Magnetic
21FP4A	Rectangular Glass Cylindrical face	245 sq. in.	70°	Low-Voltage Electrostatic
21KP4A	Rectangular Glass	245 sq. in.	70°	Selfocus
24AP4	Round Metal	338 sq. in.	70°	Magnetic
24BP4	Round Metal	338 sq. in.	70°	Low-Voltage Electrostatic
30BP4	Round Metal	536 sq. in.	90°	Magnetic

\* Trade Mark.

## THE COMPLETE PICTURE TUBE LINE

Additional information and specifications on tubes on request.  
The name of the Du Mont representative in your area on request.

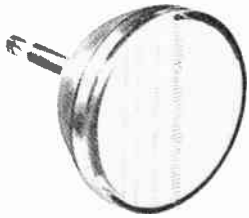


# DU MONT

CATHODE-RAY TUBE DIVISION  
ALLEN B. DU MONT LABORATORIES, INC.  
CLIFTON, NEW JERSEY

# TEL-O-TUBE TV PICTURE TUBES

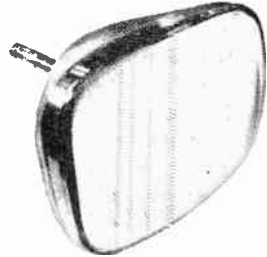
## Magnetic Focus Picture Tube Specifications



Type	Face Plate	Deflection	Ion Trap	Coating	Electron Gun
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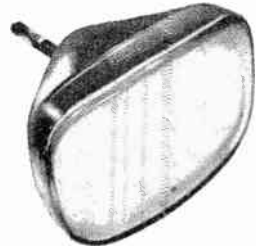
### ALL GLASS ROUND TELEVISION TUBES

12 LP4A	Gray Filter	55°	Single Pole	External Conductive	Straight
16 DP4A	Gray Filter	60°	Single Pole	External Conductive	Straight
19 FP4A	Gray Filter	66°	Single Pole	None	Straight



### ALL GLASS RECTANGULAR TELEVISION TUBES (Spherical Face)

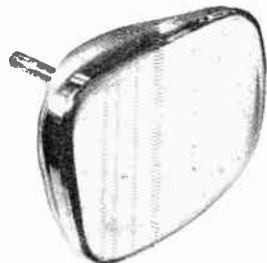
14CP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
16 KP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
17BP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
20CP4A	Gray Filter	70°	Single Pole	External Conductive	3° Offset
20DP4A	Gray Filter	70°	Single Pole	External Conductive	3° Offset



### ALL GLASS RECTANGULAR TELEVISION TUBES (Cylindrical Face)

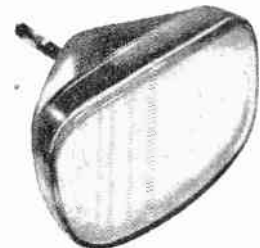
17UP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
21EP4A	Gray Filter	70°	Single Pole	External Conductive	3° Offset

## Electrostatic Focus Picture Tube Specifications



### ALL GLASS RECTANGULAR TELEVISION TUBES (Spherical Face)

17HP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
20HP4A	Gray Filter	70°	Single Pole	External Conductive	3° Offset



### ALL GLASS RECTANGULAR PICTURE TUBES (Cylindrical Face)

17LP4	Gray Filter	70°	Single Pole	External Conductive	3° Offset
21FP4A	Gray Filter	70°	Single Pole	External Conductive	3° Offset

**TEL-O-TUBE Corporation of America**

Sales Office: TEL-O-TUBE Sales Corporation, 580 Fifth Ave., New York 19, N. Y.



# Sheldon

## TELEVISION PICTURE TUBES MAKE ANY SET BETTER

Sheldon  
NATURAL IMAGE  
SOFT GLOW  
Picture Tube



### RECTANGULAR TYPES

- |                           |                           |
|---------------------------|---------------------------|
| 14BP4.....Black Screen    | 20CP4.....Black Screen    |
| 16KP4.....Black Screen    | 21AP4*...Cylindrical Face |
| 17BP4A...Black Screen     | 21EP4*...Cylindrical Face |
| 17QP4*...Cylindrical Face | 21KP4.....Metal           |
| 19EP4.....Black Screen    |                           |
- \*Vitatron

Sheldon  
NATURAL IMAGE  
SOFT GLOW  
Picture Tube



### GLASS-METAL TYPES

- |                                  |
|----------------------------------|
| 16GP4.....Black Screen           |
| 19AP4A.....Black Screen          |
| 19AP4B.....VITATRON              |
| 19AP4D.....VITATRON Clear Screen |
| 24AP4.....Black Screen           |

Sheldon  
NATURAL IMAGE  
SOFT GLOW  
Picture Tube



### ALL-GLASS ROUND TYPES

- |                         |
|-------------------------|
| 10BP4A.....Black Screen |
| 12LP4A.....Black Screen |
| 16AP4A.....Black Screen |
| 16HP4A.....Black Screen |
| 16JP4A.....Black Screen |
| 16LP4A.....Black Screen |
| 16YP4.....Black Screen  |

### LOW VOLTAGE ELECTROSTATIC RECTANGULAR ALL-GLASS (except as noted)

- |                                 |
|---------------------------------|
| 17HP4.....Rectangular All-Glass |
| 17LP4*.....Cylindrical Face     |
| 20HP4.....Rectangular All-Glass |
| 21FP4*.....Cylindrical Face     |
| 21MP4*.....Metal                |
| 16".....Rectangular             |
| 24".....Round                   |
- \*Vitatron

*Spring Action* **PLUGS and CAPS**  
*Tapmaster* **CUBE TAPS & CORD SETS**  
**Work Better in Any Outlet**



A



B



C



D



E



F



G



H



I



J

A—Cat. No. 810, Tapmaster Solderless, Indestructible, 3-way Extension Cord Set. 6, 9, 12 or 15 ft. lengths. Brown.

B—Cat. No. 715, Tapmaster Solderless, Indestructible, Single Extension Cord Set. 6, 9, 12 or 15 ft. lengths. Brown.

C—Cat. No. 135, Rubber Tapmaster Cube Tap. Brown. List Price 25c.

D—Cat. No. 109, Brown Bakelite Tapmaster Cube Tap. List price 15c.

E—Cat. No. 100, Brown Bakelite Pony Grip Cap. List Price 10c.

F—Cat. No. 102, Black Rubber Handle Grip Cap. List Price 15c.

G—Cat. No. 107, Flat Side Brown Bakelite Grip Cap. List Price 10c.

H—Cat. No. 117, Black Rubber Handle Grip Cap. List Price 15c.

I—Cat. No. 105, Flat Side Brown Bakelite Handle Grip Cap. List Price 15c.

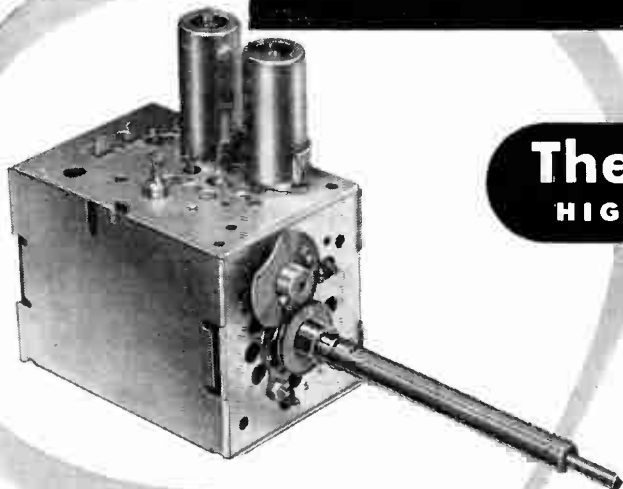
J—Cat. No. 101, Heavy Duty Brown Bakelite Handle Grip Cap. List Price 15c.

Bakelite plugs also supplied in Ivory.

## ALLIED ELECTRIC PRODUCTS INC. SHELDON ELECTRIC COMPANY DIVISION

68-98 COIT STREET • IRVINGTON 11, N. J.

# A Natural Combination



## The Tarzian Tuner

HIGH QUALITY - LOW COST

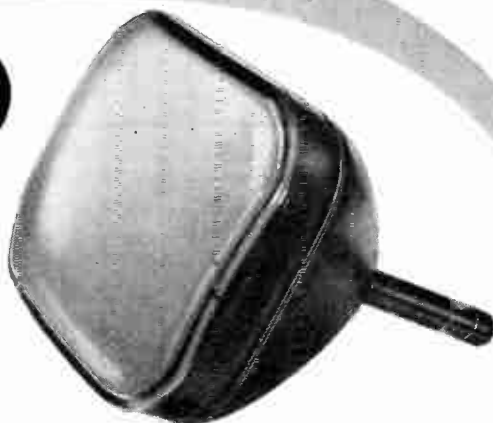
It's only natural that the world's largest producer of switch-type tuners should produce the BEST.

## Tarzian Tubes

ROUNDS OR RECTANGULARS

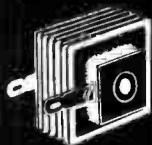
**METAL** 16AP4A  
16GP4  
19AP4A

**GLASS** 16RP4  
16TP4  
17BP4  
20CP4



With every TARZIAN TUBE goes a BONDED WARRANTY underwritten by CAPITOL INDEMNITY INSURANCE COMPANY

## OTHER TARZIAN PRODUCTS



Selenium Rectifiers



Air Trimmers

# SARKES TARZIAN, Inc.

B L O O M I N G T O N , I N D I A N A

# RAULAND

# Television

# PICTURE TUBES

## PROVEN DEPENDABILITY - SUPERIOR PERFORMANCE

Tube type	Bulb $\Delta$	Maximum diameter	Length	Deflection angle approx.	Normal anode voltage	No. 2 grid voltage	No. 1 grid cutoff volts	Face glass	List Price	Suggested resale
10BP4	G	10 $\frac{1}{2}$ "	17 $\frac{5}{8}$ "	50°	9,000	250	-27 to -63	Clear	\$27.00	\$20.00
10BP4A	G	10 $\frac{1}{2}$ "	17 $\frac{5}{8}$ "	50°	9,000	250	-27 to -63	†Luxide	27.00	20.00
10FP4★	G	10 $\frac{1}{2}$ "	17 $\frac{5}{8}$ "	50°	9,000	250	-27 to -63	Clear	33.65	25.25
10FP4A★	G	10 $\frac{1}{2}$ "	17 $\frac{5}{8}$ "	50°	9,000	250	-27 to -63	†Luxide	33.65	25.25
12KP4★	G	12 $\frac{3}{16}$ "	17 $\frac{5}{8}$ "	54°	11,000	250	-27 to -63	Clear	37.90	28.40
12KP4A★	G	12 $\frac{3}{16}$ "	17 $\frac{5}{8}$ "	54°	11,000	250	-27 to -63	†Luxide	37.90	28.40
12LP4	G	12 $\frac{3}{16}$ "	18 $\frac{3}{4}$ "	54°	11,000	250	-27 to -63	Clear	31.00	23.25
12LP4A	G	12 $\frac{3}{16}$ "	18 $\frac{3}{4}$ "	54°	11,000	250	-27 to -63	†Luxide	31.00	23.25
12UP4	M	12 $\frac{3}{16}$ "	18 $\frac{5}{8}$ "	54°	11,000	250	-27 to -63	Clear	40.50	30.25
12UP4A	M	12 $\frac{3}{16}$ "	18 $\frac{5}{8}$ "	54°	11,000	250	-27 to -63	†Luxide	40.50	30.25
12UP4B	M	12 $\frac{3}{16}$ "	18 $\frac{5}{8}$ "	54°	11,000	250	-27 to -63	‡Luxan	40.50	30.25
14BP4	G	13 $\frac{11}{16}$ " □	16 $\frac{11}{16}$ "	65°	11,000	250	-27 to -63	†Luxide	33.50	25.00
14CP4	G	13 $\frac{11}{16}$ " □	16 $\frac{11}{16}$ "	65°	11,000	250	-27 to -63	†Luxide	33.50	25.00
16AP4	M	15 $\frac{7}{8}$ "	22 $\frac{1}{4}$ "	53°	12,000	300	-33 to -77	Clear	51.00	38.20
16AP4A	M	15 $\frac{7}{8}$ "	22 $\frac{1}{4}$ "	53°	12,000	300	-33 to -77	†Luxide	51.00	38.20
16FP4	M	15 $\frac{7}{8}$ "	19 $\frac{5}{8}$ "	60°	12,000	300	-33 to -77	Clear	51.00	38.20
16FP4A	M	15 $\frac{7}{8}$ "	19 $\frac{5}{8}$ "	60°	12,000	300	-33 to -77	†Luxide	51.00	38.20
16FP4B	M	15 $\frac{7}{8}$ "	19 $\frac{5}{8}$ "	60°	12,000	300	-33 to -77	‡Luxan	51.00	38.20
16GP4	M	15 $\frac{7}{8}$ "	17 $\frac{11}{16}$ "	70°	12,000	300	-33 to -77	†Luxide	40.50	30.25
16GP4B	M	15 $\frac{7}{8}$ "	17 $\frac{11}{16}$ "	70°	12,000	300	-33 to -77	‡Luxan	40.50	30.25
16TP4	G	14 $\frac{7}{8}$ " □	18 $\frac{3}{8}$ "	65°	12,000	300	-33 to -77	†Luxide	34.75	26.00
16KP4	G	14 $\frac{7}{8}$ " □	18" □	65°	12,000	300	-33 to -77	†Luxide	34.75	26.00
16RP4	G	14 $\frac{7}{8}$ " □	18" □	65°	12,000	300	-33 to -77	†Luxide	34.75	26.00
17BP4A	G	16 $\frac{5}{8}$ " □	19 $\frac{1}{4}$ "	70°	12,000	410	-33 to -77	†Luxide	33.00	24.75
17AP4	G	16 $\frac{5}{8}$ " □	19 $\frac{1}{4}$ "	70°	12,000	410	-33 to -77	†Luxide	33.00	24.75
17CP4	G	16 $\frac{5}{8}$ " □	19 $\frac{1}{4}$ "	70°	12,000	410	-33 to -77	‡Luxan	35.00	26.25
*17IP4	G	16 $\frac{5}{8}$ " □	19 $\frac{3}{16}$ "	70°	14,000	300	-33 to -77	†Luxide	34.00	25.50
17LP4	G	16 $\frac{5}{8}$ " □	19 $\frac{3}{16}$ "	70°	14,000	300	-33 to -77	†Luxide	34.00	25.50
19AP4A	M	18 $\frac{5}{8}$ "	21 $\frac{1}{2}$ "	66°	13,000	250	-27 to -63	†Luxide	60.00	45.20
19AP4B	M	18 $\frac{5}{8}$ "	21 $\frac{1}{2}$ "	66°	13,000	250	-27 to -63	‡Luxan	60.00	45.20
20CP4	G	20 $\frac{3}{16}$ " □	21 $\frac{1}{16}$ "	70°	15,000	410	-33 to -77	†Luxide	49.00	36.75
20HP4	G	20 $\frac{3}{16}$ "	21 $\frac{3}{4}$ "	70°	14,000	300	-33 to -77	†Luxide	51.00	38.25
21AP4	M	20 $\frac{3}{16}$ "	22 $\frac{5}{8}$ "	70°	14,000	300	-33 to -77	‡Luxan	56.75	42.50
21EP4A	G	21 $\frac{1}{16}$ " □	23"	70°	14,000	300	-33 to -77	†Luxide	51.25	38.50
*21FP4A	G	21 $\frac{1}{16}$ " □	23"	70°	14,000	300	-33 to -77	†Luxide	53.25	40.00
21MP4	M	20 $\frac{3}{4}$ "	22 $\frac{5}{8}$ "	70°	16,000	500	-33 to -77	‡Luxan	57.50	43.00
24AP4	M	24"	24 $\frac{1}{4}$ "	70°	15,000	300	-33 to -77	†Luxide	101.00	75.30
*24BP4	M	24"	24 $\frac{1}{4}$ "	70°	15,000	300	-33 to -77	†Luxide	101.00	75.30
27AP4	M	26 $\frac{7}{8}$ "	21 $\frac{3}{8}$ "	90°	15,000	300	-33 to -77	‡Luxan	151.50	113.00

★ Aluminized type, no ion magnet required.  $\Delta$  Metal-Glass—M. All Glass—G. □ Rectangular bulb—diagonal dimension. All heaters 6.3 volts, 0.6 amps. All types magnetic deflection and focus. \* Electrostatic Lo Focus Vol. † Dark Face. ‡ Dark Face Etched.

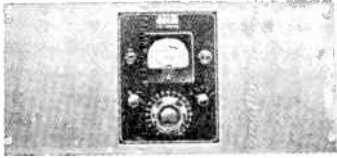
# amplifiers

# ALTEC

LANSING CORPORATION

9356 Santa Monica Blvd.  
Beverly Hills, Calif.

161 Sixth Avenue  
New York 13, N.Y.



### A-127 AMPLIFIER

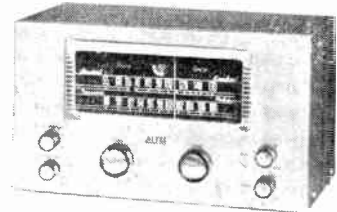
Rack mounted power amplifier. POWER: 18 watts. GAIN: 66 db. IN: A-127—100,000 ohms; A-127A, A-127B—30, 250, 500-600 ohms. OUT: A-127, A-127A—8, 16 ohms; A-127B—500, 2,000, 3,000 ohms. FREQUENCY:  $\pm 1$  db, 20-20,000 cycles. NOISE: -53 db. POWER SUPPLY: 105-130 V. at 50-60 cycles. EXT. VOLTAGES: 6.3 V. at 2.5 amp.; 350 V. at 20 Ma. DIM: 19" wide; 8 3/4" high; 7" deep. WT.: 18 lbs. COLOR: Blue Gray. NET PRICE: A-127—\$210.00; A-127A or A-127B—\$252.00.



### A-247B AMPLIFIER

Single stage Class AB2 push-pull beam power amplifier. POWER: 75 watts. GAIN: 10 db. IN: 16 ohms. OUT: 4, 8 and 16 ohms. FREQUENCY:  $\pm 1$  db; 20-20,000 cycles. NOISE: -27 dbm. POWER SUPPLY: 105-125 V.; 50-60 cycles. DIM: 10 1/2" high; 19" wide; 8 1/2" deep. WT.: 56 lbs. COLOR: Blue gray.

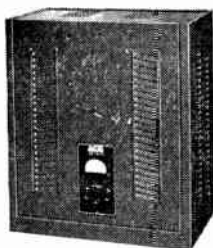
NET PRICE: \$276.00



### 303A TUNER

AF-FM tuner includes a built-in power supply and multistage audio circuit. AM section is of the superhet type, designed to provide a broad band flat top curve. FM circuit employs two grounded grid RF stages, a separate oscillator and triode mixer stage, two stages of IF amplification and a ratio detector. Both the AM and FM sections incorporate AVC and a magic eye. Multistage amplifier includes a preamp equalized for variable reluctance pickup and contains a four-channel selector switch for AM, FM, phono and spare; three-step selection of record crossover frequencies; filter for 3 1/2 recording characteristic use; variable control of rise and drop in both treble and bass, and a continuously variable volume control. Cathode follower used in output stage enables the tuner to be connected to any power amplifier with a high impedance input. For best results the Altec A-333A power amplifier is recommended.

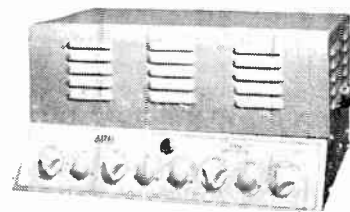
NET PRICE: \$280.00



### A-287WS AMPLIFIER

Class B power amplifier especially adaptable to installations where large audio power is required in 1 package. POWER: 250 watts. GAIN: 12 db. IN: 3,000 ohms. OUT: 2.25-20 ohms. FREQUENCY:  $\pm 1$  db, 100-10,000 cycles. NOISE: -27.8 db. POWER SUPPLY: 105-130 V.; 50-60 cycles. DIM: 23 3/8" high; 20 1/2" wide; 13" deep, in wall cabinet. WT.: 141 lbs. COLOR: Gray.

NET PRICE: \$715.00



### A-332A AMPLIFIER

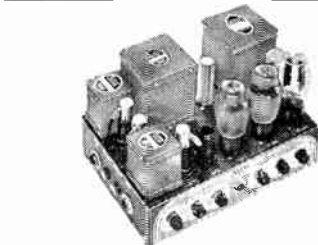
Portable public address amplifier designed to operate with the Altec 21B microphone. POWER: 18 watts. GAIN: 110 db. INPUT: for Altec 21B microphones and variable reluctance pickup. OUT: 2, 4, 8 and 16 ohms. NOISE: -27 dbm. POWER SUPPLY: 117 V.; 50-60 cycles. DIM: 17" wide; 11" deep; 9" high. WT.: 35 lbs. COLOR: Gray. NET PRICE: \$299.00.



### A-333A POWER AMPLIFIER A-433A REMOTE CONTROL PRE-AMPLIFIER

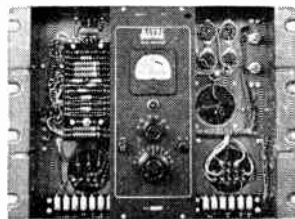
Designed especially for use in home music systems for the highly critical audiophile. Extremely versatile. Remote pre-amplifier contains controls for bass rise and drop; treble rise and drop; 3 selections for recording crossover frequencies; equalization for variable reluctance pickup; filter for 3 1/2 recording characteristic rise; 3 input selector switch and volume control. System frequency response flat to +0 -1 db from 20 cycles to 20,000 cycles and is within 3 db of flat response up to 100,000 cycles. Power amplifier will deliver full 27 watts of audio power at less than 5% total harmonic distortion; 20 watts at less than 2% total harmonic distortion; and 15 watts at less than 1 1/2% total harmonic distortion.

NET PRICES: A-333A—\$111.00; A-433A—\$75.00



### A-324A AMPLIFIER

Portable public address amplifier. POWER: 18 watts. IN: 2 microphone inputs—30, 250, 500/600 ohms. 102 db gain; 2 radio phonograph inputs—500,000 ohms. 72 db gain. OUT: 2.5-5, 8-12, 16-24 ohms. FREQUENCY:  $\pm 1$  db, 20-20,000 cycles. NOISE: -45 db. POWER SUPPLY: 110-125 V.; 50-60 cycles. DIM: 9" deep; 12" wide; 9" high. WT.: 14 lbs. COLOR: Gray. NET PRICE: 198.00; 10349 dust cover—\$8.50.



### A-256C AMPLIFIER

Beam power rack mounted amplifier designed for high quality public address and monitor purposes. POWER: 75 watts. GAIN: 50 db. IN: 500 ohms. 5,000 ohm bridging. OUT: 4, 8 and 16 ohms (can be supplied with TM-226 output transformer—500 ohm and 70 V. line). FREQUENCY:  $\pm 1$  db, 20-20,000 cycles. NOISE: -45 dbm. POWER SUPPLY: 105-130V.; 50-60 cycles. EXT. VOLTAGES: 6.3 V. at 6 amp.; 300 V. at 5 Ma. DIM: 14" high; 19" wide; 9" deep. WT.: 60 lbs. COLOR: Blue gray. NET PRICE: \$348.00.

## 1400 SERIES AMPLIFIERS WITH 30A POWER SUPPLY\*

This series forms a versatile amplifying, pre-amplifying mixing group that can be adapted to meet all quality amplifying requirements.

**1410A PRE-AMPLIFIER:** 2 channels. Gain: 32 db or 38 db. In: 30, 250, 600 ohms. Out: 10,000 ohms. Dim: 4 1/2" wide; 5 1/2" high; 5" deep. List Price: \$94.80.

**1420A AMPLIFIER:** Rack mounted. Power: 35 watts. Gain: 96 db. In: 100,000 ohms. Out: 4, 8, 16 ohms and 70 V. line. Ext. Voltages: for one 1410A pre-amplifier mounted on chassis and two mounted remotely. Dim: 14" wide; 10 1/2" high; 9" deep. Wt.: 55 lbs. List Price: \$253.20.

**1430A AMPLIFIER:** Rack mounted. Power: 75 watts. Gain: 98 db. In: 100,000 ohms. Out: 4, 8, 16 ohms and 70 V.

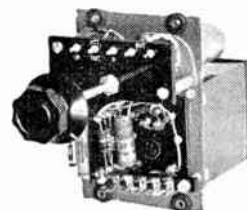
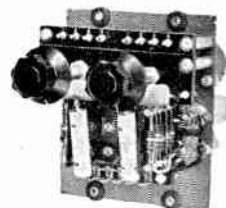
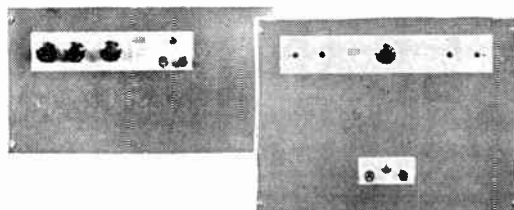
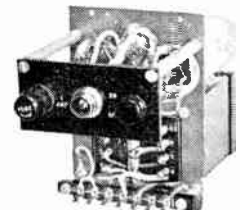
line. Ext. Voltages: for two 1410A pre-amplifiers mounted on chassis and four mounted remotely. Dim: 14" wide; 14" high; 9" deep. Wt.: 60 lbs. List Price: \$327.15.

**1440A AMPLIFIER:** Gain: 65 db. In: 100,000 ohms. Out: 62.5, 125, 500 ohms. Dim: 3 1/2" wide; 5 1/2" high; 6 1/4" deep. List Price: \$94.95.

**1450A APPARATUS UNIT:** Line level matching transformer and 100,000 ohm gain control. Trans.-Pri.: 30, 150, 250, 600 ohms. Sec.: 15,000-60,000 ohms. Dim: 4 1/2" wide; 5 1/2" high; 5" deep. (Not shown) List Price: \$38.25

**30A POWER SUPPLY:** 300 V.—50 Ma. Max.; 6.3 V.—3.2 amp. max. Dim: 3 1/2" wide; 5 1/2" high; 6 3/4" deep. List Price: \$48.00.

\*Distributed by Graybar Electric Co.



# BELL SOUND EQUIPMENT

## TAPE RE-CORD-O-fone (Three Speed)

Model RT-65-B



### SPECIFICATIONS

**Power Output:** 3.5 Watts  
**Controls:** Re-wind-Off-Forward; Tone with AC Power Switch; Erase or Record-Playback; Volume; Equalization Switch.  
**Output:** 3.2 Ohms and High Impedance for Headphones.  
**Input:** Microphone and External Radio or Phono.  
**Forward Speed:** 1 $\frac{1}{8}$ , 3 $\frac{3}{4}$  and 7 $\frac{1}{2}$  inches per second.  
**Speaker:** 8 Watts 6" P.M.  
**Rewind:** 45 inches per second.  
**Record:** Dual Track Type "A" Tape.  
**Frequency Response:** 70 Cycles to 8,000 Cycles at 7 $\frac{1}{2}$  IPS.  
**Tubes:** 1-12AX7; 1-12AU7; 1-6V6GT; 1-6X5GT.  
**Power:** 80 Watts—117 Volts—60 Cycles A.C.  
**Dimensions:** 16" Deep; 8 $\frac{1}{2}$ " High; 15" Wide.  
**Weight:** 33 Lbs. Net; Shipping Wt. 40 Lbs.

## HIGH FIDELITY AMPLIFIER

Model 2122-B

### SPECIFICATIONS

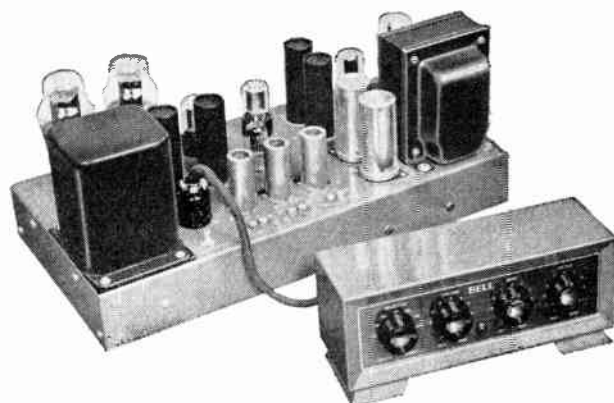
**Output:** 10 Watts at Less than 3%. Peak Power 15 Watts.  
**Frequency Response:**  $\pm\frac{3}{4}$  db 30 to 15,000 Cycles with Controls set for Flat Response.  
**Gain:** Radio (Hi-Z) 76 db; Crystal Phono (Hi-Z) 74 db; Mag #1 95 db; Mag #2 110 db.  
**Hum Level:** 65 db. Below Rated Output.  
**Inputs:** 1-Radio; 1-Crystal Phono; 1-Mag. #1; 1-Mag. #2. Selected by 3 Position Switch.  
**Input Impedance:** Radio 100K; Crystal Phono .6 Meg; Mag #1 27K; Mag #2 47K.  
**Controls:** (4) 1-Overall Volume Control; 1-Bass Control —14 db to +13 db, at 100 Cycles; 1-Treble Control with AC Power Switch —13 db to +12 db, at 10K Cycles; 1-Selector Switch (3 positions) #1—TV, Tape or Crystal Pickup, #2—Radio, #3—Magnetic Pickup.  
**Output Impedance:** 4 ohms; 8 ohms; 16 ohms.  
**Power Consumption:** 76 Watts; 117 Volts; 60 Cycles.  
**Tubes:** 1-5Y3GT; 2-6V6GT; 1-6SL7GT; 2-6SC7.  
**Dimensions:** 7 $\frac{1}{2}$ " Deep; 6" High; 11 $\frac{1}{2}$ " Long.  
**Net Weight:** 8 $\frac{3}{4}$  Lbs.



## CUSTOM HIGH FIDELITY AMPLIFIER

Model 2145-A

### SPECIFICATIONS

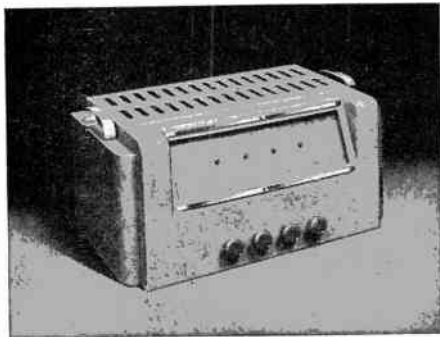


NOTE: Model 2148 20 ft. extension cable available for above.

**Frequency Response:** Within  $\pm.25$  db 20 to 30,000 cycles.  
**Power-Distortion:** (a) Distortion at normal listening levels is less than .2 of 1%.  
(b) 20 watts at less than 2%. Peak output 30 watts.  
(c) Less than .1 of 1% total distortion contributed by pre-amplifiers and control unit.  
**Hum and Noise Level:** (a) 80 db below full output minimum.  
(b) No audible hum with all controls at maximum, noise at least 10 db below surface noise of best record surface.  
**Inputs:** Six: Hi-level mag; Lo-level mag; Crystal pickup; Microphone; Hi-level radio; Lo-level radio.  
**Controls:** Remote Control Unit Selector Switch: 5 phono positions, 2 radio positions; Volume control (compensated); Bass control; Treble control; Power Amplifier: AC switch, Provision for remote AC switch, Master gain control.  
**Output Impedance:** 4, 8, 16 ohms.  
**Tubes:** Eleven—3-12AU7; 3-12AX7; 2-6SN7GTA; 2-6B4G; 1-5V4G.  
**Power Consumption:** 150 watts nominal at 117 Volts, 50-60 Cycles.  
**Dimensions and Weights:** Remote Control Unit: 3 $\frac{1}{2}$ " deep, 10" wide, 4 $\frac{1}{4}$ " high—Weight: 3 $\frac{1}{2}$  Lbs.  
Power Amplifier: 8 $\frac{1}{2}$ " deep, 17" wide, 7" high—Weight: 35 Lbs.

# BELL SOUND EQUIPMENT

## 15 WATT BELL AMPLIFIER



- Three Input Circuits.
- Illuminated Control Panel.
- Beam Power Output Tubes.
- Simplified Operation.
- Exceptional Tone Quality.

## 25 WATT BELL AMPLIFIER

An ideal Amplifier of medium wattage. This seven tube model has proven to be one of the most popular units that Bell has ever manufactured. For a good all around amplifier of medium price it cannot be beaten. Experienced engineering and time proven circuits has made it one that thousands of users rely on day in any day out for continuous satisfactory service. The Model 3725-A is truly the "Work Horse" of Bell's entire amplifier line.

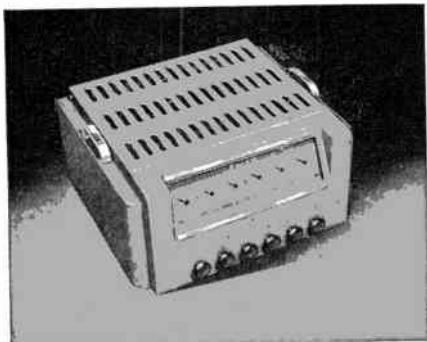
### SPECIFICATIONS

#### Model 3725-A

Power Output: 25 Watts at Less than 5%. Peak Power 33 Watts.  
Freq. Response: Plus or Minus 2 db. 50 to 18,000 Cycles.  
Overall Gain: Microphone Channels 122 db.; Phono Channel 89 db.  
Hum Level: -65 db. Below Rated Output.  
Inputs: 2 Microphone; 1 Phonograph.  
Input Imped: Micro. Channels 10 Megs; Phono Channel ½ Meg.  
Controls: 2 Microphone Volume Con-

trols: 1 Phono Vol. Control: 1 Bass Tone Cont.; 1 Treble Tone Cont. W/AC Sw.  
Output Imp: 2.5; 4; 8; 16; 250; 500 ohms and 70v. Constant Voltage Tap.  
Power Cons.: 150 Watts; 117 Volts; 50-60 Cycles.  
Tubes: 2-7B7; 1-6SF5; 1-6N7; 2-6L6G; 1-5U4G.  
Dimensions: 11½" Deep; 8" High; 16½" Wide.  
Shipping Weight: 38 lbs.

## 50 WATT BELL AMPLIFIER



- Rugged Construction.
- Four Inputs.
- Bass and Treble Boost.
- Available for Remote Standby Operation.
- Excellent Frequency Response.

Mfg. by THE BELL SOUND SYSTEMS, Inc.

## Model 3715-A

This amplifier is as fine in performance as its functional and modern design suggests. The beautiful gray and silver case, with its illuminated, full-view control panel, is high lighted by distinctive red plastic control knobs. The amplifier has an undistorted output of 15 watts with a peak of 18 watts. It utilizes push-pull beam power output tubes, inverse feedback that reduces harmonic distortion, and has three input channels with separate volume controls that permit mixing of two microphones and a phonograph simultaneously.

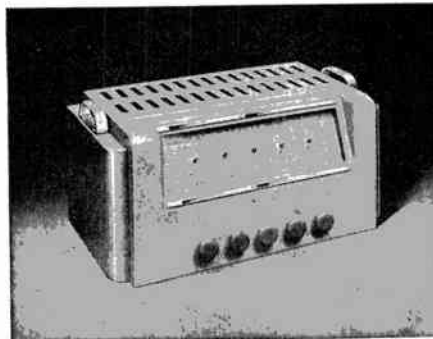
### SPECIFICATIONS

#### Model 3715-A

Power Output: 15 Watts at less than 5%. Peak Power 18 Watts.  
Freq. Response: Plus or Minus 1 db. 30 to 13,000 Cycles.  
Overall Gain: Microphone Channels 120 db.; Phono Channel 87 db.  
Hum Level: -63 db. Below Rated Output.  
Inputs: 2 Microphone; 1 Phonograph.  
Input Imped: Microphone Channels 10 Megs; Phono Channel ½ Meg.

Controls: 2 Microphone Volume Controls; 1 Phono Volume Control; 1 Tone Cont. W/AC Switch.  
Output Imp: 2.5; 4; 8; 16; 250; 500 ohms and 70v. Constant Voltage Tap.  
Power Cons: 100 Watts; 117 Volts; 50-60 Cycles.  
Tubes: 2-7B7; 1-6SF5; 1-6N7; 2-6V6G; 1-5U4G.  
Dimensions: 11½" Deep; 8" High; 16½" Wide.  
Shipping Weight: 32 lbs.

## Model 3725-A



- Treble and Bass Boost.
- Ultra-Modern Design.
- Three Input Circuits.
- Illuminated Control Panel.
- Built to Last—Easy to Service.

## Model 3750-A

This unit offers "powerhouse" performance with sufficient wattage to cover 90% of all commercial sound requirements. It has power to spare and has been designed for the ultimate in flexibility and operation. Three microphones and a phonograph can be simultaneously mixed by the operator. New tone control circuits, operating in an inverse feedback network, provide extremely wide tone adjustments with greatly reduced distortion. For example, the Bass Control is adjustable from flat response to plus 10 db or to minus 20 db and the treble control from plus 8 db to minus 22 db, 30 db overall.

### SPECIFICATIONS

#### Model 3750-A

Power Output: 50 Watts at Less than 5%. Peak Power 88 Watts.  
Freq. Response: Plus or Minus 1 db. 30 to 15,000 Cycles.  
Overall Gain: Microphone Channels 125 db.; Phono Channel 90 db.  
Hum Level: 67 db. Below Rated Output.  
Inputs: 3 Microphone; 1 Phonograph.  
Input Imped: Microphone Channels 10 Megs; Phono Channel ½ Meg.  
Controls: 3 Microphone Volume Controls; 1 Phono Volume Control; 1 Bass Tone Cont; 1 Treble Tone Cont. W/AC Switch.

Output Imp: 2.5; 4; 8; 16; 250; 500 ohms and 70v. Constant Voltage Tap.  
Power Cons: 260 Watts; 117 Volts; 50-60 Cycles.  
Tubes: 3-7C6; 3-6SC7; 1-6SN7GT; 2-6L6G; 1-5U4G; 1-5R4GY; 1-5V4G.  
Dimensions: 16½" Deep; 8" High; 16½" Wide.  
Shipping Weight: 62 lbs.

Model 3750-R same as above but provided with a relay to permit remote operation of "B" supply.

Columbus 7, Ohio

# BELL SOUND EQUIPMENT

## 8 WATT BELL MOBILE AMPLIFIER

**Model 3706-M**



- Phono & Micro Inputs.
- Chassis Removable for Servicing.
- Fits under most dashboards.
- Battery Stand-by Switch.

Here is a brand new addition to the time-proven Bell line of amplifiers. A compact, rugged and amazingly efficient low wattage mobile amplifier. It was especially designed for use by Municipal Police and Fire Departments, Safety Patrols, Traffic Control and outdoor audible advertising. The tubes and vibrator can be inspected or changed without disturbing the installation because the chassis and front panel are so constructed that they easily slide out of the case. In an emergency a whole new spare unit can be inserted in the case. It will operate on 6 volts DC or 117 volts 60 cycles and is provided with a standby switch to conserve battery drain. It comes complete with two cables. Any high impedance microphone can be used with this amplifier.

### SPECIFICATIONS Model 3706-M

Power Output: 8 Watts at Less than 5%.  
Peak Power 12 Watts.  
Freq. Response: Plus or Minus 2 db., 60 to 15,000 Cycles.  
Overall Gain: Microphone Channel 112 db.; Phono Channel 75 db.  
Hum Level: 60 db. Below Rated Output.  
Inputs: 1 Microphone; 1 Phonograph.  
Input Imped: Microphone Channel 10 meg.; Phono Channel ½ meg.

Controls: 1 Microphone and Phono Volume Control with Power Switch; 1 Battery saver stand-by switch.  
Output Imp: 4; 8; 16 ohms.  
Power Cons: 45 Watts; 117 Volts; 60 Cycles; 11 Amperes; 6 Volts D.C.  
Tubes: 1-6SJ7; 1-6SN7GT; 1-6L6; 1-6X5GT.  
Dimensions: 10" Deep; 6½" High; 5½" Wide.  
Shipping Weight: 15 lbs.

## 25 WATT BELL MOBILE AMPLIFIER

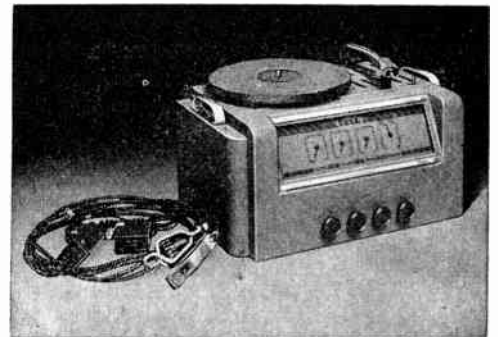
**Model 3723-M**

This unit is another new member of the Bell line of Amplifiers. It is a medium wattage mobile Amplifier of the most modern design. It has a microphone input and a built-in phono unit. The volume of both the microphone and phono are individually controlled and in addition, a tone control is provided to permit individual selection or adjustment of the bass or treble response. There is also a stand-by switch provided to turn off the "B" supply while the filaments remain heated. This permits economical operation and extends the life of the battery power supply.

### SPECIFICATIONS Model 3723-M

Power Output: 25 Watts at Less than 5%. Peak Power 38 Watts.  
Freq. Response: Plus or Minus 2 db. 30 to 15,000 Cycles.  
Overall Gain: Microphone Channel 115 db.; Phono Channel 82 db.  
Hum Level: 60 db. Below Rated Output.  
Inputs: 1 Microphone; 1 Phonograph.  
Input Imped: Microphone Channel 10 meg.; Phono Channel ½ meg.  
Controls: 1 Microphone Volume Control; 1 Phono Volume Control; 1

Tone Control W/AC Switch, 1 Standby Switch, 1 Phono motor off-on switch.  
Output Imp: 2.5; 4; 8; 16; 250; 500 ohms and 70v Constant Voltage Tap.  
Power Con: 115 Watts; 117 Volts 60 Cycles; 24 Amperes; 6 Volts D.C.  
Tubes: 1-7B4; 1-6C5; 1-6SN7GT; 2-6L6G; 2-6X5GT.  
Dimensions: 11½" Deep; 10" High; 16½" Wide.  
Shipping Weight: 40 lbs.



- Built in Phono unit.
- Standard Bell Cabinet.
- Illuminated Control Panel.
- Remote Drive on Controls.
- Heavy Steel Construction.

## 30 WATT BELL MOBILE AMPLIFIER

**Model 3728-M**



- Astatic AB-8M Mobile Pickup.
- Circuit Breaker Protection on 6 volts.
- Bass Boost and Treble Compensators.
- Power Economizer Switch.
- Three Input Channels.
- Heavy Duty Dual Vibrator.

One of the most completely satisfying mobile Amplifiers ever offered for general use. The "Moto-Master" combines a 30-watt amplifier of tone and quality, with a phono pickup of new design, that plays all 12" and smaller records. Market research proves its capacity is more than ample for the majority of needs.

This high gain unit operates on either a 6 volt DC storage battery or 117 volt 60 cycle AC line current. Conversion from one type of current to another is achieved by simply removing one plug and inserting the other. Current consumption on battery is reduced by a power economizer switch. High fidelity; improved wide range tone controls; beam power output tubes; and two microphones inputs and one phono input, each with separate volume controls are features of the "Moto-Master".

Turntable speed of 78 r.p.m. New type crystal pickup stays "in the groove."

### SPECIFICATIONS Model 3728-M

Power Output: 30 watts at Less than 5%.  
Peak Power 45 Watts.  
Freq. Response: Plus or Minus 2 db. 50 to 14,000 Cycles.  
Overall Gain: Microphone Channels 120 db.; Phono Channel 84 db.  
Hum Level: 60 db. Below Rated Output AC; 58 db. on DC.  
Inputs: 2 Microphone; 1 Phonograph.  
Input Imped: Microphone Channels 10 Meg.; Phono Channel 1 Meg.  
Controls: 2 Microphone Volume Controls;

1 Phono Volume Control; 1 Bass Tone Cont; 1 Treble Tone Cont. with Power Switch; 1 Stand by Switch; 1 Phono OFF-ON Switch.  
Output Imp: 2.5; 4; 8; 16; 250; 500 ohms and 70v. Constant Voltage Tap.  
Power: Cons: 27 amp., 6 volts DC; 120 watts; 117 volts; 60 Cycles.  
Tubes: 1-7Y4; 2-7Z4; 3-7B4; 1-6SL7GT; 2-6L6G.  
Dimensions: 16½" Deep; 10" High; 16½" Wide.  
Shipping Weight: 60 lbs.

Mfg. by **THE BELL SOUND SYSTEMS, Inc.**

• **Columbus 7, Ohio**

# BELL SOUND EQUIPMENT



## 10 WATT BELL PHONO-PA SYSTEM

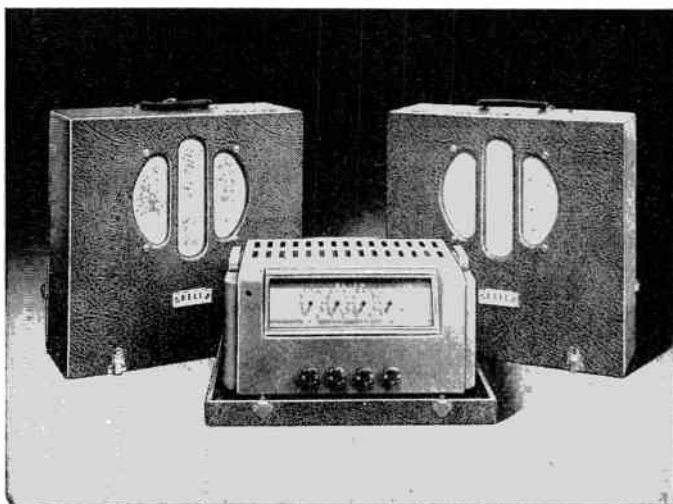
### SPECIFICATIONS Model PA-3710-P

Amplifier: 3710.  
Speakers: 2-10" Heavy Duty P.M.  
Cables: 2-25' Type SV with Plugs.  
Phono Equipment: 78 RPM Turntable with Crystal Pickup.  
Microphone: JT-30 with desk type stand.  
Microphone Cable: 15' Shielded Rubber with Connector.  
Microphone Stand: Furnished with Micro.  
Case: Model 3710, 3 piece Portable.  
Dimensions: 12" Deep; 18½" High; 15¾" Wide.  
Shipping Weight: 50 lbs.  
Model PA-3710-P3 same as above but is equipped with three speed (33½, 45, 78 RPM) motor and turntable and dual purpose turn-over crystal pickup.

## 15 WATT BELL SINGLE CASE PA SYSTEM

### SPECIFICATIONS Model PA-3715-A

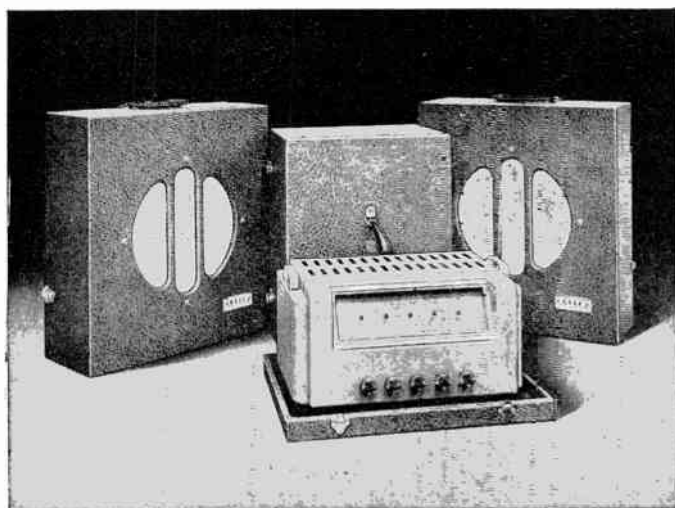
Amplifier: 3715-A (see page B-3).  
Speakers: 2-10" Heavy Duty P.M.  
Cables: 2-25' Type SV with Plugs.  
Built-in Phono Equipment: None.  
Microphone: Not furnished with this system.  
Case: Model 15 Three pc.  
Dimensions: 13¾" Deep; 19¾" High; 17¾" Wide.  
Shipping Weight: 62 lbs.



## 25 WATT BELL DUO-CASE PA SYSTEM

### SPECIFICATIONS Model PA-3725-A

Amplifier: 3725-A (See page B-3).  
Speakers: 2-12" Heavy Duty P.M. with Line Matching Trans.  
Cables: 2-50' Type SV with Plugs.  
Built-in Phono Equipment: None.  
Microphone: Not furnished with this system.  
Case: 1 Model 95. 1 Model 14-A.  
Dimensions: Model 14-A, 13½" Deep; 10¼" High; 18" Wide.  
Model 95, 10¼" Deep; 19¾" High; 19" Wide.  
Shipping Weight: Complete System, 90 lbs.



Mfg. by THE BELL SOUND SYSTEMS, Inc. • Columbus 7, Ohio





# HERMON SCOTT, INC.

"PACKAGED ENGINEERING"

385 PUTNAM AVE. • CAMBRIDGE 39, MASS.



### TYPE 420-A SOUND ANALYZER, FILTER SET

An extremely compact portable sound analyzer and 1/2 octave filter set. Independently adjustable high and low cut-off filters can be varied separately or by means of a single knob. Thus a pass-band of extreme flexibility and versatility is achieved. The unit is completely self-contained, and is battery operated. Housed in an attractive saddle-leather case, the 420-A can be operated while carried about on the leather shoulder strap. The Analyzer meets all proposed ASA Standards and, in addition, has an adjustable band-width varying from 1/2 octave upward in steps of 1/2 octave. The range of the amplifier exceeds 20 to 20,000 cps. The frequency range exceeds proposed ASA Specifications by one octave at both low and high-frequency limits. The instrument includes a calibrated attenuator giving, with the indicating meter, a range of 66 db. The meter meets ASA ballistic requirements, and an output circuit is provided so that the unit may be used as a general-purpose filter. While designed particularly for use with the Type 410-B Sound Level Meter, the Analyzer may be used with practically any other sound level meter or suitable signal source. Size, 9" x 10" x 6"; Weight, Approx. 15 lbs. net, incl. case. Write for prices.

### TYPE 410-B SOUND LEVEL METER, for NOISE, SOUND, VIBRATION

Sound Level Range, 34 to 140 db above standard ASA reference level of 0.0002 dynes/cm.<sup>2</sup>; Weighting Characteristics, all three standard ASA curves, flat (C), 70 db (B) and 40 db (A); Accuracy characteristics of the instrument meet the ASA standards for Sound Level Meters. The amplifier gain is standardized within ±1 db for absolute measurements. Comparison accuracy is approximately ±0.2 decibels; Calibration, an adjustment resets the amplifier gain to original factory-calibrated value; Output signal is available for operating analyzers, etc.; Inexpensive and readily available hearing aid type batteries are used; Meets American Standards Association Specifications Z24.3-1944 for sound level meters, including extended low-frequency response to 25 cps; Dimensions, 11 5/8" long, 2 1/2" diameter; Net Weight, two lbs. seven oz., including batteries. Type 410-B Sound Level Meter \$299.50; Type 410-X1 Carrying Case \$22.00; Type 410-X2 Microphone Calibration Curve \$30.00; Type 410-X3 Low Capacitance Extension Cable \$24.50; Type 410-X4-A Mounting Tripod \$15.00; Type 410-X5 Vibration Integrator and Type 410-X6 Vibration Pickup \$99.50; Type 410-X8 Input Adaptor \$12.50; Type 410-X9 Moving Coil Microphone and Type 410-X10 Matching Transformer \$140.00; Type 410-X11 100 ft. Extension Cable for use with 410-X10 \$29.50.



### TYPE 610-A PRODUCTION COMPARATOR

This radically new test instrument has already saved up to 95% of the testing time in commercial production of amplifiers, equalizers, filters, etc. The Comparator quickly compares the unit under test with a production standard. The instrument indicates any difference directly in percentage, plus or minus. Patents are pending. Frequency range, 10 cps to 100 kc; Accuracy equivalent to a conventional voltmeter accuracy of 1 1/2%; Input voltage, ranges of 0.5, 1.5, 5.0, and 15 volts for full-scale meter deflection at 30% difference; Meter range, at rated input, ±40%. Minimum detectable difference at rated input is ±1 1/2% (sensitivity may be further increased by increasing the input voltage); Input impedance, 1/2 megohm in parallel with 50 mmf. Two separate shielded input circuits for Standard and Unknown; Attenuators, two calibrated and matched ganged attenuators; Calibration, a switch and a control are provided for instant calibration. There are independent controls for AC and DC balance; Tubes, 2-12AU7, 2-6H6, 1-6X5; Weight 6 1/4 lb. net; Dimensions, 9 1/2" x 6 1/2" x 6 1/2". Write for prices.



### TYPE 221-A LABORATORY POWER AMPLIFIER

Power Output, rated output 20 watts, maximum output 25 watts; Frequency Range, flat from 12 to 55,000 cps; Harmonic Distortion, less than 0.5% at 20 watt output, less than 0.3% at 15 watts, less than 0.2% at 8 watts; Input Impedance, 0.5 megohms for low level input, 1.5 megohms for high level input, 100,000 ohm variable input; Output Impedance, taps available of 2, 4, 8 and 16 ohms, matching all speakers from 1 to 24 ohms impedance; Low output impedance provides less than 2 db regulation and optimum speaker damping; Hum Level, minus 90 db below full output; Input for 20 watt output, 0.5 volt on low level input, 1.5 volt on high level input; Power Supply Socket, for powering external equipment. Voltage and current ratings available 310 volt DC at 10 milliamps, 6.3 volt AC at 2.5 amps, 24 volt DC at 150 milliamps; Weight, 18 lbs.; Dimensions, panel size 19" x 9", amplifier chassis 14" long x 6 1/2" high x 7 3/4" deep. Type 221-A Laboratory Power Amplifier \$148.50; Type 221-A1 Laboratory Power Amplifier \$165.00; (Type 221-A1 Amplifier has output impedances of 4, 8, 16 and 500 ohms).



### TYPE 140-A DECADE AMPLIFIER

This unit is a small, low-cost general-purpose laboratory voltage amplifier with many applications. It has a low noise level and a low flux-density transformer so that it can be used at low signal levels, and will not affect nearby instruments. Amplifier provides gains of X10 or X100, recalibration possible by user at any time; Frequency range, 10 cps to 1 mc, ±0.5 db; Input impedance, 2 megohms resistive shunted by 25 mmf; Output impedance, 600 ohms; Maximum output voltage, 30 volts (open circuit); Maximum output current 1 m.a.; Noise level, 80 db below maximum output; Distortion at maximum output, less than 0.5%; Tubes, 1-6X5, 1-OA2, 2-6AU6, 1-12AU7; Power supply, AC operated, completely self-contained, low-flux-density transformer; Connections, Plug-in type binding posts, 3/4" spacing, fit conventional banana-type plugs; Dimensions, 6" x 6" x 6 3/4"; Weight, 4 1/2 lbs. net. Write for prices.



### TYPE 810-A RANDOM NOISE GENERATOR and TYPE 20-B POWER SUPPLY

Frequency Ranges, AF: 20-20,000 cps.; RF: Gradually reduced output above 200,000 cps.; ASA: "Noise of a General Character" specified in ASA Standard Z24.3-1944; AF Output Voltage, 0 to 0.2 volts; Tubes, 6C4 and 6D4 Power Requirements, AC, 6.3 volts at 0.6 amps.; 250-350 volts at 12 ma. (provided by Type 20-B Power Supply); Weight, 1 lb., 11 oz. (with power supply, 5 lbs., 7 oz.); Dimensions, 7" long, 4" wide, 4 1/2" high. Type 810-A Noise Generator \$56.50; Type 20-B Power Supply \$25.00.

SPECIFICATIONS AND PRICES SUBJECT TO CHANGE WITHOUT NOTICE



# HERMON SCOTT, INC.

"PACKAGED ENGINEERING"

385 PUTNAM AVE. • CAMBRIDGE 39, MASS.

## THESE MAKE THE DIFFERENCE . . . CONTROL, COMPENSATION, FIDELITY, WARRANTY

There is indeed a difference between even the best high fidelity amplifiers. Why are H. M. Scott Amplifiers the standard against which others are compared? Only because they give not only extreme fidelity and power but also complete control and compensation under all record conditions, room acoustics, and individual preferences.



### TYPE 210-B DYNAURAL LABORATORY AMPLIFIER

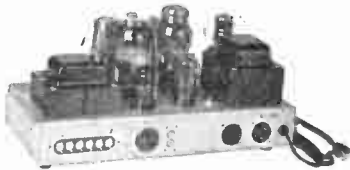
Rated power output, 20 watts, maximum power 25 watts; 1st order difference-tone intermodulation distortion at full rated output less than 0.1%; Harmonic distortion, less than 0.5% at full rated 20 watt output, less than 0.3% at 15 watts, 0.2% at 8 watts; Frequency range, flat from 12 to 22,000 cycles; New-type automatic loudness control; 3-channel continuously adjustable bass and treble controls; Dynamic noise suppressor, latest wide-range DYNAURAL gate circuits open to full range of amplifier; Input impedance, 0.5 megohms; Speaker impedance, matches all speakers from 1 to 24 ohms; Hum level 84 db below full output; Exclusive pickup level adjustment; Pre-amplifier, operated entirely on DC; Adjustable record-distortion filter; Tubes, 2-12SL7GT, 1-6SN7GT, 1-6SQ7, 2-6SG7, 1-6J5, 2-6L6G, 1-5V4G; Weight, 19 1/4 lbs.; Dimensions, total depth including knobs, etc. 10 3/4", depth behind panel 10 1/4", width 12 1/2", height 8 1/2". Net price \$224.00.

### TYPE 120-A EQUALIZER-PREAMPLIFIER

Three high-level and one low-level inputs; 8 position record-equalizer to match almost all record characteristics and levels; also offers input switching between phono, tuner, TV, recorder, etc.; Frequency range, flat from 19 to 35,000 cps; New-type automatic loudness control; 3-channel continuously variable tone controls; Pickup level adjustment; Minimum input for rated output, 6 mv on phono input, 0.6 volt on 3 high-level inputs; Pre-amplifier entirely DC operated; Effective preamp, noise equivalent to 5 micro-volts at low level input, hum below thermal noise level; With low capacity cable, remote control can be placed up to 70 ft. from power amplifier; Input impedances 1 meg. on all inputs; Normal load impedance, 250,000 ohms or more; Tubes: 1-12AX7, 2-12AU7; Weight 8 lbs.; Dimensions 10 x 4 1/2 x 6 3/4; Walnut cabinet; Unit can be used with power amplifiers other than 220-A below; Net price \$76.25.



### TYPE 220-A LABORATORY POWER AMPLIFIER



The first-order difference-tone intermodulation distortion at full rated peak output is less than 0.1%; Harmonic distortion, less than 0.5% at full rated 20 watt output, less than 0.3% at 15 watt output, less than 0.2% at 8 watt output; Rated power output 20 watt, maximum power output 25 watt; Frequency range, flat from 12 to 55,000 cycles; Input impedance, 0.5 megohms for low level input, 1.5 megohms for high level input; Speaker impedance, matches all speakers from 1 to 24 ohms impedance; Low output impedance provides less than 2 db regulation, and optimum speaker damping; Hum level, minus 90 db below full output; Input for full rated 20 watt output, 0.5 volt on low level input, 1.5 volt on high level input; Power supply socket, for powering Type 120-A Equalizer Preamplifier or similar unit; Tubes, 1-6SN7GT, 1-6J5, 1-5V4G, 2-6L6G; Weight, 18 lbs.; Dimensions, 14" x 6 1/2" x 7 3/4". Net price \$117.50.

### TYPE 214-A REMOTE CONTROL AMPLIFIER

Consists of Type 120-A Equalizer-Preamplifier and Type 220-A Laboratory Power Amplifier. 120-A is separated from 220-A by 6 ft. extension cable. A 20 ft. extension cable is available as an accessory (Type 120-X1). Specifications, weights and dimensions given above. Type 214-A Remote Control Amplifier net price \$193.75.

### TYPE 112-B DYNAURAL PREAMPLIFIER

Features: wide-range DYNAURAL noise suppressor; excellent preamplifier for magnetic pick ups; range control and record-distortion filter with high frequency cutoffs of 5,000, 9,000, and 15,000 cps; adjustable turnover control providing turnover frequencies at 300, 500 or 800 cps; AM whistle filter; Frequency range, flat 30-15,000 cycles, usable 20-20,000 cycles; input: level 6 mv minimum, impedance 23,000 ohms; output: level (average) 0.5 volt, load impedance 1/2 megohm or more; exclusive pickup level adjustment; tubes 1-6SC7, 1-6SQ7, 2-6SG7; power required 180-300 v DC @ 5 ma., 6.3 v AC @ 1.1 amp., obtained from adaptor plug inserted under amplifier power-output tube such as 6K6, 6V6, 6L6, 6F6; weight 3 lbs. Net price \$51.00.



### TYPE 111-B DYNAURAL CONVERTER

Amazing DYNAURAL Noise Suppressor virtually eliminates annoying record scratch and turntable rumble; frequency range, flat 30-10,000 cycles, usable 20-15,000 cycles; input: level, 0.2 v minimum, impedance, 1/2 megohm; Output: level (average), 0.5 volt; Impedance, 1/2 megohm or higher; Pickup: Crystal or other high-level pickup; Controls: A single remote control allows continuous adjustment of the DYNAURAL suppression from no suppression to maximum suppression. A calibrated adjustment is also provided to compensate for different pickup levels; Tube complement: One Type 6SQ7, two Type 6SG7; Power required: 180-300 v DC @ 5 ma., 6.3 v AC @ 0.8 a. (obtained from radio set or amplifier by means of adaptor provided); Special a-c power supply also available; Weight: 2 1/2 lbs.; Dimensions: 7" long, 3 3/4" wide and 4 3/4" high. Net price \$31.00.



SPECIFICATIONS AND PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Newcomb

CUSTOM

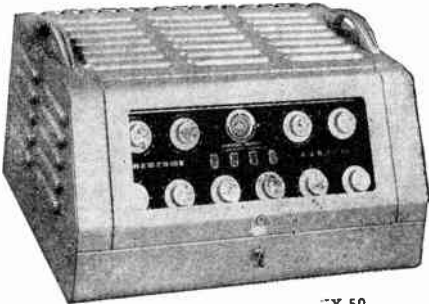
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SERIES AMPLIFIERS

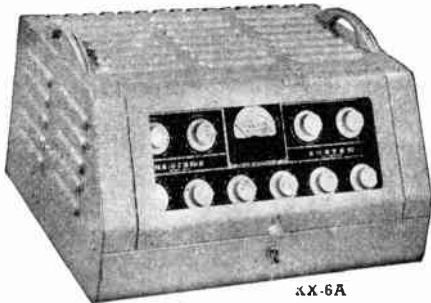
Designed and Built To The  
Very Highest Standards of  
Quality In The Entire Industry



KX-25



KX-50



KX-6A



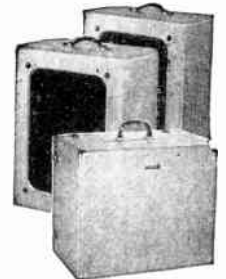
K50B



**KX-2512X:** Portable system with KX-25 amplifier and two heavy duty, extremely efficient speakers, each with 50' cable. System is carried in two cases: Model KA for the amplifier, size 19" x 11 3/4" x 16 7/8"; Model K-212 for two speakers, size 18 1/2" x 12 1/2" x 22 1/2". Speakers face inside for maximum protection when split case is closed. Mikes and mountings not included as requirements vary.

KA: Amplifier case fits all model K amplifiers.

**KX-25R12X:** Portable system identical to KX-2512X but with each speaker mounted in an individual portable reflex baffle, Model KR-112, for utmost tone quality. Speaker cases size, 18 1/2" x 12 1/2" x 24 1/2". Mikes and mountings not included as requirements vary.



Without equal at any price. The best examples why the name Newcomb is so revered by Engineers and Owners alike. Will improve any system. A must when using the new 2-way wide range speakers. Check these important features and specifications.

- ★ 20—20,000 cycles  $\pm$  1 db
- ★ Less than 3% distortion
- ★ 90% of rating at less than 1%
- ★ Full power any output tap
- ★ Audio bandwidth selectors
- ★ Hum and noise level—80 db.

- ★ Remote control provision—all inputs
- ★ U/L approved
- ★ Continuous duty—longer life parts
- ★ Key locked control cover
- ★ Sensitive volume and overload indicators
- ★ Wired for plug-in input transformers

Full audio power, 50 to 5000 cycles (region of all major power requirements) within  $\pm$  1/4 db, less than 5% distortion. Separate tone controls for Bass and Treble Boost or Attenuation of advanced design for better curve shape, greater range, Feedback controlled, 2 stage mike pre-amplifiers, Hum balancing control, all models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of 4, 8, 16, 250, 500 ohms, PLUS a 70 volt "constant voltage" tap, with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. Cabinets: Heavy gauge welded steel beautifully styled. Finish: Silver Grey Hammertone Baked Enamel. Panels: Etched metal, illuminated. Knobs: Round, large, skirted type, for easy operation. Additional specifications given under specific model numbers.

**KX-25 POWER OUTPUT:** 25 watts design center rating, 30 watts max. at less than 3% distortion any output tap. PEAK POWER: 40 watts design center, 48 watts max. INPUTS (6): 5 mike (2 meg.), gain 123 db; 1 phono either Magnetic input gain 99 db based on 27,000 ohm input, bass equalization + 10 db or Crystal input 1/2 meg. gain 90 db REMOTE CONTROL: Use RC-6 remote control unit. BASS TONE CONTROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —75 db crystal phono, —65 db mike

and magnetic pickup inputs (Referred to rated output). CONTROLS (15): 5 mike, 1 phono, 1 bass, 1 treble, 4 bandwidth, 1 master, 1 volume indicator (all under keylocked control cover) A.C. power switch. TUBES (15): 6—6SC7, 2—6J5, 1—6J7, 1—6SQ7, 1—6SN7, 2—6L6G, 1—6AF6G, 1—5U4G. POWER CONSUMPTION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9 3/8" x 17 3/4" x 14 3/4". SHIPPING WEIGHT: 40 lbs. LIST: (with tubes) \$379.50. Plug Kit: \$6.92.

**KX-50 POWER OUTPUT:** 50 watts design center rating, 60 watts max. at less than 3% distortion any output tap. PEAK POWER: 80 watts design center, 90 watts, max. BOOSTER COUPLING JACK for connecting K50B Boosters for 100 watts or more. All other characteristics identical with KX-25 except gains, which are all 3 db higher than KX-25.

TUBES (18): 6—6SC7, 2—6J5, 1—6SQ7, 1—6J7, 1—6SN7, 4—6L6G, 1—6AF6G, 2—5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9 3/8" x 17 3/4" x 14 3/4". SHIPPING WEIGHT: 49 lbs. LIST: (with tubes) \$460.00. Plug Kit: \$7.03.

**KX-6A:** A 6 channel mixer pre-amplifier designed to feed broadcast lines or boosters for finest quality. OUTPUT: +31 VU, less than 3% distortion, +30 VU at less than 1%. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS for 5 mikes (2 meg.) gain 97 db and 1 phono either crystal (1/2 meg.) gain 64 db or magnetic (27,000 ohms) gain 73 db. Use RC-6 Unit for remote control. Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX-25 and KX-50. BASS TONE CONTROL: Range

—16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —80 db crystal —75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 1 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power switch, 1 VU meter range switch (in rear). TUBES (12): 6—6SC7, 4—6J5, 1—6J7, 1—6X5. POWER CONSUMPTION 35 WATTS, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9 3/8" x 17 3/4" x 14 3/4". SHIPPING WEIGHT: 32 lbs. LIST: (with tubes) \$345.00. Plug Kit: \$5.29.

**K50B:** Booster Amplifier. Performance, power and output impedance same as KX-50 with but one input of 1/2 meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Built for continuous duty with long life parts, separate plate, and filament power transformers, individually fused, permits dependable plate power switching. Includes volume

and overload indicators as in KX-50. Ample multistage feedback to minimize effects of speaker load variations. Etched metal panel. TUBES (10): 1—6SJ7, 1—6SN7, 1—6SQ7, 4—6L6G, 1—6AF6G, 2—5U4G. POWER CONSTRUCTION: 230 watts 117 volts 60 cycles. 129 volts max. DIMENSIONS: 9 3/8" x 17 3/4" x 12 1/4". SHIPPING WEIGHT: 45 lbs. LIST: (with tubes) \$210.00. Plug Kit: \$2.50.

### NEWCOMB CUSTOM PORTABLE SYSTEMS

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Newcomb

AUDIO PRODUCTS COMPANY

6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

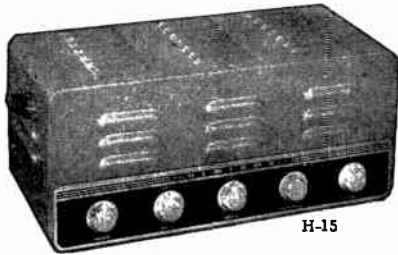
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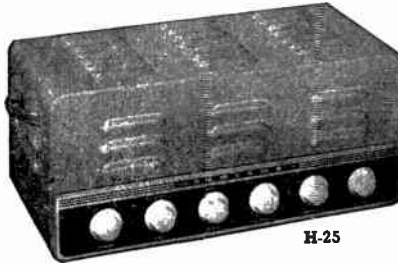
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SERIES AMPLIFIERS

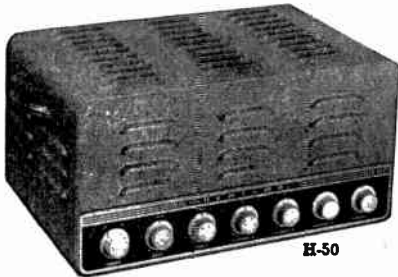
Compare These Deluxe Amplifiers with Any Other Brand at Any Price



H-15



H-25



H-50



H-4VU



H-25B



H-50B

For Performance, Dependability and Value check these features and specifications:

- ★ 20-20,000 cycles  $\pm$  2 db
- ★ Full Power any output tap
- ★ Less than 5% distortion
- ★ 90% of rated power at less than 2%

- ★ Remote Control provision—all mikes
- ★ U/L approval
- ★ Continuous duty—longer life parts
- ★ Wired for plug-in input transformers

Full Audio Power, 50 to 5000 cycles (region of all major power requirements) within  $\pm$  1/2 db, less than 5% distortion. Individual boost and attenuate type bass and treble tone controls in new distortion free circuit. Linear mixer frequency response. All models but pre-amplifier have output impedances of 4, 8, 16, 250, and 500 ohms PLUS a 70 volt "constant voltage" tap, with easily-operated impedance selector. Multi-stage inverse feedback. Large heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installations. A. C. convenience outlet in rear, all models except boosters. Cabinets: Heavy gauge welded steel beautifully styled in modern functional simplicity that endures. Finish: Silver Grey Hammertone Baked Enamel. Panel: Etched metal, illuminated. Knobs: large, round, skirted type, for ease of operation. Additional specifications under specific model numbers.

**H-15 POWER OUTPUT:** 17 watts design center rating, 20 watts max. at less than 5% distortion, any output tap. **PEAK POWER:** 26 watts design center, 31 watts max. **INPUTS (3):** 2 mike (2 meg.), gain 120 db; 1 phonograph (1/2 meg.), gain 80 db. **BASS TONE CONTROL:** Range -16 to +14 db. **TREBLE TONE CONTROL:** -34 to +13 db. **HUM:** -72 db phono input, -62 db mike inputs (referred to rated output). **CONTROLS**

(5): 1 mike-phonograph, 1 mike, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-2 remote control unit. **TUBES (7):** 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. **POWER CONSUMPTION:** 85 watts, 117 volts 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 8 1/4" x 19" x 10 1/8". **SHIPPING WEIGHT:** 23 lbs. **LIST:** (with tubes) \$149.50. **Plug Kit:** \$4.09.

**H-25 POWER OUTPUT:** 25 watts design center rating, 30 watts max. at less than 5% distortion, any output tap. **PEAK POWER:** 40 watts design center, 48 watts maximum. **INPUTS (4):** 3 mike (2 meg.), gain 124 db; 1 phonograph (1/2 meg.), gain 80 db. **BASS TONE CONTROL:** -18 to +15 db. **TREBLE TONE CONTROL:** -27 to +10 db. **HUM:** -72 db phono input, -62 db mike inputs (referred to rated output). **CONTROLS**

(6): 2 mike, 1 mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-3 remote control unit. **TUBES (8):** 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5U6G. **POWER CONSUMPTION:** 125 watts, 117 volts 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 8 1/2" x 19" x 10 1/8". **SHIPPING WEIGHT:** 27 lbs. **LIST:** (with tubes) \$186.50. **Plug Kit:** \$5.03.

**H-50 POWER OUTPUT:** 50 watts design center rating, 60 watts max. at less than 5% distortion, any output tap. **PEAK POWER:** 80 watts design center, 90 watts max. **INPUTS (5):** 4 mike (2 meg.), gain 124 db. 1 phono (1/2 meg.), gain 81 db. **BOOSTER COUPLING JACK** for connecting H-25B or H-50B Boosters for 75 to 100 watts or more. **BASS TONE CONTROL:** Range -21 to +16 db. **TREBLE TONE CONTROL:** Range -27 to +10 db. **HUM:** -72 db phono input, -62

db mike inputs (referred to rated output). **CONTROLS (7):** 3 mike, 1 mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-4 remote control. **TUBES (12):** 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 225 watts, 117 volts 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 9 1/4" x 19" x 12 1/2". **SHIPPING WEIGHT:** 42 lbs. **LIST:** (with tubes) \$250.00. **Plug Kit:** \$6.10.

**H-4VU Mixer Pre-Amp.** with built-in power supply. Extremely low hum. Suitable for feeding telephone lines or booster amplifiers such as the H-25B or H-50B. Output +22 db at less than 5% distortion. +21 db at less than 2%. **INPUTS (for two mikes (2 meg.)), gain 90 db. 1 phono (1/2 meg.), gain 51 db. HUM:** Better than, -80 db from phono input or -75 db, mike inputs. Use RC-3 Unit for remote control. Includes master control and genuine VU meter with

meter range extension switch. **BASS TONE CONTROL:** Range -16 to +14 db. **TREBLE TONE CONTROL:** Range -27 to +13 db. **TUBES (7):** 3-6SF5, 1-6SJ7, 1-6SN7, 1-6J5, 1-6X5. **POWER CONSUMPTION:** 30 watts, 117 volts 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 8 1/8" x 19" x 10 1/8". **SHIPPING WEIGHT:** 21 lbs. **LIST:** (with tubes) \$195.00. **Without VU meter:** \$150.00. **Plug Kit:** \$3.44

**H-25B Booster Amplifier** — Performance Power and Output Impedances same as H-25 with but one input of 1/2 meg. impedance, gain 68 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. power switch and volume control. Ideal for use

with H-4 Pre-amplifier. Built for long life. **TUBES (5):** 1-6SJ7, 1-6J5, 2-6L6G, 1-5U4G. **POWER CONSUMPTION:** 120 watts, 117 volts, 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 8 1/8" x 19" x 10 1/8". **SHIPPING WEIGHT:** 25 lbs. **LIST:** (with tubes) \$127.50. **Plug Kit:** \$1.69.

**H50B Booster Amplifier** — Performance, Power and Output Impedances are same as H-50 with but one input of 1/2 meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume control. Built for long

life. Ideal for use with H-4 Pre-Amp. **TUBES (8)** 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 220 watts, 117 volts, 60 cycles A.C. Max. input 129 volts. **DIMENSIONS:** 9 1/4" x 19" x 12 1/2". **SHIPPING WEIGHT:** 38 lbs. **LIST:** (with tubes) \$162.50. **Plug Kit:** \$1.69.

### Newcomb Deluxe Portable Systems

**H-1512R:** Portable system with H-15 amp. and two 12" speakers, each with 25' cable, in split case Model EH-212, size 11 1/8" x 20 1/2" x 21", covered in washable fabricoid. Kickproof metal grills protect speakers. Mikes and mountings not included as requirements vary.

**H-2512R:** Portable system with H-25 amp. and two 12" speakers, each with 25' cable in split case, Model EH-212. Size, 20 1/2" x 11 1/8" x 21". Mikes and mountings not included as requirements vary.

All Prices and Specifications Subject to Change Without Notice.



Newcomb

AUDIO PRODUCTS COMPANY

6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

Newcomb

# E SERIES AMPLIFIERS

A Low Priced Line of Superior Utility Amplifiers

The same fine workmanship and materials as the incomparable KX- and H-Series. Designed to lead the low-price field. For performance, dependability and economy the E-Series is today's best combination of high quality and low cost. All models U/L approved.



E-1010S

**E-10 AMPLIFIER** . . . Delivers full 10 watts from push-pull 6V6 tubes. Inputs for mike and phono. **SPECIFICATIONS** . . . POWER OUTPUT: 10 watts at less than 5% distortion. FREQUENCY RESPONSE: 40 to 15,000 cycles  $\pm 2$  db. Inputs (2): 1 mike (2 meg.), gain 116 db; 1 phono (1/2 meg.), gain 77 db. TONE CONTROL: Range 0 to -24 db. MULTI-STAGE INVERSE FEEDBACK CIRCUIT. OUTPUT IMPEDANCES: 4, 8 and 16

ohms to octal socket. TUBES (5): 1-6SC7, 1-6SQ7, 2-6V6GT and 1-6X5GT. FINISH: Silver-gray hammertone baked enamel. PANEL: Genuine etched metal. DIMENSIONS (Incl. cover): 5 3/4" x 10 3/8" x 6 3/4" high. POWER CONSUMPTION: 60 watts at 117 volts; 60 cycles A.C. SHIPPING WEIGHT: Amplifier only, less cover, 9 lbs. Including cover, 10 1/2 lbs. LIST: (with tubes) \$65.00. Cover: \$6.00. Plug Kit: \$1.71.

**E-1010S PORTABLE SYSTEM** . . . 10 watt basic system with 10" speaker, 25' cable and plug, and E-10 amp. Case model E-110,

size 12 1/4" x 15 3/4" x 8 3/4". Mike and mountings not included.

**E-17 AMPLIFIER** . . . A conservative 17-watt amplifier with separate bass and treble tone controls, phonograph bass boost, multistage inverse feedback circuit, and provision for conversion to low impedance mike input. Input controls for mike and phono. **SPECIFICATIONS** . . . POWER UNIT 17 watts at less than 5% distortion. FREQUENCY RESPONSE:  $\pm 2$  db, 40 to 15,000 cycles. INPUTS: 1 mike (2 meg.) gain 115 db; 1 phono (1/2 meg.), gain 77 db. OUTPUT IMPEDANCES:

4, 8, 16 and 500 ohms. TUBES (5): 1-6SC7, 1-6SJ7, 2-6L6G, 1-5Z4. PANEL: Etched metal, illuminated. FINISH: Silver-gray hammertone baked enamel. DIMENSIONS: (Incl. cover): 8 3/8" x 14 1/8" x 8" high. POWER CONSUMPTION: 75 watts at 117 volts, 60 cycles A.C. SHIPPING WT.: 18 lbs. LIST: (with tubes less cover) \$93.00. Cover \$6.50. Phono Cover \$39.50\*. 3 Speed Cover \$49.50\*. Changer Cover \$99.50. Plug Kit: \$2.28. (\*Plus Excise Tax.)

**E-1712R PORTABLE SYSTEM** . . . 17 watt amp. model E-17 and two 12" speakers each with 25' cable and plug. Split case model

EH-212, size 20 1/2" x 11 1/8" x 21". Mikes and mountings not included.



E-1712R  
E-2512R

**E-25 AMPLIFIER** . . . A dependable full 25-watt amplifier with inputs for two mikes and one phono, separate bass and treble tone controls, phono bass boost, multistage inverse feedback circuit, and provision for conversion to low impedance mike inputs. **SPECIFICATIONS** . . . POWER OUTPUT: 25 watts at less than 5% distortion. FREQUENCY RESPONSE:  $\pm 2$  db, 40 to 15,000 cycles. INPUTS (3): 2 mike (2 meg.), gain 117 db; and 1 phono (1/2 meg.), gain 77 db.

OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms. TUBES (6): 1-6SJ7, 1-6SC7, 1-6J5, 2-6L6G and 1-5Z4. FINISH: Two-tone hammertone baked enamel. PANEL: Etched metal, illuminated. POWER CONSUMPTION: 90 watts at 117 volts; 60 cycles A.C. SHIPPING WT.: 19 lbs. LIST: (with tubes less cover) \$118.50. 3 Speed Cover \$49.50\*. Cover \$6.50. Phono Cover \$39.50\*. Changer Cover \$99.50\*. Plug Kit: \$3.24. (\*Plus Excise Tax.)

**E-2512R PORTABLE SYSTEM** . . . 25 watt amp. model E-25 and two 12" speakers each with 25' cable and plug. Split case model

EH-212, size 20 1/2" x 11 1/8" x 21". Mikes and mountings not included.



E-25, E-50

**E-50 AMPLIFIER** . . . A distortion-free conservatively rated 50-watt amplifier using push-pull parallel 6L6 tubes and multistage inverse feedback circuit. Has inputs for two mikes and one phono, separate bass and treble tone controls, phono bass boost, and provision for conversion to low impedance mike inputs. **SPECIFICATIONS** . . . same as E-25 except as following: POWER OUTPUT:

50 watts at less than 5% distortion. Mike gain 120 db; phono gain 79 db. OUTPUT IMPEDANCES: 4, 8, 16 and 250 ohms. TUBES (6): 1-6SJ7, 1-6SC7, 1-6J5, 4-6L6G and 2-5Z4. DIMENSIONS (including cover): 11 1/4" x 14 3/4". POWER CONSUMPTION: 170 watts at 117 volts; 60 cycles A.C. SHIPPING WT.: 31 lbs. LIST: (with tubes) \$189.50. Plug Kit: \$3.24.

**E-50D AMPLIFIER** . . . A 50 watt amp. with separately controlled, individual 25 watt output channels and inputs for 3 mikes and 1 phono. Separate bass and treble controls. Bass boost on phono only. Additional amp. jack. **SPECIFICATIONS:** POWER OUTPUT: 50 watts, 25 watts each channel at less than 5% distortion. FREQUENCY RESPONSE:  $\pm 2$  db, 40 to 15,000

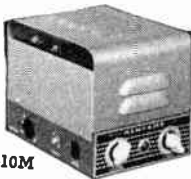
cycles. INPUTS: (4) 3 mike (2 meg.), gain 127 db, 1 phono (1/2 mag.), gain 85 db. OUTPUT IMPEDANCES: (each channel) 4, 8, 16 and 500 ohms. TUBES (12): 3-6SF5, 1-6SJ7, 2-6SN7, 4-6L6G, 2-5Z4. DIMENSIONS (with cover): 17 1/2" x 9 1/4" x 11 1/4". POWER CONSUMPTION: 190 watts, 117 volts, 60 cycles A.C. WEIGHT: 32 lbs. LIST: (with tubes) \$239.50. Plug Kit: \$3.50.



E-50D

**E-10M MOBILE AMPLIFIER** . . . The Model E-10-M is a particularly rugged, dependable, low cost 10 watt mobile amplifier, designed for use on 6 V.D.C. or 117 volts, 60 cycles A.C. power. Features push-pull beam power output tubes with inverse feedback for low distortion; Standby battery saver switch; New freedom from vibrator hash; Special mounting to simplify removal of chassis for servicing; Inputs for mike and phono; Sturdy Jones connectors for battery and A.C. cables. **SPECIFICATIONS** . . .

POWER OUTPUT: 10 watts at less than 5% distortion. FREQUENCY RESPONSE: 50 to 15,000 cycles  $\pm 2$  db. Mike Input (2 megs.), gain 115 db; Phono Input (1/2 meg.), gain 75 db. OUTPUT IMPEDANCES: 4, 8, and 16 ohms. Jewelled pilot lamp. Etched metal panel. Silver-tone-gray, baked enamel hammertone finish. TUBES (5): 1-6SC7, 1-6SF5, 2-6V6GT, 1-6X5GT. POWER CONSUMPTION: 60 watts at 117 volts A.C. 8 amps at 6 V.D.C. SHIPPING WEIGHT: 13 1/2 lbs. LIST: (with tubes) \$97.50. Plug Kit: \$1.39.



E-10M

**E-25MP PHONO TOP MOBILE AMPLIFIER** . . . A full 25 watts from either 6 V. Storage Battery or 117 V. A.C. at new low price. Consumes least possible current per watt output. "Standby" switch reduces battery consumption, keeps tubes warm for instant use. Separate A.C. power and turntable switches. Heavy duty Jones plugs and receptacles provide dependable connections to battery or A.C. power source. **SPECIFICATIONS** . . . POWER OUTPUT:

stage inverse feedback, resistance capacity coupling, phase correction for phono motor, 2000 volt Hermetically sealed oil buffer condenser. OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms to two octal speaker sockets and impedance selector. PHONOGRAPH MOTOR: Constant speed 78 R.P.M. PICKUP: Crystal. TUBES (7): 1-6SC7, 1-6SJ7, 1-6J5, 2-6L6, 2-6X5GT. POWER CONSUMPTION: 107 watts at 117 volts, 60 cycles A.C. or 20.5 amps. including phono motor from 6-volt storage battery. FINISH: Silver-gray hammertone baked enamel. PANEL: Etched metal, illuminated. DIMENSIONS (including cover): 8 3/4" x 14 1/8" x 10" high overall. SHIPPING WT.: 30 lbs. LIST: (with tubes and phono cover) \$199.50. Plug Kit: \$3.24. (Excise Tax on cover).



E-25MP

A full 25 watts at less than 5% distortion from either 117 volts A.C. or 6-volt storage battery. RESPONSE:  $\pm 2$  db, 50-15,000 cycles. INPUTS for two mikes (2 meg.) gain 119 db; and one phono (1/2 meg.), gain 78 db. HIGH FREQUENCY ATTENUATOR range, 28 db. CIRCUIT FEATURES: Multi-

**E-25M** . . . Same as E-25MP, Mobile Amplifier, with cover, tubes, less phono unit. Power consumption: 91 watts A.C. or 17 amps. from 6 V.D.C. Dimensions: 8 3/8" x 14 1/8" x 8" high. SHIPPING WT.: 27 lbs. LIST: (with tubes and plain cover) \$181.00. Plug Kit: \$3.24.

All Prices and Specifications Subject to Change Without Notice.



# PHONO AMPLIFIERS

For the Finest Phonograph Performance Ever Achieved



KXLP-30

**KXLP-30** A phonograph amplifier unsurpassed by any other in the field, regardless of price. Ample power permits use of KX Series dual tone control circuit. Provides tonal range and balance unattainable in less costly circuits, and controlled emphasis of desirable but power-consuming fundamental bass tones, avoiding emphasis of harmonic bass—the “Boomy” or one-tone bass so unacceptable to true music lovers. U/L approved. Features “Magic Red Knob” Record Condition Compensator and built in magnetic pick-up pre-amplifier.

**SPECIFICATIONS:** POWER OUTPUT: 30 watts at less than 5% distortion. 27 watts at less than 1%. FREQUENCY RESPONSE: 20 to 20,000 cycles  $\pm$  1 db. Response of magnetic and variable reluctance inputs corrected for requirements of these pickups. INPUTS: For radio and choice of crystal or variable reluctance pickup inputs. GAIN: Crystal input, 90 db. at 1/2 meg. input impedance. Magnetic or variable reluctance



HLP-14

**HLP-14** Brings to music lovers new listening pleasure in a unit less expensive than the KXLP-30. It, too, features the “Magic Red Knob” record condition compensator. Built-in pre-amplification and equalization, required for new low level pickups, make the HLP-14 ideal for the lower cost home installation. Exceptional tonal balance at whisper volumes is an outstanding feature. U/L approved.

**SPECIFICATIONS:** POWER OUTPUT: 14 watts at less than 5% distortion. 12 1/2 watts at less than 2%. PEAK POWER OUTPUT: 19 watts. FREQUENCY RESPONSE: 30 to 15,000 cycles  $\pm$  1 db for crystal pickup and radio inputs. Magnetic and variable reluctance inputs have response adjusted to requirements of

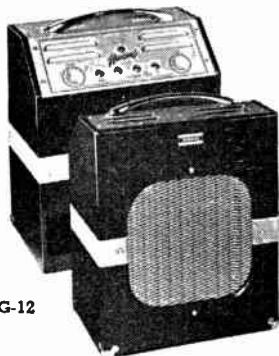


P-10A

**P-10A** This remarkable new amplifier has a frequency response with  $\pm$  1 db. from 30 to 15,000 cycles and delivers a full clean 10 watts. Includes distortion free, individual bass and treble tone controls for bass boost and treble boost or attenuation. Plus three individual inputs to permit connection of Radio, Phono and T.V. without need of switching. Basic amplifier designed for high impedance inputs. Plug-in pre-amp, illustrated, permits use of all magnetic cartridges. Circuit includes multi-stage inverse feedback. The low hum level achieved is of utmost importance when used with modern efficient speakers in bass reflex cabinets operated in quiet rooms. The low price makes it the truly outstanding buy in the field. U/L approved.

these pickups. INPUTS: Same as KXLP-30. GAIN: Crystal input 90 db. at 1/2 meg. input impedance. Magnetic or variable reluctance input 109 db. at 1/2 meg. or 92 db. at 10,000 ohms impedance. Signal from radio or TV required for full output is .5 v. TONE COMPENSATION: Variable. BASS TONE CONTROL: 0 to +16 db. TREBLE TONE CONTROL: -29 db. to +12.5 db. RECORD CONDITION COMPENSATOR: (Same as KXLP-30). OUTPUT IMPEDANCES: 3, 4, 6, 8, 16 and 500. POWER CONSUMPTION: 75 watts, 129 volts, 60 cycles A.C. for use on 105-129 volts. TUBES (6): 1-6SC7, 1-6SJ7, 1-6J5, 2-6V6GT and 1-5Y3LT. DIMENSIONS: Chassis, 13 1/2" x 9 1/2" x 3". Height overall, 7 7/8". WEIGHT: 22 lbs. LIST: (with tubes) \$77.00. Plug Kit: \$.83.

**SPECIFICATIONS:** POWER OUTPUT: 10 watts at less than 5%, 9 watts at less than 2%. INPUTS: (3 1/2 meg.; Gain, 75 db. Bass tone control range 0 to +16 db. Treble tone control range: -25 db. to +15 db. Output Impedances: 4, 8 and 16 ohms. Etched metal panel, grey baked enamel hammertone finish. Tubes (5): 1-6SC7, 1-6SQ7, 2-6V6GT and 1-6X5GT. Dimensions: 11 1/2" x 6 1/4" x 5 3/4" high. Power consumption: 60 watts at 117 volts, 60 cycles A.C. WEIGHT: 7 3/4 lbs. LIST: (with tubes) no cover, \$72.50. Plug Kit: \$.91. MPA Plug-in Pre-Amplifier provides additional gain and equalization needed for magnetic pickups with the P-10A. Includes effective scratch suppressor that can be cut in or out at will by means of a switch. LIST: (with tubes and plug) \$15.00.



G-12

(All Prices & Specifications subject to change)

## PROFESSIONAL MUSICAL INSTRUMENT AMPLIFIER

**G-12** Gives full, clear true tones at any desired volume. Lightness and beautiful appearance. Plus exceptional ruggedness and dependability characterize the Model G-12. There are three inputs with ample gain for Musical Instruments, plus an additional higher gain input for a microphone. Entire unit weighs only 20 1/2 lbs. for easy carrying. The amplifier frequency response is 30 to 15,000 cycles. Special circuit designed for musical instruments, provides a full 12 watts power at less than 5% distortion (over 90% of full output at less than 2% distortion). Exceptionally efficient big full 12" Alnico V permanent magnet speaker in an acoustically designed enclosure. A kickproof grill gives real

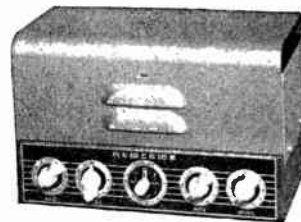
protection for speaker. Case construction gives needed rigidity for best tone and freedom from rattles and strength necessary to stand the abuse of constant traveling. Amplifier mounting screws enter into metal inserts. The case is covered in durable, washable, airplane type fabric. Truly a professional instrument. Built for years of trouble free service under the most rugged conditions. U/L Approved.

**SPECIFICATIONS:** Power Consumption: 65 watts at 117 volts, 60 cycles A.C. Tubes (5): 1-6SC7, 1-6SF5, 2-6V6GT, and 1-5Y3GT. Size: 9 1/4" deep x 14 7/8" x 18 3/8" high. WEIGHT: 23 lbs. LIST: (with tubes) \$115.00.

## RESTAURANT AMPLIFIER

**PM-10** PM-10 differs from usual phono or P.A. Amplifiers in that a switch on the panel cuts music and selects area to be paged. When paging, tonal adjustments set for music are automatically cut and flat response is substituted for proper voice quality. Paging Switch returns to music and music response when released. Operator has choice of paging “All” or a selected area. Bass boost tone control and separate high frequency tone control for boost or attenuation give desired response for music. Ideal for use with Long Playing Microgroove Changers for good music at lowest cost with added feature of paging. U/L Approved.

**SPECIFICATIONS:** POWER OUTPUT: 10 watts at less than 5% distortion. Frequency Response:  $\pm$  1 db., 40 to 15,000 cycles. Mike Input (2 meg.) gain 105 db. Phono Input (1/2 meg.) gain 77 db. Bass tone control range: 0 to +14 db. Treble Tone Control Range: +15 db. to -22 db. Output Impedances: .7, 1.4, 4, 8, and 16 ohms. Etched metal illuminated panel. Two-toned, grey, baked enamel hammertone finish. Tubes (5): 1-6SC7, 1-6SN7, 2-6V6GT, 1-6X5GT. Dimensions: 11 1/2" x 6 1/4" x 6 5/8" high. WEIGHT: 10 1/4 lbs. LIST: (with tubes and cover) \$95.00. Plug Kit: \$1.97.



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COMBINATION TRANSCRIPTION PLAYERS—P. A. SYSTEMS

TR-25AM A 25 watt, 3-speed transcription player and P.A. system that plays all records up to 17 1/4". Features 2 mike inputs and separate tone controls for phono and mike with second mike unaffected by either set of tone controls. Speed control knob provides variation from any of the three basic speeds, 33 1/3, 45 or 78 rpm. Scratch suppressor controls surface noise. Pickup is twist type, dual needle G.E. variable reluctance. "Floating Sound" prevents needle skipping due to jars. Two 12" speakers in split case, protected by kickproof metal grills. Each has 25' cord. Amp-phono case is 16 1/4" x 16 1/4" x 7 7/8", weighs 36 lbs. Speaker case 16 1/4" x 16 1/4" x 12", weighs 19 lbs. Power Output: 25 watts at less than 5% distortion. Frequency response ±2 db 40-15,000 cycles. Inputs for 2 high impedance mikes, gain 120 db. Tubes (10) 2-6SC7, 1-6SJ7, 1-6SN7, 4-6V6GT, 2-5Y3. Output impedances 4 or 8 ohms to two speaker sockets. Power consumption 130 watts 117 volts 60 cycles A.C. including phono motor. LIST: \$352.50.



TR-25AM



TR-16AM

TR-16AM Deluxe 10 watt, 3-speed player and P.A. system plays all records up to 17 1/4". Separate mike and phono volume controls allow mixing. Individual bass and treble tone controls prevent phono bass boost from adding unwanted bass to mike. 3-speed motor is also variable. Has extra speaker socket, an A.C. receptacle, and a radio jack for connecting to phono changer or B-100 radio. Scratch suppressor controls surface noise. Pickup is G.E. dual needle, variable reluctance, magnetic. "Floating Sound" avoids needle skipping. 12" Alnico #5PM dynamic speaker in removable lid with 25' cord and kickproof grill. Size: 14 3/4" x 15 3/4" x 11 7/8". Weight 33 lbs. Power consumption 70 watts 117 volts 60 cycles A.C. including phono motor. Amp. response ±2 db 50-10,000 cycles. Tubes (6) 2-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. LIST: \$235.00.

able reluctance, magnetic. "Floating Sound" avoids needle skipping. 12" Alnico #5PM dynamic speaker in removable lid with 25' cord and kickproof grill. Size: 14 3/4" x 15 3/4" x 11 7/8". Weight 33 lbs. Power consumption 70 watts 117 volts 60 cycles A.C. including phono motor. Amp. response ±2 db 50-10,000 cycles. Tubes (6) 2-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. LIST: \$235.00.



CR-11

TR-16A A 10 watt, 3-speed player and P.A. system with dual needle, crystal pickup. Has all features of TR-16AM except scratch sup-

pressor. Needles are semi-permanent, easily replaceable. Tubes (5) 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. Weight 33 lbs. LIST: \$212.50.



T-112R

TR-16M A 10 watt, 2-speed player and P.A. system with G.E. variable reluctance, magnetic pickup and the Newcomb scratch suppressor.

Plays 33 1/3 and 78 rpm records up to 17 1/4". Otherwise identical to TR-16AM. LIST: \$212.50.

TR-16 A 10 watt, 2-speed player and P.A. system with crystal pickup (no scratch suppressor)

otherwise identical to TR-16A. LIST: \$189.00.



R-12

T-112R EXTRA SPEAKER for TR-16 series. A 12" Alnico #5PM dynamic, with 25' cord, kickproof metal grill. Plywood case covered with

fabricoid. Size 16 1/4" x 16 1/4" x 7 7/8". Weight 12 lbs. LIST: \$45.00.

CR-11 NEWCOMB-SHURE hand or desk mike. For all TR models and R-16. New controlled reluctance principal combines good voice with

ruggedness. Has on-off switch. Comes with bracket for mounting in system case, 7' cable and plug. LIST: \$23.75.

NEWCOMB PORTABLE PHONOGRAPHS AND RADIOS

R-12 Here is "Console" quality in a portable case only 13 3/4" x 14 1/8" x 7 3/4" weighing only 20 lbs. Complete A.C. construction. Has a 5 watt amp. with inverse feedback. A 3-speed turntable with crystal pickup and a 6" x 9" Alnico #5 dynamic speaker. Plays 33 1/3, 45 or 78 rpm records any size up to 12". Has tone

control, volume control and pilot light. "Floating Sound" prevents needle skipping. Case is plywood covered with fabricoid. Speaker grill is kickproof metal. Designed especially for classroom use, it is ideal wherever portable quality is desired. LIST: \$79.50.



R-16

R-16 A 3-speed transcription player and P.A. system for schools. Weighs only 22 lbs. in case 14" x 15" x 8 1/2". Has a 5 watt straight A.C. amp. with inverse feedback and a 10" Alnico #5 dynamic speaker. A mike input jack and mixing volume control make it a practical P.A. system. Speaker section has 25' cord. Plays all

control, volume control and pilot light. "Floating Sound" prevents needle skipping. Panel includes pilot light, tone control, mike volume control, and phono volume control. Speaker protected by kickproof metal, case is plywood covered with fabricoid. LIST: \$115.00.



RC-12

RC-12 Combines a dependable 3-speed record changer with all the quality and performance features of the R-12 model. Plays all records up

to 12". Smartly styled case is plywood covered with fabricoid, size 14 3/8" x 9 5/8" x 18 1/2". Weighs only 31 1/2 lbs. LIST: \$115.00.

B-100 A portable AM radio, extremely sensitive, gives exceptional performance in all areas. Has built-in loop. 3-gang design eliminates heterodynes squeals and assures adequate selectivity. Has jack for connection to any TR-16 series system for added volume. May also be used for headphones. All A.C. construction.

Speaker is 6" Alnico #5PM dynamic. Amp. design utilizes inverse feedback circuit and beam powered output. Plywood cabinet covered in two-toned fabricoid. Metal grill protects speaker. Size 7 5/8" x 14 1/4" x 8". Weighs 13 1/4 lbs. Tubes (6) 2-6SK7, 1-6SA7, 1-6SQ7, 1-6V6GT, 1-6X5GT. LIST: \$69.50.



B-100

(All Models Subject to Excise Tax)

ALL MODELS U/L APPROVED

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## TRANSFORMERS

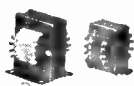
## INDUSTRIAL SOUND SYSTEM



**TR-91:** A distinct contribution to high quality P.A. systems. Features sextuple alloy and copper shielding for quiet operation right in amp. proper; alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles; plug base for easy installation without tools in any H or K series Newcomb amp. For use between 30-50 or 200-250 ohm mikes and grid. Shipping weight, 1 1/4 lbs. LIST: \$27.50.

**TR-92:** Input impedance 2,500 ohms to grid for bridging a 500-600 ohm line. Alloy shielded for minimum hum. When plugged into the socket provided on K50B, H50B, H25B, it converts these amps for use as bridging amps. Shipping weight, 1 1/4 lbs. LIST: \$25.00.

**TR-100:** Identical to TR-91 but designed for use between 125-150 or 500-600 ohm microphone and grid. LIST: \$27.50.



LS-4 LS-5

**LS-2:** (not shown) High Power Impedance matching auto-transformer having 28 impedance from 580 ohms to 1.21 ohms. Capacity 100 watts. Shipping weight, 5 1/4 lbs. LIST: \$22.50.

**LS-4:** Multi-winding general purpose transformer. Range of impedance from 3,000 to 18,000 ohms in steps of 1,500 ohms. Capacity 8 watts. LIST: \$10.00.

**LS-5:** Transformer: Similar to LS-4 with range of impedances from 500 to 3,000 ohms in steps of 250 ohms. Capacity 20 watts. LIST: \$12.50.



TC

**TC:** Weatherproof housing for use with all three transformers. Box size: 3 1/4" x 4" x 5 3/4". LIST: \$7.50.



RC-2 RC-3

### REMOTE CONTROL UNITS

Permit mixing and fading from a remote point all "H" Series microphone inputs. On "K" Series, all microphone inputs PLUS phonograph may be controlled. Up to 2000 ft. cable may be used. No inductive pickup.

**RC-2** for H-15 amp. Requires ordinary 3 wire cable. Dimensions: 2 3/4" x 6" x 2 1/8". Shipping weight: 1 lb. LIST: \$10.50.



RC-4



RC-6

**RC-3** for H-25 or H-4 amplifiers. Requires ordinary 4 wire cable. Dimensions: 2 3/4" x 6" x 2 1/8". Shipping weight: 1 lb. LIST: \$15.50.

**RC-4** for H-50 amp. Requires ordinary 5 wire cable. Dimensions: 2 3/4" x 7 5/8" x 2 1/8". Shipping weight: 1 1/4 lbs. LIST: \$19.50.

**RC-6** for KX-25, KX-50, KX-6A amplifiers. Requires ordinary 7 wire cable. Dimensions: 2 3/4" x 11 1/4" x 2 1/8". Shipping weight: 2 lbs. LIST: \$27.50.



### LP-1 SCRATCH FILTER

For improved record response. Simple to install in commercial or professional systems or home phonographs. Wired between a crystal pickup and an amplifier, it greatly improves the response of the pickup and provides a remarkably effective control of needle scratch. Unlike other methods the

LP-1 retains excellent brilliance of response. Four steps of adjustment provide adequate control for all records, regardless of quality. LIST: \$30.00.



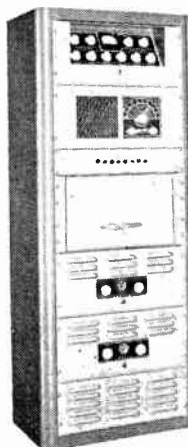
### MA-1 MAGNETIC PICKUP ADAPTER

MA-1 provides an inexpensive means of connecting variable reluctance pickups such as the new G.E., to any mike input. Added feature is an effective scratch filter which cuts in or out with switch. Initial wiring is for G.E. Pickup. Simple jumper change quickly

adapts the MA-1 for others such as Pickering, Lear, Astatic, etc. Size: 3" x 3 1/4" x 1 1/4". Shipping weight: 1 lb. LIST: \$6.50.

**MODEL 4151C:** Designed to furnish phonograph, A.M. Radio, or Wired Music, plus paging facilities to 6 selected areas. A 50 watt amplifier supplies ample power for the majority of applications. Operating controls include a monitor key, monitor volume control, an "all" key, and a program selector. Provides inputs for two microphones. Construction is by individual panels permitting future modifications to fit changing needs. Phono is enclosed in a ball bearing slide drawer. Radio is a dependable, full A.C., A.M. Radio. For detailed amplifier specifications refer to Model E-50. Special sockets permit use of plug-in type input transformers for low impedance mike input and balanced line wired music input when desired. Includes a monitor speaker wired to permit checking of program before connecting to various areas. Amplifier plate supply is relay operated.

LIST: (with tubes and plugs) \$950.00. (Subject to Excise Tax.)



### RACK AND PANEL ASSEMBLIES

To assist engineers in assembling sound units, for the varied applications of industry, schools, churches, fairs, stadiums, etc., Newcomb offers the basic elements for custom cabinet rack systems. Designed for flexibility, the rack assemblies enable the engineer to install public address equipment of the highest quality, tailored to each customer's exact needs. Any standard Newcomb amplifier may be obtained panel mounted on special order in 19" x 8 3/4" panels, thus giving the custom designer a wide choice of equipment to meet any need.

**MODEL 595-19 CABINET:** (Illustrated) Supplies a demand for a beautifully finished housing that is fully in keeping with the Newcomb tradition and reputation for quality. Panel space is 56". Design accepts standard 19" wide panels. Mounting holes are RMA standard 1 1/4" and 1/2" spacings. Panel mounting holes are tapped in 1/8" stock. Fully ventilated rear door provides easy accessibility. Entire cabinet is a complete welded assembly ready for use as you receive it. Finish is dark grey hammertone. Provision is made in the rear for nine 1/2" conduits. Included is a removable terminal strip mounting plate located near conduit inlets. Overall dimensions: 59 1/2" x 23" wide x 16" deep. Shipping weight: 92 lbs. LIST: \$189.50.

**MODEL 385-19 CABINET:** Identical to model illustrated except that it provides 35" of panel space for standard 19" panels. Mounting holes are standard RMA, 1 1/4" and 1/2" spacings. Overall dimensions: 38 1/2" x 23" wide x 16" deep. Shipping weight: 72 lbs. LIST: \$149.50.

In addition to the panel mounted amplifiers Newcomb also provides a wide selection of other equipment designed for custom rack installations.

**MODEL 1050-C PHONOGRAPH CHANGER PANEL** is a practical solution to mounting a phono changer in cabinet 595-19. Ball bearing drawer with wood motor board is adaptable for mounting most popular changers. Panel size 19" x 10 1/2". All panels are finished in silver-grey hammertone baked enamel. **MODEL E2-525 PRE-AMPLIFIER** answers the need for a simple, dependable but economical pre-amp for rack use. **MODEL TB2-525 INTERCOM AMPLIFIER** has built-in power supply, speaker, talk-listen switch and separate talk and listen volume controls. **MODEL B-100-875 AM RADIO** is the Newcomb B-100 radio mounted on an 8 3/4" panel. (See listing page B-35.) **MODEL 700-MP MONITOR** is available for installation of any 6" speaker. **LEVER KEY PANELS** are provided for use with CRL keys, 3 1/2" deep with slots for 6, 8, 10 or 12 keys. **LOUVERED PANELS** for additional ventilation and **BLANK PANELS** are made in assorted sizes. A self-powered **TONE GENERATOR** can be furnished on special order on panel 3 1/2" deep. **SPECIAL PANELS** are made to order to fit special equipment. Templates or suitable drawings must accompany order for any special sheet metal work. Full details of Newcomb rack and panel equipment available on request.

(All Newcomb specifications and prices subject to change without notice)

Newcomb

AUDIO PRODUCTS COMPANY

6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA



# Bogen SOUND EQUIPMENT

## MODEL HX50 50 WATTS

### SPECIFICATIONS

POWER OUTPUT: 50 watts at less than 3%.  
PEAK POWER: 90 watts.  
FREQUENCY RESPONSE: 20-20,000 cycles  $\pm 2$  db.  
TONE CORRECTOR RANGE: bass control:  
—30 to +20 db at 100 cycles; treble control:  
—14 to +21 db at 10,000 cycles.  
HUM: Fund.: —65 db. Mic.: —58 db.  
OUTPUT IMPEDANCE: 4-8-15 ohm and 2 constant voltage taps (70 and 140 V).  
POWER CONSUMPTION: 240 watts, 117 V, 50-60 cycles AC.  
TUBES: Total 12: 5-65C7, 2-6SL7, 1-6SN7, 1-5R4GY, 2-807, 1-5Y3.  
DIMENSIONS: 17" long, 9" high, 14" deep.



Model HX50

**HX50 HIGH IMPEDANCE AMPLIFIER:**  
Complete with tubes.  
List Price ..... \$279.40

**HXL50 LOW IMPEDANCE AMPLIFIER:**  
Same as HX50 but first microphone input is low impedance 200 ohms. (50 or 500 ohms available if specified.)  
List Price ..... \$304.15

**HX30 HIGH IMPEDANCE AMPLIFIER:**  
Similar to HX50 but 30 watts output.  
List Price ..... \$219.45

## MODEL H30 30 WATTS

### SPECIFICATIONS

POWER OUTPUT: 30 watts at less than 5%.  
PEAK POWER: 40 watts.  
FREQUENCY RESPONSE: 30-12,000 cycles,  $\pm 2.5$  db.  
GAIN: Microphone: 119 db. Phono: 77 db.  
HUM: Fund.: —68 db. Mic.: —60 db.  
OUTPUT IMPEDANCE: 4-8-16 ohms and 70V-TAP (167 ohms.)  
POWER CONSUMPTION: 140 watts, 117 V, 50-60 cycles AC.  
TUBES: Total 7: 3-6SF5, 1-6SL7, 2-6L6G, 1-5U4G.  
DIMENSIONS: 15½" long, 11" deep, 7½" high.

TWO MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL —  
SIX POSITION MULTI-RANGE TONE CORRECTOR  
LOW NOISE LEVEL — UNDERWRITERS' LABORATORIES  
APPROVED

**H30 HIGH IMPEDANCE AMPLIFIER:**  
Complete with tubes.  
List Price ..... \$132.83

**HL30 LOW IMPEDANCE AMPLIFIER:**  
Same as H30 but first microphone input is low impedance, 200 ohms. (50 or 500 ohms available if specified.)  
List Price ..... \$157.58

**H15 HIGH IMPEDANCE AMPLIFIER:**  
Similar to H30 but 15 watts output.  
List Price ..... \$114.13



Model H30

## MODEL H623 23 WATT MOBILE SYSTEM

### SPECIFICATIONS

POWER OUTPUT: AC: 23 watts at 5%.  
DC: 20 watts at 5%.  
PEAK POWER: 30 watts.  
FREQUENCY RESPONSE: 30-14,000 cycles  $\pm 2.5$  db.  
GAIN: Microphone channel: 116 db. Phono channel: 73 db.  
HUM: AC: Fund.: —74 db.; Mic.: —60 db.  
DC: Fund.: —75 db.; Mic.: —62 db.  
OUTPUT IMPEDANCE: 4-8-15 ohms and 70 V.  
POWER CONSUMPTION: 115 watts, 117 V. AC; 14 amp, 6 V DC.  
TUBES: Total 6: 2-6SF5, 1-6SL7G, 2-6L6G, 1-7Z4.  
DIMENSIONS: 15¼" long, 10⅞" deep, 10⅞" high.

UNIVERSAL OPERATION 6 VOLT DC OR 110 VOLT AC  
ONE MICROPHONE CHANNEL — ONE PHONOGRAPH CHANNEL  
SIX POSITION TONE CORRECTOR  
BUILT-IN PHONOGRAPH — UNDERWRITERS' LABORATORIES  
APPROVED

**H623 AMPLIFIER:** Complete with phono and tubes.  
List Price ..... \$204.88

**H623TJ OUTDOOR SYSTEM:** Includes: H623 amplifier with tubes; 1 Jensen VH20 projector unit, 1 Bogen-Shure 710 crystal microphone with stand adapter, 7' cable and plug.  
List Price ..... \$291.83

**H623TU OUTDOOR SYSTEM:** Same as H623TJ substituting Bogen-University PH trumpet with MA25 unit.  
List Price ..... \$269.83



Model H623

## MODEL HE10 10 WATTS

### SPECIFICATIONS

POWER OUTPUT: 10 watts at 4%.  
PEAK POWER: 15 watts.  
FREQUENCY RESPONSE: 60-10,000 cycles,  $\pm 1.5$  db.  
GAIN: Mic. channel: 117 db. Phono channel: 66 db.  
HUM: Fund.: —66 db. Mic.: —59 db.  
OUTPUT IMPEDANCE: 4-8-15-500 ohms.  
POWER CONSUMPTION: 70 watts, 117 V, 50-60 cycles AC.  
TUBES: Total 5: 1-6SJ7, 1-6SL7, 2-6V6, 1-5Y3GT.  
DIMENSIONS: 7" deep, 11" wide, 7¼" high.

ONE MICROPHONE CHANNEL — ONE PHONOGRAPH CHANNEL  
SIX POSITION MULTI-RANGE TONE CORRECTOR — PUSH-PULL OUTPUT  
FIVE TUBE, HIGH GAIN CIRCUIT — LOW NOISE LEVEL  
UNDERWRITERS' LABORATORIES APPROVED



Model HE10

**HE10 HIGH IMPEDANCE AMPLIFIER:**  
List Price ..... \$71.23

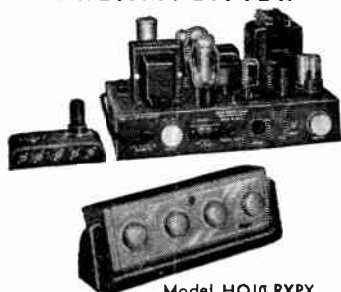
**HEL10 LOW IMPEDANCE AMPLIFIER:**  
Complete with tubes.  
Same as HE10 but microphone input is low impedance, 200 ohms. 50 or 500 ohms available on transformer.  
List Price ..... \$95.98

FOR FURTHER INFORMATION ON AMPLIFIERS AND COMPLETE BOGEN SYSTEMS ASK FOR THE LATEST BOGEN CATALOG  
PRICES IN ZONE 2 ARE APPROXIMATELY 5% HIGHER \* ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DAVID BOGEN CO., INC., NEW YORK 14, N. Y.

# Bogen HIGH FIDELITY EQUIPMENT

## MODEL HO10 10 WATT POWER AMPLIFIER and MODEL RXPX REMOTE CONTROLLER- PREAMPLIFIER



Model HO10-RXPX

**THE BOGEN BATON—THE VERY FINEST IN HIGH FIDELITY**  
YOU lead the orchestra right from your armchair with this magnificent new equipment—a combination of all triode 10-watt power amplifier and brilliantly executed remote controller. HO10-RXPX reproduces broadcast or recorded music with less than three-tenths of one percent distortion, provides complete remote control of power, function selection, volume, turnover frequency and bass and treble tones (separately). Preamplifier section has inputs for AM, FM, TV and all popular phono cartridges. Remote control cabinet complements every decor. Underwriters' Laboratories Approved.

### SPECIFICATIONS

**POWER OUTPUT:** 10 watts at three-tenths percent distortion; Peak 25 watts.  
**FREQUENCY RESPONSE (at 10 Watts):**  
HO10 only: 10 to 20,000 cps  $\pm$  .2 db.  
10 to 50,000 cps  $\pm$  1.8 db.  
HO10 with RXPX: 10 to 20,000 cps  $\pm$  1.5 db.  
10 to 50,000 cps  $\pm$  2.5 db.  
**GAIN:** HO10 only: 75 db; Tuner input to RXPX: HO10: 80 db.; G.E. Cartridge input to RXPX: HO10: 101 db.  
**HUM:** HO10 with RXPX: Fund.: -70 db. Max.: -60 db.  
**OUTPUT IMPEDANCE:** 12 ohms (may be used with 8 to 16 ohm loads with no perceptible increase in distortion).  
**INPUTS:** G.E. Phono; Pickering Phono; Tuner: 500,000 ohms.  
**TOPE CONTROL ACTION:** (With RXPX): Bass: +19 to -20 db. at 100 cps. Treble: +14 to -16 db. at 10,000 cps.  
**DAMPING FACTOR:** Exceeds 20.  
**POWER CONSUMPTION:** 150 watts at 117 volts, 60 cps.  
**TUBES:** HO10: 1-6SL7GT, 2-6SQ7, 1-6SN7GT, 2-6B4G, 1-6X5GT, 1-5V4G. RX: 1-12AX7, PX: 1-6SC7.  
**DIMENSIONS:** HO10: 15" w. x 10" d. x 8" h. RX: 12 3/4" w. x 3 3/4" d. x 4 1/2" h. PX: 6" w. x 3 1/2" d. x 3 3/4" h.  
**WEIGHT:** HO10: 25 lbs. RXPX: 3 lbs.  
HO10—Power Amplifier and tubes. List Price \$159.50  
RXPX—Remote Controller and Preamplifier. List Price \$ 90.75  
EXT-20—20 ft. extension cable for RXPX. List Price \$ 16.50

## MODEL PX15 15 WATT PHONO AMPLIFIER

### SPECIFICATIONS

**POWER OUTPUT:** 15 watts at less than 2% distortion. PEAK POWER: 30 watts.  
**FREQUENCY RESPONSE:** 30-20,000 cycles  $\pm$  1 1/2 db.  
**TOPE CORRECTOR RANGE:** Bas: control: -23 db. to +20 db. at 60 cps. Treble control: -20 db. to +20 db. at 10,000 cps.  
**GAIN:** Magnetic: 106 db.; Crystal: 78 db.  
**HUM:** -75 db (referred to rated output).  
**OUTPUT IMPEDANCE:** 4-8-16-500 ohms.  
**POWER CONSUMPTION:** 117 V, 50-60 cycles, 105 watts.  
**TUBES:** Total 6: 1-12SJ7, 1-12AU7, 1-6SL7, 2-6L6G, 1-5Y3GT.  
**DIMENSIONS:** 15" x 8" x 9 1/4".

### A SUPERB AMPLIFIER FOR THE MOST CRITICAL LISTENER

New rangemaster control corrects for various conditions of record noise. Built-in preamplifier for G.E., Pickering, Astatic and similar magnetic pickups. Preamplifiers and voltage amplifier tubes use D.C. heated filaments for minimum hum. Dual tone controls provide bass boost and attenuation, treble boost and attenuation. Fifteen watts output at less than 2%. Provision for simple external switching of pickup and tuner removing preamplifier load when tuner is in the circuit. Underwriters' Laboratories approved.

PX15 AMPLIFIER and tubes (less cage). List Price \$160.33  
EXT-5 4 ft. control extension kit for PX15, to facilitate cabinet installations. List Price \$23.38  
CAG15—Cage for PX15. List Price \$7.26



Model PX15

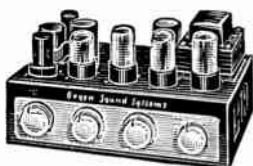
## MODEL DB10 10 WATT PHONO AMPLIFIER

### SPECIFICATIONS

**POWER OUTPUT:** 10 watts at 3%.  
**PEAK POWER:** 15 watts.  
**FREQUENCY RESPONSE:** 30-18,000 cps  $\pm$  1 db.  
**GAIN:** Phono: 70 db.; with preamp. section: 92 db.  
**HUM:** -68 db. (referred to rated output).  
**OUTPUT IMPEDANCE:** 4, 8 and 15 ohms.  
**POWER CONSUMPTION:** 70 watts at 117 v, 60 cps.  
**TUBES:** 1-6SC7, 1-6SL7, 2-6V6GT, 1-5Y3GT.  
**DIMENSIONS:** 11" w. x 7" d. x 7 5/16" h. (with cage.)  
**WEIGHT:** 15 lbs.  
**TOPE CONTROL:** Bass: +19 to -20 db at 100 cps. Treble: +14 to -16 db at 10,000 cps.

### FOR TRUE HIGH FIDELITY AT MODERATE COST

Separate bass and treble controls. Built-in preamplifier for G.E., Pickering, Astatic and similar magnetic pickups. Provision for simple external switching of pickup and tuner, removing preamplifier load when tuner is in circuit. Extremely low hum and noise level. Underwriters' Laboratories Approved.



Model DB10

DB10 AMPLIFIER and tubes (less cage). List Price \$90.75  
EXT-4 4 ft. control extension kit for DB10, to facilitate cabinet installations. List Price \$19.25  
CAG8—Cage for DB10. List Price \$5.78

## MODEL PH10 10 WATT MULTI-RANGE PHONO AMPLIFIER

MODEL PH10 AMPLIFIER:  
Complete with tubes.  
List Price \$56.38

EXT-2 4 ft. control extension kit for PH10, to facilitate cabinet installations.  
List Price \$11.00

**MULTI-RANGE TONE SWITCH WITH FOUR LABORATORY SELECTED RESPONSE CURVES — VIRTUALLY HUMLESS PERFORMANCE IN ANY TONE POSITION — PUSH-PULL OUTPUT.**

**SPECIFICATIONS**  
**POWER OUTPUT:** 10 watts at 5%.  
**PEAK POWER:** 14 watts.  
**FREQUENCY RESPONSE:** (Full Range) 40-15,000 cps  $\pm$  1 db.  
**GAIN:** 72 db.  
**INPUT IMPEDANCE:** (1) 500,000 ohms.  
**OUTPUT IMPEDANCE:** 3.2 and 8 ohms.  
**HUM:** -80 db. (referred to rated output).  
**POWER CONSUMPTION:** 60 watts, 117 V, 60 cycles.  
**TUBES:** Total 4: 1-6SL7GT, 2-6V6GT, 1-5Y3GT.  
**DIMENSIONS:** 5" x 11" x 3" (overall height 6").



Model PH10

WRITE FOR DESCRIPTIVE HIGH FIDELITY FOLDER LISTING ADDITIONAL UNITS.  
PRICES IN ZONE 2 ARE APPROXIMATELY 5% HIGHER \* ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DAVID BOGEN CO., INC., NEW YORK 14, N. Y.

# Bogen CENTRALIZED SOUND SYSTEMS AND COMMUNO-PHONES

**BOGEN CENTRALIZED SCHOOL SOUND SYSTEMS:** The entirely new Bogen centralized school systems now make available to progressive educators an instructional tool for which they have long sought. Simple—yet versatile—the new systems provide for radio and record program transmission selectively to any or all classrooms. Skillful design, which embodies many exclusive features, enables the entire school body to participate in dramatic presentations, school debates and similar activities where the audience was previously limited to the seating capacity of the auditorium.

Bogen Centralized School Sound Systems are designed to meet every requirement of the modern educational institution, regardless of size. They comply fully with requirements of the U. S. Office of Education and the RTMA. Simplicity of operation enables the administrator to reduce confusion and thus to assure efficient, effective work in all departments. Versatility of the systems speeds learning, provides instant communication for fire drills and supplements the general routine.

Write for Complete Descriptive Catalog C10-51S.

**BOGEN CUSTOM DIVISION:** The Custom Division of the David Bogen Co. is maintained for the express purpose of offering engineering consultation on custom built requirements. This technical service covers initial design and layout of electrical specifications of any sound installation, large or small.

Although the David Bogen Co. manufactures the largest and most complete line of standard and De Luxe sound equipment, very often a customer's problem requires the design and construction of special equipment to meet particular requirements.

We invite you to submit your sound problems, technical inquiries, or requests for quotations on special equipment to our Custom Division. If no specifications are available for your particular problem, merely send a description and pencilled sketch of the intended installation to our Custom Division. Its Engineering Staff is equipped with the finest facilities in the country and they will be glad to aid you in the solution of your particular problem, without obligation.

## NEW BOGEN DELUXE COMMUNO-PHONE SYSTEMS

Two Versatile Models to Solve Every Intercommunication Problem

**MODEL "X"**—Completely universal. Will serve installations requiring single master and several remote stations—installations requiring several masters—or installations requiring several masters and several remotes. Hand-rubbed walnut finished cabinets; typewriter keyboard action; automatic busy signal; provision for plug-in of handset; 115 v. A.C.; U.L. Approved.

**MODEL "D"**—Serves installations requiring either a single master and several remote stations or several master stations only. Operates on voice coil lines. Will not serve installations requiring a combination of several masters and remotes. A.C.-D.C.; no busy signal; similar to Model "X" in other respects.

WRITE FOR LATEST BOGEN COMMUNO-PHONE CATALOG



MODEL 21X, 21D

## CHALLENGER SOUND EQUIPMENT

### 30 WATT AMPLIFIER

#### FEATURES

- Individual controls for two microphones, phonograph, selectone.
- Terminal strip and 2 speaker plug-in sockets for connection of speaker lines.
- Moulded bakelite sockets throughout.
- Inverse feedback for better response and regulation.
- Extractor type fuse. • Recessed carrying handles.
- Underwriters' Lab. Approved.

#### SPECIFICATIONS

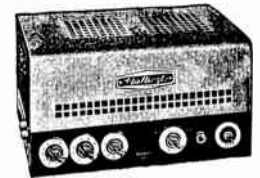
Power Output: 30 watts.  
Response: 30-12,000 c.p.s.  $\pm 2$  db.  
Gain: Mic. No. 1: 118 db.  
Mic. No. 2: 118 db.  
Phono: 85 db.  
Output Impedances: 4, 8, 15 ohms, 70 volts.  
Tubes: 2-6SC7, 1-6SL7GT, 2-6L6G, 1-5U4G.  
Tone Control: SelectTone.  
Dimensions: CC30: 15" W. x 10" D. x 8" High.



Model CH30X

**MODEL CH30X**—30 watt amplifier, tubes and built-in phono. top. List Price .....\$121.28

**MODEL CH30XP-1**—Complete portable system containing 1-CH30X amplifier with tubes; 2-12" Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1 BOGEN-Shure 710 Crystal Microphone with Stand Adapter, 7 ft. cable and plug. List Price.....\$198.00



Model CH30

**MODEL CH30**—30 watt amplifier, tubes and cage. List Price .....\$96.80

**MODEL CH30P-1**—Complete portable system containing 1-CH30 amplifier with tubes, cage; 2-12" Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1 BOGEN-Shure 710 Crystal Microphone with Stand Adapter, 7 ft. cable and plug. List Price.....\$170.50

#### SPECIFICATIONS

Power Output: 18 watts.  
Response: 30-12,000 c.p.s.  $\pm 2$  db.  
Gain: Mic.: 118 db. Phono: 78 db.  
Output Impedances: 4, 8, 15 ohms, 70 volts.  
Tone Control: SelectTone.  
Tubes: 2-6SF5, 1-6SL7GT, 2-6V6GT, 1-7Z4.  
Dimensions: 15" Wide x 10" Deep x 10" High.

### MODEL CH618 18 WATT UNIVERSAL MOBILE AMPLIFIER

For 115 Volt A.C. and 6 Volt D.C.

Features individual controls for microphone, phono, tone; inverse feedback for better response and regulation; constant voltage output for easy speaker matching. Built-in constant speed phonograph. Complete with tubes and cage. Underwriters' Lab. Approved.

List Price .....\$153.18

## CHALLENGER INTERCOM SYSTEMS



**CHALLENGER 200 SYSTEM**—Complete with 50 ft. of cable and plugs. List Price .....\$43.95

**CHALLENGER 200** is a complete system—a master, a remote station and 50 ft. of cable. Operates 117V. AC-DC. Dual-Duty volume control keeps remote "alive" or permits master to silence it. Excellent for nursery, restaurant, business use. Underwriters' Lab. Approved.

**CHALLENGER 600 Master** may be used in one of two systems: (1) A single master with up to five remote stations; (2) An all master system of six stations. Operates 117 V AC-DC. In sturdy beautiful polystyrene cabinet. Remote can initiate calls also. Underwriters' Lab. Approved.

**CHALLENGER 600 MASTER** with tubes. List Price .....\$39.05  
**CHALLENGER 60R REMOTE STATION.** List Price .....\$12.93



For complete listings of CHALLENGER Amplifiers, Systems and Intercoms, ask for latest CHALLENGER catalog.

PRICES APPROXIMATELY 5% HIGHER IN ZONE 2.

CHALLENGER AMPLIFIER CO., NEW YORK 14, N. Y.

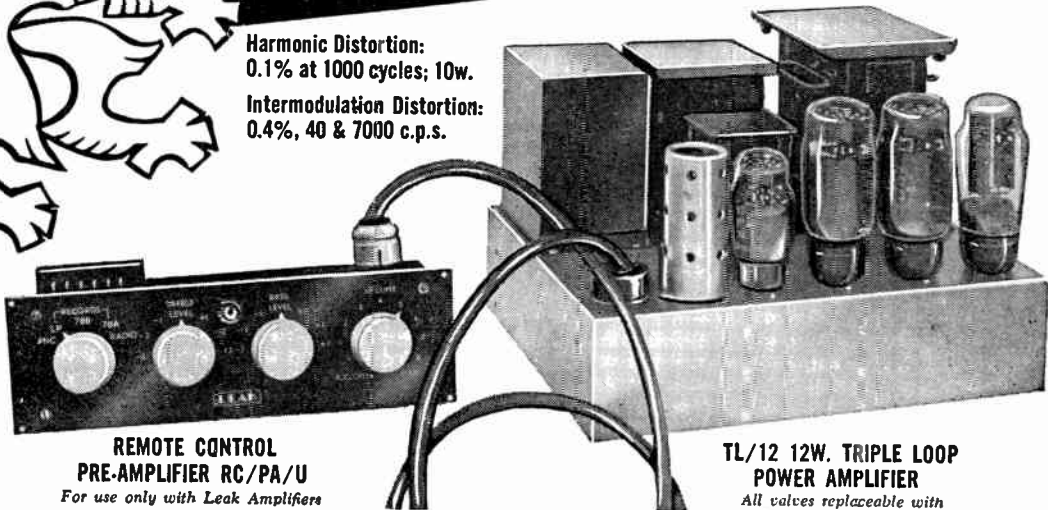


# LEAK "POINT ONE"

## Britain's Best AUDIO AMPLIFIER

Frequency Response  
20-20,000 cycles,  $\pm 0.1$  db.

Harmonic Distortion:  
0.1% at 1000 cycles; 10w.  
Intermodulation Distortion:  
0.4%, 40 & 7000 c.p.s.



**REMOTE CONTROL  
PRE-AMPLIFIER RC/PA/U**  
For use only with Leak Amplifiers

**TL/12 12W. TRIPLE LOOP  
POWER AMPLIFIER**  
All valves replaceable with  
Standard U.S. Tubes

A Leak two-stage feedback tone-control pre-amplifier of negligibly low distortion in which resonant circuits or resonant filters are not used. This pre-amplifier is a complete re-design, electronically, of the original RC/PA and of the modified version previously supplied to the U.S. market. The RC/PA/U will meet world conditions of use, and it embodies not only the best features of the previous models but every refinement suggested by users in Britain and the U.S., with additions considered desirable by ourselves.

Will operate from Audak, G. E. or Pickering Cartridges; from any moving coil microphone; from any radio unit.

Equalization circuit: Proper equalization positions for LP records, Foreign or American recordings of all speeds.

Switching for Pick-up, Microphone and FM-AM tuner, with automatic alterations of tone-control characteristics.

Controls: Input Selector; Bass Gain and Loss; Treble Gain and Loss; Volume with AC on-off switch to permit switching of remotely placed power amplifier.

Output Impedance: 0-30,000 ohms at 20 kc.p.s.

Panel light serves as a visual reminder.

Chassis: 10" x 3" x 2 3/4" high.

Front Panel: 10 3/4" x 3 1/4".

The Leak Amplifier offers exceptional performance and reliability in a manner acceptable both to the amateur enthusiast and the professional communications engineer seeking the highest available standard of sound reproduction. Incorporates a Leak 3 stage triple loop feedback circuit, the main loop giving 26 db. feedback and covering the complete amplifier from input to output terminals.

Push-pull triode output stage, 400 V. on Anodes. No H. V. electrolytic smoothing or decoupling condensers. Impregnated transformers; tropically finished components. H. V. and L. V. supplies for pre-amp. and radio units. **Distortion:** 1/10 of 1% at 1000 c.p.s. and 10 w. output; no significant increase at any other frequencies. **Hum and noise:** minus 80 db. on 10 w. **Frequency response:**  $\pm 0.1$  db. from 20 c.p.s. to 20,000 c.p.s. **Sensitivity:** 160 mV. **Damping factor:** 40, with negligible variation throughout power range. **Input impedance:** 1 meg. **Output impedances:** 2, 7-9, 15-20, and 28-36 ohms. **Stability margins:** Gain, 10 db.  $\pm 3$  db.; Phase,  $20^\circ \pm 10^\circ$ . **Dimensions:** 12 1/2" x 10" x 8 1/4" high.

The Leak triple Loop feedback circuit (the main loop giving 26 db. feedback over 3 stages and the output transformer) results in the following major advantage:

In the TL/12 amplifier the hum and noise levels fall within—80 db. and—72 db. relative to 10 watts. This amount of power, as hum and noise, is inaudible from the most efficient loudspeakers. Notice particularly that the feedback is taken from the low side of the output transformer. Many circuits show it as taken from the anode side, which will result in higher hum levels than without feedback.

In this amplifier, due to the magnitude of feedback, there can be no rise of voltage to cause "boom" in the loudspeaker at the frequency of bass resonance, and the capability of a loudspeaker to reproduce transients, especially low-frequency transients, is astonishingly improved.

### UNEXCELLED RADIO-PHONOGRAPH REPRODUCTION —

Used with the RC/PA/U pre-amplifier and complementary equipment, the TL/12 power amplifier offers music lovers reproduction that is unsurpassed by any equipment at any price.

### LABORATORY USE —

as a stabilized-gain audio-frequency power amplifier.

**ALSO AVAILABLE! TL/25 A — 25 WATT MODEL, A MODIFICATION OF THE TL/12.**

**DISTORTION APPROXIMATELY 0.25% AT 1000 CYCLES FOR 25W. OUTPUT.**

**GAIN AND FREQUENCY RESPONSE ARE APPROXIMATELY THE SAME AS THE TL/12.**

*12W and 25W Amplifier sold with or without pre-amplifier. Pre-amplifier is not sold separately.*

731 LEAK amplifiers are used by broadcasting authorities throughout the world, including:

The British Broadcasting Corporation • The South African Broadcasting Corporation  
Société Suisse Radiodiffusion • Radiotjänst Stockholm • Radio Italiana

**HIGHEST POSSIBLE QUALITY OF REPRODUCTION —**  
from Pickup, Radio, Film and Magnetic Tape.

**DISK RECORDING —**  
for highest possible standard.

**DRIVER AMPLIFIER —**  
in the speech modulator chain of broadcast transmitters. The TL/12 Amplifier is used by broadcasting companies throughout the world!

**BRITISH INDUSTRIES CORPORATION**

**NEW YORK 13, N. Y.**

MASCO manufactures complete deluxe and economy lines of amplifiers and sound systems ranging in power output from 8 to 125 watts, including phono-top, mobile and high fidelity amplifiers and magnetic tape recorders, transcription players, school systems, plant broadcasting and intercommunication systems. All MASCO amplifiers, many of which are shown as portable systems, are also recommended for use in FIXED SYSTEMS.

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

**AMPLIFIER FEATURES:** Microphone and phono input separately controlled • Bass-treble tone control • Hammertone-finish chassis • Light, compact and sturdy • U/L Approved.

**APPLICATIONS FOR AMPLIFIER AND SYSTEM:** Both units are ideal for paging systems for bus and railroad stations and they are recommended for side shows, auction rooms, sales meetings, small taverns and clubs.



**AMPLIFIER SPECIFICATIONS  
MODEL MA-8N**

POWER OUTPUT.....8 Watts, Class A, at less than 5% distortion  
 PEAK POWER.....13 Watts  
 INPUTS.....Two: 1-microphone, and 1-phono  
 FREQUENCY RESPONSE.....± 2 DB 50 to 10,000 CPS  
 POWER GAIN.....Microphone, 128.5 DB; Phono, 75 DB  
 CONTROLS.....Three: Microphone, Phono, Tone (On-Off Switch)  
 TUBES.....1-6SF5, 1-6S37, 1-6L6G, 1-5Y3GT (Rectifier)  
 OUTPUT IMPEDANCES.....3.2, 8 and 500 Ohms  
 HUM LEVEL.....60 DB below output level of 8 Watts  
 POWER CONSUMPTION.....75 Watts at 117 Volts  
 VOLTAGE.....105-125 Volts, 60 CPS  
 DIMENSIONS.....10" x 6" x 7 1/2" high

MA-8N Amplifier (less cover, with Tubes)..\$65.00  
 Shipping Weight: 14 lbs.

Cover for MA-8N..... 12.00  
 Kit of Matched Plugs and Connectors..... 1.73

MAS-8N Portable System..... 132.50  
 Shipping Weight: 30 lbs.

Consists of: 1—MA-8N Amplifier with Cover with tubes

- 1—10" PM Speaker
- 1—25-ft. Speaker Cable and Plug
- 1—Model 303 Portable Carrying Case (Attractive Luggage Style)
- 1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors

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

**AMPLIFIER FEATURES:** Two microphone inputs • One phono input • Individual volume controls • Separate bass and treble controls • Tapped line and voice-coil impedances • U/L Approved.

**APPLICATIONS FOR AMPLIFIER AND SYSTEM:** They are suitable for small orchestras, lecturers, ballyhoo, store demonstrations, night clubs and ballrooms.

**AMPLIFIER SPECIFICATIONS • MODEL MA-17N**

POWER OUTPUT.....17 Watts, Class A, at less than 5% distortion  
 PEAK OUTPUT.....26 Watts  
 INPUTS.....Three: 2-microphone, 1-phono  
 FREQUENCY RESPONSE.....± 2 DB 50 to 12,000 CPS  
 POWER GAIN.....Microphone, 132 DB; Phono, 78 DB  
 CONTROLS.....Five: 2-microphone, Phono, Bass, Treble, Separate Power On-Off Switch  
 TUBES.....1-6SC7, 1-6S37, 1-6SL7GT, 2-6L6G, 1-5V4G (Rectifier)  
 OUTPUT IMPEDANCES.....4, 8, 15, 125, 250, 500 Ohms  
 HUM LEVEL.....62 DB below output level of 17 Watts  
 POWER CONSUMPTION.....125 Watts at 117 Volts  
 VOLTAGE.....105-125 Volts, 60 CPS  
 Has tapped primary to compensate for line voltage fluctuations.  
 DIMENSIONS.....13" x 8" x 8 3/8" high



**MA-17PN 17-WATT PHONO TOP AMPLIFIER and MAS-17PN 17-WATT PHONO TOP PORTABLE SYSTEM**

**APPLICATIONS FOR AMPLIFIER AND SYSTEM:** For recorded music, alone or combined with voice • Plays 12" and smaller records • Widely preferred as record demonstrators.

**AMPLIFIER SPECIFICATIONS  
MODEL MA-17PN**

Same as MA-17N (Described on this page) but includes phono-top.  
 Chassis size: 14" x 11" x 8 3/8".

**PRICES** **List Price**  
 \*MA-17PN Amplifier with tubes, with single-speed motor.....\$150.00  
 Kit of Plugs and Connectors..... 1.73



**PRICE** **List Price**  
 \*MAS-17PN Portable System \$245.00  
 Shipping Weight: 56 lbs.

- Consists of:
- 1—MA-17PN Amplifier with tubes
  - 2—12" PM Speakers
  - 2—25-ft. Speaker Cables and Plugs
  - 1—Model 305 Portable Carrying Case (attractive luggage style)
  - 1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors

\*MA-17PN with three-speed motor and all purpose pickup with "Turn-Over" cartridge, add to List Price \$10.00.

**PRICES** **List Price**  
 MA-17N Amplifier with Tubes..... \$110.00  
 Shipping Weight: 20 lbs.  
 Kit of Matched Plugs and Connectors..... 2.65  
 MAS-17N Portable Systems..... 205.00  
 Shipping Weight: 45 lbs.  
 Consists of: 1—MA-17N Amplifier with Tubes  
 2—12" PM Speakers  
 2—25-ft. Speaker Cables and Plugs  
 1—Model 304 Portable Carrying Case (attractive luggage style)  
 1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors

To secure a LOW-IMPEDANCE INPUT for amplifiers,  
see PAGE B-20

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

Specifications and prices subject to change without notice.

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**MASCO ELECTRONIC SALES CORP.**

**LONG ISLAND CITY 3, N. Y.**

# SOUND MASCO EQUIPMENT

TYPICAL PORTABLE SYSTEM ILLUSTRATED →

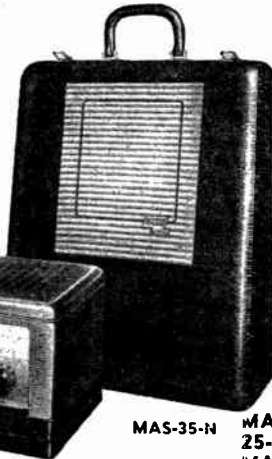
MAS-25N and MAS-25PN Systems incorporate carrying case as illustrated.



MAS-25N MAS-25NR



MAS-35-N



MAS-35-N



MA-25PN

**MA-25PN 25-Watt Phono Top Amplifier and MAS-25PN 25-Watt Phono Tap Portable System**  
Application for Amplifier and System for recorded music alone, or combined with voice. Plays 12" and smaller records. Widely preferred as record demonstrators  
**AMPLIFIER SPECIFICATIONS**  
**MODEL MA-25PN**

Same as MA-25N Amplifier (described on this page) but includes phono top. Chassis size for MA-25PN: 14" x 11" x 8 3/8" high.

**PRICES** List Price  
\*MA-25PN Amplifier with tubes, with single speed motor .....\$172.50  
Shipping Weight: 32 lbs.  
Kit of Matched Plugs and Connectors..... 2.27  
\*MAS-25PN Portable System..... 275.00  
Shipping Weight: 61 lbs.

Consists of:  
1—MA-25PN Amplifier with tubes  
2—12" PM Speakers  
2—25-ft. Speaker Cables and Plugs  
1—Model 305 Portable Carrying Case (Attractive Luggage Style)  
1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors  
\*MA-25PN with three-speed motor and all-purpose pickup with "Turn-Over" cartridge, add to List Price \$10.00.

MA-35RN



**MA-35RN 35 Watt Amplifier featuring the Webster Model 100 Three-speed Record Changer Top**  
Amplifier specifications same as MA-35N (except for record changer mechanism). Chassis size: 15" x 15" x 10 1/2" high.

**PRICES** List Price  
MA-35RN Amplifier with tubes, with Webster Model 100, 3 speed record changer top \$280.00  
Shipping Weight: 52 lbs.  
Kit of Matched Plugs and Connectors..... 2.27

**MA-25N 25-Watt Amplifier and MAS-25N 25-Watt Portable System**

**AMPLIFIER FEATURES:** Four inputs • Four-channel electronic mixing • Separate bass and treble controls • Tapped line and voice-coil impedances • Full 25 watts of undistorted output • Over-all negative feedback • U/L Approved.

**APPLICATIONS FOR AMPLIFIER AND SYSTEM:**

They are ideal for the larger auditoriums, churches, night clubs, orchestras, indoor sports arenas, and also for outdoor use at fairs, bazaars, children's camps, and similar locations.

**AMPLIFIER SPECIFICATIONS MODEL MA-25N**

POWER OUTPUT.....25 Watts, Class AB-1, at less than 5% distortion  
PEAK POWER.....40 Watts  
INPUTS.....Four: 3-microphone, 1-phono  
FREQUENCY RESPONSE.....± 2 DB 50 to 15,000 CPS  
POWER GAIN.....Microphone, 133.5 DB; Phono, 79 DB  
CONTROLS.....Six: 3-microphone, Phono, Bass, Treble, Separate Power On-Off Switch  
TUBES.....4-6J7, 2-6SC7, 2-6L6G, 1-5V4G (Rectifier)  
OUTPUT IMPEDANCES.....4, 8, 15, 125, 250, 500 Ohms  
HUM LEVEL.....64 DB below output level of 25 Watts  
POWER CONSUMPTION.....145 Watts at 117 Volts  
VOLTAGE.....105-125 Volts, 60 CPS  
Has tapped primary to compensate for line voltage fluctuations.  
DIMENSIONS.....15" x 8 1/2" x 8 3/8" high

**PRICES** List Price  
MA-25N Amplifier with tubes.....\$145.00  
Shipping Weight: 30 lbs.  
Kit of Matched Plugs and Connectors..... 3.24  
MAS-25N Portable System..... 240.00  
Shipping Weight: 60 lbs.

Consists of:  
1—MA-25N Amplifier with tubes  
2—12" PM Speakers  
2—25-ft. Speaker Cables and Plugs  
1—Model 305 Portable Carrying Case (Attractive Luggage Style)  
1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors

**MA-25NR 25-Watt Remote-Control Amplifier**

The Model MA-25NR Remote-Control Amplifier follows closely all specifications for the Model MA-25N, but has, in addition, a built-in circuit for remote control of two of the microphone channels when used with the Model RCB Remote-Control Box.

**PRICES** List Price  
MA-25NR Remote-Control Amplifier with tubes.....\$177.50  
Kit of Matched Plugs and Connectors for MA-25NR ..... 3.24

**MA-35N 35-Watt Amplifier and MAS-35N 35-Watt Portable System**

**AMPLIFIER FEATURES:** Four inputs • Three microphone and one phono input, each separately controlled • Electronic mixing over-all • Individual bass and treble equalizers • Tapped output impedances of 4, 8, 15, 125, 250, and 500 ohms • U/L Approved.

**APPLICATIONS FOR AMPLIFIER AND SYSTEM:**

They are suitable for use at beaches and fairs, for paging and announcing at airports and terminals and the like, and equally ideal for orchestras, theatres and carnivals.

**AMPLIFIER SPECIFICATIONS MODEL MA-35N**

POWER OUTPUT.....35 Watts, Class AB-2, at less than 5% distortion  
PEAK POWER.....50 Watts  
INPUTS.....Four: 3-microphone, 1-phono  
FREQUENCY RESPONSE.....± 2 DB 50 to 15,000 CPS  
POWER GAIN.....Microphone, 135 DB; Phono, 80.5 DB  
CONTROLS.....Six: 3-microphone, Phono, Bass, Treble, Separate Power On-Off Switch  
TUBES.....1-6SC7, 3-6J7, 3-6SN7GT, 2-6L6G, 1-5U4G, 1-6X5GT (Rectifiers)  
OUTPUT IMPEDANCES.....4, 8, 15, 125, 250, 500 Ohms  
HUM LEVEL.....65 DB below output level of 35 Watts  
POWER CONSUMPTION.....190 Watts at 117 Volts  
VOLTAGE.....105-125 Volts, 60 CPS  
Has tapped primary to compensate for line voltage fluctuations.  
DIMENSIONS.....15" x 9 1/2" x 8 3/8" high

**PRICES** List Price  
MA-35N Amplifier with tubes.....\$180.00  
Shipping Weight: 32 lbs.  
Kit of Matched Plugs and Connectors..... 3.24  
MAS-35N Portable System..... 298.75  
Shipping Weight: 63 lbs.

Consists of:  
1—MA-35N Amplifier with tubes  
2—EXTRA-HEAVY-DUTY 12" PM Speakers  
2—25-ft. Speaker Cables and Plugs  
1—Model 305 Portable Carrying Case (Attractive Luggage Style)  
1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors



To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-20

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES  
Specifications and prices subject to change without notice.



WRITE TO FACTORY FOR COMPLETE CATALOG

**MASCO ELECTRONIC SALES CORP. • LONG ISLAND CITY 3, N. Y.**

# SOUND MASCO EQUIPMENT

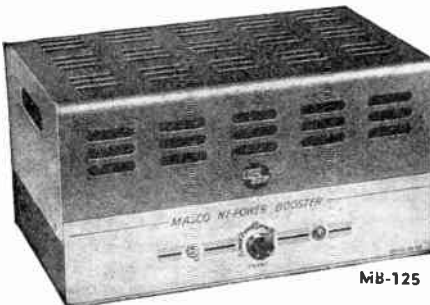
**HIGH-POWERED AMPLIFIERS FOR CIVIL DEFENSE, MILITARY, INDUSTRIAL AND INSTITUTIONAL USE**  
**NEW HI-POWER**



**MA-125**

**PRICES**  
**MA-125** Amplifier with tubes, with cover...\$312.50  
**MA-125P** Amplifier, with tubes, with 10 1/2" x 19" high panel, less cover..... 324.00  
 Shipping Weight: 61 lbs.

**List Price**



**MB-125**

**PRICES**  
**MB-125** Booster Amplifier, with tubes, with cover.....\$237.50  
**MB-125P** Booster Amplifier, with tubes, with 10 1/2" x 19" panel, less cover.... 249.00  
 Shipping Weight: 61 lbs.

**List Price**

**125 WATT AMPLIFIER**

**125 WATT BOOSTER AMPLIFIER**

**FEATURES 125 WATT AMPLIFIER:** 3 Microphone, 1 Phono Inputs individually controlled • Separate bass and treble controls • Oil-filled filters • Safety automatic interlock switch • Optional built-in press-to-talk relay for stand-by operation • Available for rack mounting • Two-tone gray hammertone finish • U/L approved.

**FEATURES 125 WATT BOOSTER AMPLIFIER:** Constant voltage outputs • Master gain control • Automatic safety interlock switch • Oil-filled filters • Fully fused • Optional built-in press-to-talk relay for stand-by operation • Optional low impedance (zero level) input • Available for rack mounting • Two-tone gray hammertone finish • U/L approved.

**AMPLIFIER SPECIFICATIONS FOR MA-125, MA-125P, AND MB-125, MB-125P**

POWER OUTPUT (ALL MODELS).....	125 watts at less than 5% distortion
PEAK POWER.....	175 watts
INPUTS: (MA-125, MA-125P).....	Four: 3 microphone, 1 phono
(MB-125, MB-125P).....	High impedance 0.5 megohm or 500 ohm balanced line (special order)
INPUT SENSITIVITY: (MA-125, MA-125P).....	Microphone .006 v., Phono. 0.3 v.
(MB-125, MB-125P).....	High impedance—3.5 volts; 500 ohms—zero level for full output
FREQUENCY RESPONSE (ALL MODELS).....	.20 to 20,000 cps ± 2 db.
CONTROLS: (MA-125, MA-125P).....	Six: 3 Microphone, Phono, Bass, Treble.
(MB-125, MB-125P).....	Separate Master Power Switch, Automatic Interlock Switch (MA-125), Master Gain, Master Power Switch, Automatic Interlock Switch (MB-125)
TUBES: (MA-125, MA-125P).....	3-6SJ7, 2-6SL7GT, 3-6SN7GT, 2-807, 1-5R4GY, 1-5Y3GT (Rectifiers)
(MB-125, MB-125P).....	1-6SL7GT, 3-6SN7GT, 2-807, 1-5R4GY, 1-5Y3GT (Rectifiers)
OUTPUT IMPEDANCES (ALL MODELS).....	70 ohms; 70 volts (40 ohms), 140 volts (200 ohms) constant voltage taps. High impedance Output on MA-125 for MB-125 Booster
HUM LEVEL: (MA-125, MA-125P).....	.60 db below full output
(MB-125, MB-125P).....	.70 db below full output
POWER CONSUMPTION (ALL MODELS).....	350 watts, 117 volts, 50-60 cycles
DIMENSIONS: (MA-125, MB-125).....	17" x 13" x 9" high
(MA-125P, MB-125P).....	Chassis 17" x 13", Panel 10 1/2" x 19"

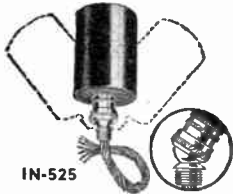
**OPTIONAL EQUIPMENT**

**PRESS-TO-TALK RELAY** for standby operation may be had in any of the above models. Specify when ordering and add to list price.....\$23.75

**TRANSFORMER FOR CONVERSION TO LOW IMPEDANCE INPUT, MODEL IN-3**—500 ohm balanced input for Models MB-125 and MB-125P. Specify when ordering. Factory installed 17.50

**TRANSFORMER FOR CONVERSION TO LOW IMPEDANCE INPUT, MODEL IN-525**, low impedance microphone input transformer for Models MA-125 and MA-125P. Factory installed, per input (specify impedance when ordering)..... 31.25

**IN-525 • LOW-IMPEDANCE TRANSFORMER CONVERSION TO LOW-IMPEDANCE INPUT**



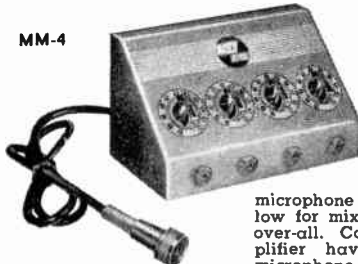
**IN-525**

MASCO Amplifiers may be readily converted to a low impedance by the installation of MASCO Transformer No. IN-525. Available are: 50 ohms unbalanced line; 200 ohms or 500 ohms balanced or unbalanced line. Specify tap-setting when ordering.

**PRICES**  
**IN-525** Low Impedance Transformer.....\$23.75  
 Factory-installed (per input)..... 31.25  
 Shipping Weight: 2 lbs.

**List Price**

**MM-4 FOUR CHANNEL MICROPHONE MIXER**



**MM-4**

Can be connected to the high impedance microphone input of any amplifier. Four independent gain controls and four microphone connectors allow for mixing and fading over-all. Converts an amplifier having only one microphone input to four-channel operation.

**PRICES**  
**MM-4** Four Channel Mixer, with 4 ft. Cable and Connector .....\$21.25  
 Shipping Weight: 4 lbs.  
 Specifications and prices subject to change without notice.

**List Price**

**BR-60 60 WATT SOUND BROADCASTER**



**BR-60**

**FEATURES:** U/L approved • Six-position zone selector switch • 60-watt heavy-duty amplifier • Separate all-call switch • Constant voltage output • Oversized components assuring trouble-free service • Three inputs • Attractive Hammertone steel cabinet • Hinged rear door • AM-FM tuner • Webster Model 100 3-speed record changer.

**APPLICATION:** Offers performance to be had ONLY in custom-built equipment. Its all-in-one feature allows for Voice Paging, Phono and Radio Operation • For use in Airports • Hospitals • Institutions • Schools and Playgrounds.

**PRICES** **List Price**

**BR-60** Sound Broadcaster .....\$890.00  
 No Federal Excise Tax Applies.  
 Shipping Weight: 120 lbs.

Consists of:  
 Steel Cabinet with Hinged Rear Door  
 60-Watt Amplifier  
 AM-FM Tuner  
 Webster Model 100 3-speed record changer  
 Six-Position Zone Selector Switch  
 Separate "All-Call" Switch  
 Built-in Monitor Speaker

**BR-60R** Sound Broadcaster, same as above but with built-in Microphone Relay and built-in Tone Signal.....\$930.00  
 No Federal Excise Tax Applies.  
 For one additional built-in Six-Position Zone Selector Switch, add.....\$13.50

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**MASCO ELECTRONIC SALES CORP. • LONG ISLAND CITY 3, N. Y.**

# SOUND MASCO EQUIPMENT

## HIGH-POWERED AMPLIFIERS FOR CIVIL DEFENSE, MILITARY, INDUSTRIAL AND INSTITUTIONAL USE

### MA-77 75 WATT AMPLIFIER • PUSH-PULL 807 TUBES

**FEATURES:** Full electronic mixing of all channels • Individual bass and treble equalizers • 75 watts of undistorted power • Peak Power output 90 watts • Fully fused • Special high impedance jack for driving MB-77 booster amplifier (0 db. level) • U/L Approved.

The Models MA-77 and MA-77R are powerful wide-range amplifiers that deliver better than 75 watts of usable power. Multi-tapped line and voice coil impedances match any speaker, or speaker groups and lines. The model MA-77R is designed to permit remote control of two microphone channels by means of the RCB Remote Control Box.

**APPLICATION:** Used for the larger auditoriums, theatre re-inforcement, indoor and outdoor rinks, stadia, and the like, wherever numerous speakers are re-

quired. Excellent for church chime applications. Ideal as the basic unit for paging and fire-alarm systems in hotels.

### AMPLIFIER SPECIFICATIONS FOR MODELS MA-77, MA-77R, MB-77, AND MB-77P

**POWER OUTPUT:**.....75 watts at less than 5% distortion

**PEAK POWER:**.....90 watts

**INPUTS:** (MA-77, MA-77R).....Five: 4 microphone, 1 phono  
(MB-77, MB-77P).....One: 500 ohm balanced or unbalanced

**FREQUENCY RESPONSE:**.....±2 db 50 to 15,000 cps

**SENSITIVITY:** (MA-77, MA-77R).....Mike, .005 volts; phono, .4 volts for full output  
(MB-77, MB-77P).....0.35 volts unbalanced .68 volts balanced for full output

**CONTROLS:** (MA-77, MA-77R).....Seven: 4-microphone, phono, bass, treble. Separate power on-off switch  
(MB-77, MB-77P).....One Master Gain; separate power on-off switch

**TUBES:** (MA-77, MA-77R).....4-6J7, 1-68J7, 1-68L7GT, 1-68C7, 1-68N7GT, 2-807, 3-5Y3GT (Rectifiers)

(MA-77, MB-77P).....1-68L7GT, 1-68N7GT, 2-807, 3-5Y3GT (Rectifiers)

**OUTPUT IMPEDANCE:**.....4, 8, 16 ohms; 70 volts, 140 volts, constant voltage

**HUM LEVEL:** (MA-77, MA-77R).....67 db below 75 watts

(MB-77, MB-77P).....60 db below 75 watts

**POWER CONSUMPTION:**

(MA-77, MA-77R).....190-watts, 117 volts, 60 cps AC

(MB-77, MB-77P).....185 watts, 117 volts, 60 cps AC

**DIMENSIONS:**

(MA-77, MA-77R).....16" x 11" x 8 3/8" high

(MB-77).....17" x 12" x 8 1/2" high

(MB-77P).....Chassis: 17" x 12", Panel: 10 1/2" x 19"



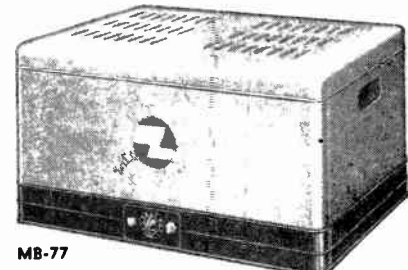
MA-77

**PRICES** **List Price**

MA-77 Amplifier with tubes.....\$280.00

Shipping Weight: 44 lbs.

Kit of Matched Plugs and Connectors..... 3.67



MB-77

**PRICES** **List Price**

MB-77 Booster Amplifier with tubes.....\$187.50

less Cover .....

If cover is desired for MB-77 add to list.... 43.75

MB-77P Booster Amplifier with tubes, with 10 1/2" x 19" panel, less cover..... 205.00

Shipping Weight: Either model—41 lbs.

Kit of Output Plugs for either model..... 1.19

### MB-77 75 WATT BOOSTER AMPLIFIER • PUSH-PULL 807 TUBES

**FEATURES:** Zero-level input • May be paralleled for any audio power requirements • Tapped line and voice-coil impedances • Constant voltage outputs • Master gain control • 75 watts of undistorted power • U/L Approved.

**DESIGN AND CONSTRUCTION:** A new circuit in booster amplifiers. The driving power needed is only 1.45 volts RMS with a balanced line (0.8 volts with unbalanced line). The input impedance is 500 ohms. Adaptable for either line or bridging. These boosters are designed to operate with the Models MA-77 and MA-77R described above when additional power is required. Chassis finished in blue and gray Hammettone. The booster may be used either in or out of a rack. The circuit is fused, and the components built to withstand long-hour usage. The MB-77P is supplied with mounted panel and supporting side brackets for standard 19" rack installation. Panel finished in baked gray wrinkle.

### School and Institutional Control Amplifier with Complete Program Facilities MICROPHONE • RADIO • PHONOGRAPH

### MS SERIES FOR 6 TO 36 STATIONS

28 Watts of Audio Power, 40 Watts Peak Power for 6, 12, 18, 24, 30 and 36 Stations with Built-in Intercommunication Channel.



MS-36

**FEATURES:** 28 Watt Amplifier • Built-in Intercommunication Channel • Two-way conversation • Simultaneous or selective paging • External phono provision • Volume-level indicator • Input selector switch • External microphone provision • Provision for external radio • U/L approved.

**DESIGN AND CONSTRUCTION:** Ample power for each speaker. Ample gain for external microphone and phonograph pickup. Group or selective paging. Calls may originate from any room to master when proper interconnecting cable is used. Separate volume controls for level adjustment of all calls. Volume-level indicator for correct level setting. Provision for connecting an external phonograph. Any standard radio may be adjusted for Use of more than 15 db of inverse feed-back assures negligible easy communication. Balanced line for simplicity of installation. Use of more than 15 db of inverse feedback assures negligible change of volume level regardless of varying speaker loads.

**PRICES** **List Price**

MODEL MS-6 —Control Amplifier with tubes for 6 stations... \$232.50

MODEL MS-12—Control Amplifier with tubes for 12 stations... 237.50

MODEL MS-18—Control Amplifier with tubes for 18 stations... 242.50

MODEL MS-24—Control Amplifier with tubes for 24 stations... 250.00

MODEL MS-30—Control Amplifier with tubes for 30 stations... 257.50

MODEL MS-36—Control Amplifier with tubes for 36 stations... 272.50

**WEST OF THE ROCKIES, ADD 5% TO ABOVE LIST PRICES**

### School and Institutional Control Amplifier with Self-Contained AM-FM Radio-Webster Three Speed Automatic Record Changer-Transcription Player MPS SERIES FOR 10 TO 40 STATIONS



MPS-40

28 Watts Power Output 40 Watts Peak Power  
**Complete Program or Intercommunication Facilities**

**FEATURES:** Built-in sensitive FM-AM tuner • Optional built-in three speed transcription player or Webster Model 100 three-speed record changer • Provides for 10 to 40 stations • Electronic Volume-level Indicator • Speaker switches provide for selective or group paging • Master switch allows for simultaneous paging • Built-in speaker is used for "talk" and "Listen" • Input is provided for external microphone • May be installed for private or non-private operation • Private operation prohibits the control operator from "listening in" unless switched in at the station location • Use of more than 15 db of inverse feed-back assures negligible change of volume level regardless of varying speaker loads • U/L approved.

**PRICES** **List Price**

MODEL MPS-10 (for 10 stations) Control Amplifier with tubes with AM-FM Tuner and Single Speed Manual Phonograph.....\$618.75

MODEL MPS-20 (for 20 stations) Control Amplifier with tubes with AM-FM Tuner and Single Speed Manual Phonograph..... 640.00

MODEL MPS-30 (for 30 stations) Control Amplifier with tubes with AM-FM Tuner and Single Speed Manual Phonograph..... 656.25

MODEL MPS-40 (for 40 stations) Control Amplifier with tubes with AM-FM Tuner and Single Speed Manual Phonograph..... 675.00

To substitute Webster 100 three-speed record changer in above systems add .....

55.00

To substitute 3-speed motor and all-purpose "turnover" pickup in above systems, add .....

10.00

WRITE TO FACTORY FOR COMPLETE CATALOG TR-51

**MASCO ELECTRONIC SALES CORP.**

**LONG ISLAND CITY 3, N. Y.**



**MASCO'S OUTSTANDING MOBILE SOUND EQUIPMENT**

**6-VOLT DC AND 117-VOLT AC MOBILE AMPLIFIERS  
THE ONLY COMPLETE LINE OF U/L APPROVED MOBILE EQUIPMENT**

25 Watts, Class AB-1, at less than 5% distortion — 40 Watts Peak Power

**FEATURES** contained in these six models are: Four input channels • Standby switch • Heavy-duty switches • Low battery drain • Fused circuit • Hum- and ripple-free operation • Heavy-duty dual vibrator • Crystal pick-up input • Lock-in arm rest • Underwriters' Laboratories approved.

Operate as efficiently from 6-volt batteries as from 117-volt AC source. Rugged and powerful, expressly designed for sound truck and other outdoor applications. The battery-saver switch, which shuts off the vibrator during intermissions, reduces battery drain to a minimum. The extra-heavy-duty dual vibrator maintains steady voltage and frequency. These amplifiers are provided with separate cables, fitted with rugged heavy-duty plugs and receptacles for each voltage supply.

**APPLICATION:** The widely varied types of these amplifiers adequately meet all possible needs for applications such as outdoor gatherings, bathing beaches, traveling road shows, open-air theatres, election campaigns and charity drives, traveling evangelists, police and fire department rescue work, and other locations where AC power is unavailable.

**GENERAL AMPLIFIER SPECIFICATIONS:**

**POWER OUTPUT**.....25 Watts, Class AB-1, at less than 5% distortion  
**PEAK POWER**.....40 Watts  
**INPUTS**.....Four: 3-microphone, 1-phono  
**FREQUENCY RESPONSE**.....± 2 DB 50 to 15,000 CPS  
**POWER GAIN**.....Microphone, 133.5 DB; Phono, 79 DB  
**CONTROLS**.....Six: 3-microphone, Phono, Bass, Treble, Separate Motor Switch and Battery-Saver Switch  
**TUBES**.....4-6J7, 1-6SC7, 2-6L6G, 1-6SL7GT, 2-7Z4 (Rectifiers)

**OUTPUT IMPEDANCES**.....4, 8, 15, 125, 250, 500 Ohms  
**HUM LEVEL**.....AC: 64 DB below 25 Watts DC: Ripple-free  
**POWER CONSUMPTION**.....AC: 145 Watts at 117 Volts (including phono motor); DC: 23 Amps. at 6 Volts (battery) (includes phono motor)  
**VOLTAGE**.....105-125 Volts, 60 CPS AC or 6 Volts DC (Storage Battery)  
 Power Cables included with all Mobile Amplifiers.

- \*MC-25PN** **List Price**  
Phono-top Mobile Amplifier with tubes.....\$225.00  
Shipping Weight: 44 lbs.
- Kit of Matched Plugs and Connectors**..... 3.24  
Dimensions: 14" x 11" x 8 3/8" high
- \*MAC-25PN** **List Price**  
Portable Mobile System.....\$320.00  
Shipping Weight: 72 lbs.
- Consists of:  
 1—MC-25PN Phono-top Amplifier with tubes  
 2—12" PM Speakers  
 2—25-ft. Speaker Cables and Plugs  
 1—Model 305 Portable Carrying Case (Attractive Luggage Style)  
 1—Astatic JT-30 Microphone with 15-ft. Cable and Connectors  
 (If amplifier is desired with plain cover less phono-top mechanism, deduct from above list price \$10.00)

- \*MCO25PN** **List Price**  
Outdoor Mobile System.....\$377.50  
Shipping Weight: 86 lbs.
- Consists of:  
 1—MC-25PN Phono-top Amplifier with tubes  
 2—Masco-University PH Trumpets  
 2—Masco-University MA-25 Driver Units  
 2—25-ft. Cables and Connectors  
 1—Astatic JT-30 microphone with 15-ft. Cable and Connectors

- \*MC-25PC** **List Price**  
Phono-top Mobile Amplifier with Hinged Cover with tubes.....\$260.00  
Shipping Weight: 46 lbs.
- Kit of Matched Plugs and Connectors**..... 3.24  
Dimensions: 14" x 11" x 10 7/8" high
- \*If desired with 3-speed motor and all-purpose pickup with "Turnover" Cartridge, add to list price \$10.00  
 If Astatic MODEL ABS-M Pickup is desired, add to list price \$11.88.

- MC-25N** **List Price**  
Mobile Amplifier, Plain Cover without Phono-top with tubes.....\$215.00  
Shipping Weight: 39 lbs.
- Kit of Matched Plugs and Connectors**..... 2.27  
Dimensions: 14" x 11" x 8 3/8" high
- MC-25RC** **List Price**  
Mobile Amplifier with Webster Model 100 3-speed record changer top with tubes.....\$325.00  
Shipping Weight: 52 lbs.
- Kit of Matched Plugs and Connectors**..... 3.24  
Dimensions: 15" x 15" x 10 1/2" high

**MASCO 12 WATT MOBILE AMPLIFIERS  
FOR 6 OR 12 VOLT DC AND 117 VOLT AC OPERATION  
12 WATTS POWER OUTPUT • 18 WATTS PEAK POWER**

**FEATURES:** Two inputs, microphone and phono • Push-pull output • Separate microphone and phono control • Low battery drain • Ripple-free operation • Light-weight, rugged • Remote control permits within-reach adjustment of amplifier controls • U/L approved.

**APPLICATION:** 12-watt mobile amplifier built expressly for operation in a moving vehicle. Easily mounted, it fits under the dashboard. Separate volume controls provide independent or simultaneous use of both inputs. For application in police safety and traffic work, fire department, transportation systems, hearses and ambulance service. Any standard speaker may be used.

**AMPLIFIER SPECIFICATIONS:**  
**POWER OUTPUT**.....12 Watts, Class AB-1 at less than 5% distortion  
**PEAK POWER**.....18 Watts  
**INPUTS**.....Two: 1-microphone, 1-phono  
**FREQUENCY RESPONSE**.....±3 DB 100 to 8,000 CPS  
**POWER GAIN**.....Microphone, 110 DB; Phono 75 DB  
**CONTROLS**.....Microphone, Phonograph, On-Off Standby-Operate (Battery-Saver) Switch

**TUBES**.....1-6SF5, 1-6SL7GT, 2-6V6GT, 1-7Z4 (Rectifier)  
**OUTPUT IMPEDANCES**.....3.2, 8 and 15 Ohms  
**HUM LEVEL**.....60 DB below output level of 12 Watts  
**POWER CONSUMPTION**.....AC: 60 Watts at 117 Volts; DC: Model MC-12 4 amps at 12 volts (battery); Model MC-126 8 amps at 6 volts (battery)  
**DIMENSIONS**.....12" x 6" x 8" high

- PRICES: Amplifiers**
- |   | <b>List Price</b> |
|---|-------------------|
| <b>MC-126P</b> Phono-top Mobile Amplifier, 12 Watts (6 Volt DC and 117 Volt AC), with tubes, with cables..... | \$141.25          |
| <b>MC-126</b> Same as above with plain cover less phono-top mechanism.....                                    | \$ 95.00          |
- Shipping Weight: 15 lbs.

- PRICES: Mobile Portable Systems**
- |   | <b>List Price</b> |
|---|-------------------|
| <b>MAC-126P</b> Phono-top Portable Mobile System..... | \$206.25          |
- Shipping Weight: 36 lbs.
- Consists of:  
 1—12 Watt Mobile Amplifier with Tubes  
 1—10" PM Speaker  
 1—25-ft. Speaker Cable and Plug  
 1—Model 303 Portable Case  
 1—Astatic JT-30 microphone with 15-ft. Cable and Connectors



MC-25PN

MAC-25PN



MC-25PC



MC-25RC



MC-126P

MAC-126P

- PRICES: Mobile Outdoor Systems**
- |  | <b>List Price</b> |
|--|-------------------|
| <b>MCO-126P</b> Mobile Outdoor System..... | \$206.25          |
- Consists of:  
 1—12 Watt Mobile Amplifier with Tubes  
 1—Masco University Model IB8 Loudspeaker  
 1—25-ft. Cable and Plug  
 1—Astatic JT-30 microphone with 15-ft. Cable and Connectors
- RCM Remote Control and Clamp attachment to steering post**.....\$ 14.50

**WRITE TO FACTORY FOR COMPLETE CATALOG AND INFORMATION ON 12 VOLT SYSTEMS**

**WEST OF THE ROCKIES ADD 5% TO ABOVE LIST PRICES**

Specifications and prices subject to change without notice

**THE ULTIMATE IN HIGH FIDELITY AMPLIFIERS  
... UNEXCELLED BY ANY STANDARD**



**MHP-110  
MHP-110X**

**MHP-110 10-WATT HIGH FIDELITY AMPLIFIER  
MHP-110X (illustrated) 10-WATT HIGH FIDELITY  
AMPLIFIER WITH BUILT-IN EXPANDER CIRCUIT**

**AMPLIFIER FEATURES:**

Exclusive MASCO 4-Way Tone Compensator • Voltage Supply Socket for Attachment of External Pre-amplifier • Power Supply Socket • Crystal Pickup input provision • Radio Tuner input provision • Pre-amplifier input provision • Safety fused • Over-all negative feedback • U/L Approved • Expander circuit available • 10-Watt power output

**AMPLIFIER SPECIFICATIONS:**

**MODEL MHP-110 and MODEL MHP-110X**

POWER OUTPUT.....	10 Watts at less than 5% distortion
PEAK POWER OUTPUT.....	14 Watts
FREQUENCY RESPONSE.....	± 1 DB 40 to 15,000 CPS (Tone Compensator Normal)
GAIN AND SENSITIVITY.....	MHP-110: .9 Volts — 70 DB MHP-110X: .5 Volts — 75 DB
VOLUME CONTROL.....	Continuously Variable; with Power On-Off Switch
4-WAY INDIVIDUAL TONE COMPENSATOR:	
Position —	
No. 1: Deep bass with high cut	
No. 2: Medium bass (Bass Boost with normal treble)	
No. 3: Normal (Flat response)	
No. 4: Treble (Normal bass with treble boost)	
VARIABLE EXPANDER (MHP-110X only):	
Manually controlled from zero to + 10 DB. Operates instantaneously. No chopping effect. No time lag.	
TUBES USED MHP-110.....	1-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
TUBES USED MHP-110X.....	3-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES.....	4 and 8 Ohms
POWER CONSUMPTION.....	60 Watts at 117 Volts, 60 CPS
HUM LEVEL.....	80 DB below 10 Watts
AC RECEPTACLE.....	Provided for external attachment of phonograph or radio tuner. (Radio tuner may be adjusted for use.)
CHASSIS DIMENSIONS.....	10" x 5 1/2" x 2 1/2" high

**PRICES**

**List Price**

<b>MHP-110</b> High Fidelity 10-Watt Amplifier with Tubes and Input Connector.....	\$51.25*
Weight: 9 lbs.	
<b>MHP-110X</b> High Fidelity 10-Watt Amplifier with Built-in Expander Circuit, with Tubes and Input Connector.....	72.50*
Weight: 9 1/2 lbs.	
<b>FS-1</b> Flexible extension shaft 3 foot long for cabinet or panel mounting. Each flexible shaft is supplied with two coupling connectors. One end of shaft connects to the control and the other end of shaft takes a standard knob. List Price each shaft.....	3.51

**WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES**



Specifications and prices subject to change without notice.



\*Plus Federal Excise Tax

**WRITE TO FACTORY FOR COMPLETE CATALOG**

**MASCO ELECTRONIC SALES CORP.**

**LONG ISLAND CITY 3, N. Y.**



**MA-10HF  
MA-10EX**

**MA-10HF (illustrated) 10-WATT HIGH FIDELITY AMPLIFIER**

**MA-10EX 10-WATT HIGH FIDELITY AMPLIFIER WITH BUILT-IN EXPANDER CIRCUIT**

**AMPLIFIER FEATURES:**

10 Watts of hum-free power • Built-in compensated pre-amplifier • Four inputs • Two inputs equalized for various magnetic and reluctance pickups • One input equalized for crystal pickup • One input unequalized for radio tuner • Ideal for L.P. pickups • Expander circuit available • Individual bass and treble boost and attenuation • Heavy duty output transformer with impedances of 2-4-8-16 and 500 ohms to match most speakers • Inverse feedback 12 DB over-all • Safety fused • U/L Approved.

**AMPLIFIER SPECIFICATIONS:**

**MODEL MA-10HF and MODEL MA-10EX**

POWER OUTPUT.....	10 Watts at less than 5% distortion
PEAK POWER OUTPUT.....	14 Watts
FREQUENCY RESPONSE.....	± 1 DB 40 to 20,000 CPS (Tone controls normal)
GAIN AND SENSITIVITY.....	Magnetic Input No. 1: .011 Volts 93 DB at 1000 CPS Magnetic Input No. 2: .1 Volts 67 DB at 1000 CPS Crystal Input: .35 Volts 76 DB at 1000 CPS Radio Input: .35 Volts 76 DB at 1000 CPS
VOLUME CONTROLS.....	Continuously variable
TREBLE CONTROLS (MA-10HF only).....	High frequency boost 15 DB Attenuation at 15,000 CPS 14 DB
BASS CONTROL (MA-10HF only).....	12.5 DB boost at 50 CPS, and 12.5 DB attenuation at 50 CPS
4-WAY INDIVIDUAL TONE COMPENSATION (MA-10EX only):	
Position —	
No. 1: Deep bass with high cut	
No. 2: Medium bass (Bass boost with normal treble)	
No. 3: Normal (Flat response)	
No. 4: Treble (Normal bass with treble boost)	
VARIABLE EXPANDER (MA-10EX only):	
Manually controlled from zero to + 10 DB. Operates instantaneously. No chopping effect. No time lag.	
TUBES USED MA-10HF.....	1-6SC7, 2-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
TUBES USED MA-10EX.....	1-6SC7, 3-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES.....	2, 4, 8, 16, 500 Ohms
POWER CONSUMPTION.....	75 Watts at 117 Volts, 60 CPS
HUM LEVEL.....	70 DB below 10 Watts
AC RECEPTACLE.....	Contains 2 hum balancing potentiometers Provided for external attachment of phonograph or radio tuner. (Radio tuner may be adjusted for use.)
CHASSIS DIMENSIONS.....	12" x 7" x 2 1/2" high

**PRICES**

**List Price**

<b>MA-10HF</b> High Fidelity 10-Watt Amplifier with Tubes and Input Connector.....	\$75.00*
Weight: 11 1/2 lbs.	
<b>MA-10EX</b> High Fidelity 10-Watt Amplifier with Built-in Expander Circuit, with Tubes and Input Connector.....	97.50*
Weight: 12 lbs.	
<b>FS-1</b> Flexible extension shaft 3 foot long for cabinet or panel mounting. Each flexible shaft is supplied with two coupling connectors. One end of shaft connects to the control and the other end of shaft takes a standard knob. List Price each shaft.....	3.51

## THREE MODERN-PACKAGED INTER-COMMUNICATION SYSTEMS

**FOR HOME, PROFESSIONAL AND  
COMMERCIAL USE  
AVAILABLE IN WHITE BAKED ENAMEL OR  
BROWN HAMMERTONE FINISH  
UNBREAKABLE CAST ALUMINUM  
HOUSINGS**

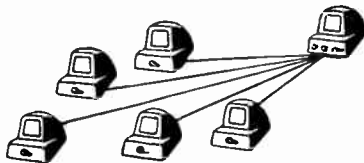


### PACKAGED TWO STATION SYSTEM MODEL JMR

One Master with On-Off Pilot Light and One Remote Station Complete with 50 Feet of Cable.

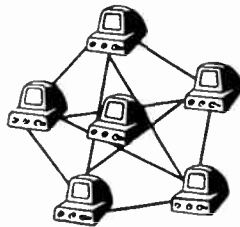
### MASTER TO REMOTE SYSTEMS MODELS JM-5 AND JM-10

Take up to ten remote stations



### ALL MASTER SYSTEMS MODELS IM-5 AND IM-10

Accommodate up to eleven Master Stations



**ALL MASTER  
HOOK-UP  
NO CROSS-TALK**

#### FEATURES:

- Master Station equipped with Volume Control with on-off switch
- Master Station has On-Off Pilot Light
- Separate "press to talk" switch
- Remote Station has "press to talk" switch to originate call to Master Station if desired and allow for privacy
- Remote Station can be used for two way conversation without manual operation
- Natural voice reproduction
- Ample Sensitivity
- Matching Master and Remote Stations
- Unbreakable Cast-Aluminum housings
- Finished in attractive Walnut Hammertone or white Baked Enamel
- U/L Approved

#### PRICES:

#### List Price

- \***MODEL JMR**—Two-Station System complete. One master with tubes, one remote, and 50 ft. of cable..... \$56.70
  - \***MODEL JM-5**—Master, with tubes. For communication between it and five remote stations; can converse with all 5 stations or can select any one remote station. Master has press-to-talk and station selector switch and volume control with on-off switch..... 45.90
  - \***MODEL JM-10**—Same as above, for up to 10 remote stations..... 53.75
  - \***MODEL JR**—Remote. "Press-to-talk" switch allows remote to originate call to JM5 Master, permitting privacy; JR can be used as two-way paging system. Use of switch may be omitted. System uses 3-Wire Vinylite Covered Cable..... 16.20
  - \***MODEL IM-5**—All Master, with tubes. Communication between it and 5 other masters. Each master can converse two-way with any or all masters in system. Has press-to-talk and station selector switches and volume control with on-off switch..... 45.90
  - \***MODEL IM-10**—Same as above, but for communication with up to 10 other masters..... 53.75
  - 5-Conductor Cable for use with up to 4 master stations..... (per ft.) .24
  - 7-Conductor Cable. Must be used with 5 or 6 master stations.... (per ft.) .29
  - 12-Conductor Cable for use with up to 11 master stations..... (per ft.) .3125
- \*Available in white baked enamel finish at slightly higher prices.

## MIDGETALK — COMPLETE TWO STATION INTERCOM SYSTEM

**No other intercom in the field can match the  
value of the MASCO MIDGETALK  
\$43.15 list complete.**



#### Nothing more to purchase.

U/L and CSA approved one master with on-off pilot light and one remote with 50 feet of 3-wire cable. Color styled . . . \$43.15 in mahogany. Slightly higher prices for white, blue, pink, green, yellow matched stations. Remote may be used for private or non-private operation; has press-to-talk switch that allows it to originate call to master. Natural voice reproduction. Ample sensitivity. Unbreakable cast zinc housings.

### MIDGETALK COMPLETE TWO STATION SYSTEM

#### FEATURES:

Master Station has Volume Control with on-off switch • Master Station has separate "press to talk" switch • Master Station has on-off Pilot Light • Remote Station has "press-to-talk" switch to originate call to Master Station if desired and to allow for privacy • Remote Station can be used for two-way conversation without manual operation • Natural voice reproduction • Ample sensitivity • Matching Master and Remote Stations • Unbreakable Cast Zinc Housings • Finished in attractive, beautiful mahogany • U/L Approved.

#### SPECIFICATIONS:

- VOLTAGE ..... 117 volts AC or DC
- POWER OUTPUT ..... 2.5 Watts
- POWER CONSUMPTION ..... 30 Watts
- TUBES..... 12SJ7—Voltage Amplifier
- 50B5—Beam Power Amplifier
- Selenium Rectifier
- SPEAKERS.....In Master and Remote are 3" Alnico V Magnet—3.2 ohm voice coil
- DIMENSIONS.....5" x 4 1/2" x 5 5/8" high
- Shipping Weight: 7 1/2 pounds

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

Specifications and prices subject to change without notice.

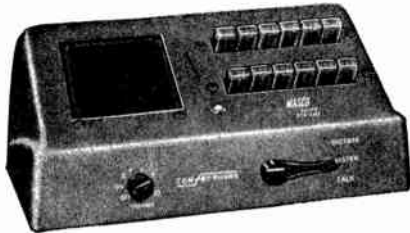
WRITE TO FACTORY FOR COMPLETE CATALOG

**MASCO ELECTRONIC SALES CORP.**

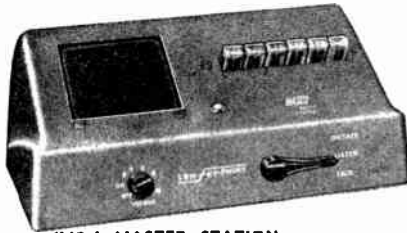
**LONG ISLAND CITY 3, N. Y.**

**MASCO CON-FER-PHONE — A Completely Flexible Master for any Combination System.**

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



**JMP-12 MASTER STATION**



**JMP-6 MASTER STATION**



**JS-6 REMOTE**

**FEATURES:**

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

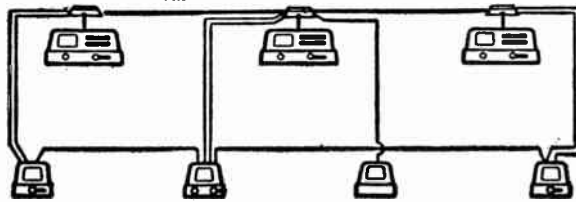


Illustration of a Master-to-Master-to-Remote Inter-Mixed Installation

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

Each master can have his own private hook-up of remotes. The remotes may or may not originate calls to the individual master. Masters can call each other regardless of whether master being called has its power on or off.

Illustration shows less than the maximum number of units possible in installation.

A JMP-6 Master may be connected to a total of six other units and a JMP-12 Master to a total of twelve other units. These units may be other masters or the JL, JS, and JS-6 Remotes, or the MB-8N Booster Amplifier. All of these units may be mixed.

**SPECIFICATIONS FOR MODELS JMP-6 and JMP-12 MASTERS and MODELS JL, JS, and JS-6 REMOTES**

<b>MASTER VOLTAGE</b> .....	117 Volts AC or DC
<b>POWER OUTPUT</b> .....	2.5 Watts
<b>POWER CONSUMPTION</b> .....	30 Watts
<b>CONTROLS</b> .....	6 and 12 Push-Button station selectors Volume control with on-off switch Talk-Listen—Dictate Switch
<b>TUBES</b> .....	1-12SJ7 Dual Triode Amplifier 1-50L6 Beam Power Amplifier Selenium Rectifier

<b>MASTER AND REMOTE SPEAKER</b> .....	4" Alnico V Magnet 13-Ohm Voice Coil
<b>FINISH</b> .....	Walnut Hammertone or White Baked Enamel
<b>DIMENSIONS</b> .....	Master: 12 5/8" x 7 1/2" x 5 1/2" high Remote: 6 5/8" x 7 1/2" x 5 1/4" high
<b>SHIPPING WEIGHT</b> .....	Master: 8 lbs. Remote: 3 1/4 lbs.



<b>PRICES</b>	<b>List Price</b>
<b>JMP-6</b> Six-Station Master with Tubes.....	\$71.28
<b>JMP-12</b> Twelve-Station Master with Tubes.....	83.16
<b>JL</b> Remote Less Call Switch.....	16.20
<b>JS</b> Remote With Call Switch.....	18.09
<b>JS-6</b> Remote with 6-Position Master Station Selector and Call Switch.....	32.40
<b>MB-8N</b> Booster Amplifier, 8 Watts, with Cover, with Matched Tubes	85.32
<b>BJ-6</b> Junction Box for use with JMP-6 Master and JS-6 Remote. Consists of a terminal strip containing 8 pair of terminal lugs mounted on a metal chassis including dust cover.....	10.26
Above Junction Box, factory installed.....	16.69
<b>BJ-12</b> Junction Box for use with JMP-12 Master. Consists of a terminal strip containing 14 pair of terminal lugs mounted on a metal chassis and includes a dust cover.....	14.04
Above Junction Box, factory installed.....	18.36

<b>CABLE PRICES</b>	<b>List Price, per 100 ft.</b>
<b>SC</b> One Pair Shielded Twisted No. 20 Solid. No outside covering	\$ 7.83
<b>SCB</b> One Pair Shielded Twisted No. 20 Solid, with over-all Weather-proof Braid Covering. (This is not water-proof)	11.61
<b>TW-4</b> Four Pair, each pair Twisted No. 20 Solid with over-all outside Braid Covering all four pair.....	19.76
<b>TW-7</b> Seven Pair, each pair Twisted No. 20 Solid with over-all outside Braid Covering all seven pair.....	32.94
<b>TW-13</b> Thirteen Pair, each pair Twisted No. 20 Solid with over-all outside covering all thirteen pair.....	55.08
<b>S</b> One Pair Twisted Unshielded No. 20 Solid. No outside covering	4.32

**MB-8N 8-WATT BOOSTER AMPLIFIER**

**FEATURES:** U/L Approved • Tapped Output • Master Gain Control • Input Matched to Master • Designed for Long-Hour Usage.

<b>AMPLIFIER SPECIFICATIONS • MODEL MB-8N</b>	
<b>POWER OUTPUT</b> .....	8 Watts, at less than 5% distortion
<b>PEAK OUTPUT</b> .....	13 Watts
<b>INPUT</b> .....	One, 13 Ohms
<b>FREQUENCY RESPONSE</b> .....	±2 DB 50 to 10,000 CPS
<b>CONTROLS</b> .....	One Master Gain with On-Off Switch
<b>TUBES</b> .....	1-6SJ7, 1-6L6G, 1-5Y3GT (Rectifier)
<b>OUTPUT IMPEDANCES</b> .....	3.2, 8, 500 Ohms
<b>HUM LEVEL</b> .....	.60 DB below output of 8 Watts
<b>POWER CONSUMPTION</b> .....	.75 Watts, 117 Volts, 60 Cycles
<b>DIMENSIONS</b> .....	10" x 6" x 7 1/2" high
<b>SHIPPING WEIGHT</b> .....	14 lbs.

**APPLICATION:** Where paging is required in conjunction with intercommunication. It is the answer to high noise level voice penetration or for large area voice coverage. It is used with separate speakers and baffles.

Write to factory for catalog giving complete description of Con-Fer-Phone Intercommunication Equipment.  
WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

**MASCO ELECTRONIC SALES CORP.**

• **LONG ISLAND CITY 3, N. Y.**

# THE MASCO ECONOMY LINE



**SOUND SYSTEMS**

## 8 WATT SOUND EQUIPMENT

**AMPLIFIER FEATURES:** Microphone and phono input • Electronic mixing • Variable tone control • Standard voice coil output • 8 Watts undistorted output.

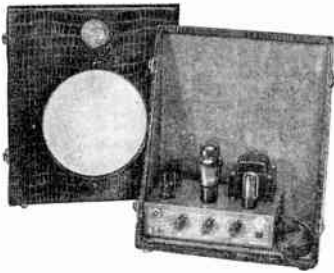
### AMPLIFIER SPECIFICATIONS FOR ME-8

POWER OUTPUT.....8 Watts  
 PEAK POWER.....12 Watts  
 INPUTS.....Two: Microphone and Phono  
 FREQUENCY RESPONSE.....50 to 10,000 CPS  $\pm$  2DB  
 SENSITIVITY:  
 Microphone......007 Volts for 8 Watts  
 Phonograph......4 Volts for 8 Watts  
 CONTROLS.....Three: Microphone, Phono, Tone  
 TUBES.....1-6SJ7, 1-6SF5, 1-6L6G, 1-5Y3GT (rectifier)  
 OUTPUT IMPEDANCES.....3.2, 8 and 500 Ohms  
 HUM LEVEL......25 DB below Zero Level  
 POWER CONSUMPTION......63 Watts

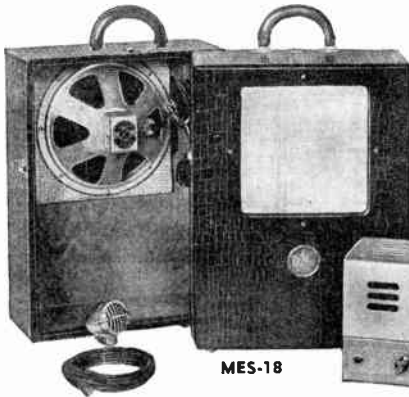
OPERATION.....117 Volts, 60 Cycles  
 DIMENSIONS.....10" x 5 1/2" x 4 1/2" high

### PRICES List Price

ME-8 Amplifier with tubes..... \$56.16  
 Shipping Weight 14 lbs.  
 MES-8 Portable System..... 106.92  
 Shipping Weight 24 lbs.  
 MES-8 Portable System Consists of:  
 1—8 Watt amplifier, with tubes  
 1—10" PM Speaker  
 1—25' Cable and plug  
 1—Portable carrying case Model 3030  
 1—Astatic JT-30 microphone with cable and connectors



MES-8



MES-18

## 18 WATT SOUND EQUIPMENT

**AMPLIFIER FEATURES:** Tapped Output, 2-4-8-15-500 ohms • Beam Power Output 2-6L6G • Electronic Mixing Overall • Full Range Controls • Plug-in Phono Top • Plays 10" or 12" Records • U/L Approved • Available with Three-speed Motor.

### AMPLIFIER SPECIFICATIONS — Models ME-18, ME-18P

POWER OUTPUT.....18 Watts  
 PEAK POWER.....24 Watts  
 GAIN.....Microphone 118 DB, Phono 74 DB  
 CONTROLS.....Three: Microphone, Phono, Tone. With On-Off Switch  
 INPUTS.....Two: Microphone and Phono  
 TUBES.....1-6SJ7, 1-6SC7, 2-6L6G, 1-5Y3GT (Rectifier)  
 OUTPUT.....Tapped 2-4-8-15-500 Ohms  
 POWER CONSUMPTION.....(ME-18) 93 Watts, 117 Volts, 60 CPS  
 POWER CONSUMPTION.....(ME-18P) 107 Watts, 117 Volts, 60 CPS  
 HUM LEVEL......56 DB below 18 Watts  
 FREQUENCY RESPONSE......50 to 10,000 Cycles  $\pm$  2 DB  
 DIMENSIONS.....(ME-18) 12" x 10" x 8" high  
 DIMENSIONS.....(ME-18) 12" x 6 3/4" x 7 3/4" high

### PRICES

ME-18 Amplifier with tubes, with streamline cover.... \$ 83.16  
 Shipping Weight 17 lbs.  
 ME-18P Amplifier, with tubes, with phono top..... 113.40  
 Shipping Weight 26 lbs.  
 MES-18 Complete portable system..... 167.40  
 Shipping Weight 38 lbs.

### List Price

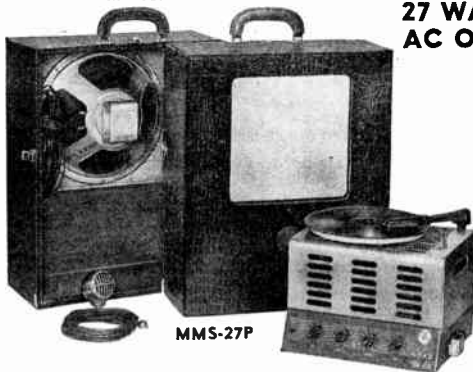
MES-18P Complete portable system..... \$197.64  
 Shipping Weight 47 lbs.

MES-18(P) Portable System Consists of:  
 1—ME-18 or ME-18P Amplifier, with tubes  
 2—12" PM speakers  
 2—25-ft. Cable and plugs  
 1—Portable carrying case Model 3040  
 1—Astatic JT 30 microphone with 12-ft. cable and connectors

The models ME-18P amplifier and MES-18P system are available with a three-speed motor and all purpose pick-up with "turnover" cartridge. Add to List Price \$10.00. Specify when ordering.



ME-18P



MMS-27P

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

**AMPLIFIER FEATURES:** Peak power 40 watts • Self-contained power supplies • "Stand-by" battery saver switch • Extra heavy duty vibrator • Full output AC or DC operation • Ripple-free operation • Rugged construction • Supplied with Power Cables • U/L Approved.

### AMPLIFIER SPECIFICATIONS FOR MM-27P

POWER OUTPUT.....27 Watts  
 PEAK POWER.....40 Watts  
 GAIN.....Microphone 125 DB, Phono 78 DB  
 CONTROLS.....Four: Two Microphones, Phono, Tone  
 INPUTS.....3—Two Microphone, One Phono  
 TUBES.....2-6SC7, 1-6SJ7, 2-6L6G, 1-5V4G (Rectifier)  
 OUTPUT.....Tapped 2-4-8-15-125-250-500 Ohms  
 POWER CONSUMPTION.....AC 130 Watts, 6 Volt DC, 25 Amps.  
 HUM LEVEL.....AC, 55 DB below Output of 27 Watts; DC, Ripple-Free  
 FREQUENCY RESPONSE......50 to 10,000 CPS  $\pm$  2 DB  
 DIMENSIONS.....12" x 11" x 8" high

### PRICES

MM-27P 27 watt mobile phono-top amplifier, with tubes, with single speed motor..... \$197.10  
 Shipping Weight 39 lbs.  
 MMS-27P 27 watt mobile phono-top complete portable system with single speed motor..... 282.42  
 Shipping Weight 62 lbs.  
 MMO-27P 27 watt mobile phono-top, complete outdoor system ..... 332.10

### List Price

MMO-27P Outdoor System Consists of:  
 1—MM-27P Phono top amplifier, with tubes  
 2—Masco-University Model MA-25 driver units  
 2—Masco-University Model PH reflex trumpets  
 2—25' Cables and plugs  
 1—Astatic JT-30 microphone with cable and connectors

### MMS-27P Portable System Consists of:

1—MM-27P Phono top amplifier, with tubes  
 2—12" PM speakers  
 2—25' Cables and plugs  
 1—Portable carrying case Model 3050  
 1—Astatic JT-30 microphone with cable and connectors

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-20

WEST OF ROCKIES ADD 5% TO ALL LIST PRICES

WRITE TO FACTORY FOR COMPLETE CATALOG

**MASCO ELECTRONIC SALES CORP.**

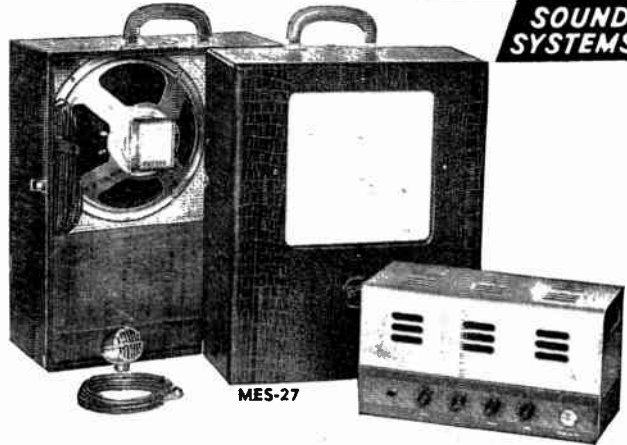
**LONG ISLAND CITY 3, N. Y.**

# THE MASCO ECONOMY LINE



## 27 WATT SOUND EQUIPMENT

**AMPLIFIER FEATURES:** Output Tapped, 2-4-8-15-125-250-500 Ohms • Two Microphones and Phono • Electronic Mixing Overall • Beam Power 6L6 Output • Undistorted 27 Watts Output • Three Separate Inputs • U/L Approved.



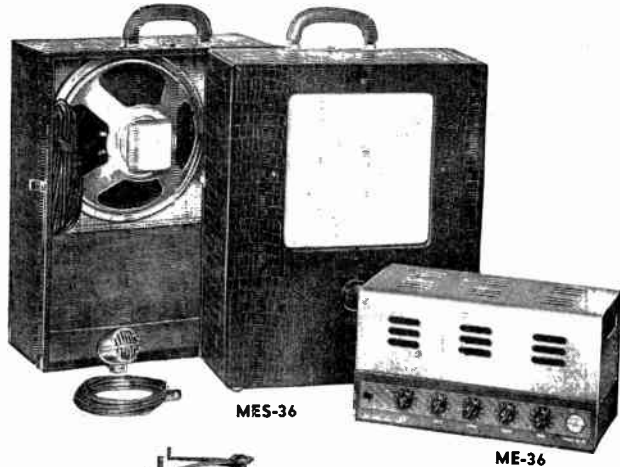
**AMPLIFIER SPECIFICATIONS FOR MODEL ME-27:**  
 POWER OUTPUT.....27 Watts  
 PEAK POWER.....38 Watts  
 GAIN.....Microphone 125 DB, Phono 78 DB  
 CONTROLS.....Four—Two Microphones, Phono, Tone, with On-Off Switch  
 INPUTS.....Three—Two Microphones, One Phono  
 TUBES.....1-6SJ7, 1-6SC7, 2-6L6G, 1-5V4G (Rectifier)  
 OUTPUT.....Tapped 2-4-8-15-125-250-500 Ohms  
 POWER CONSUMPTION.....100 Watts, 117 Volts, 60 CPS  
 HUM LEVEL......55 DB below 27 Watts  
 FREQUENCY RESPONSE.....50 to 10,000 Cycles ± 2 DB  
 DIMENSIONS.....15" x 8" x 8"

**PRICES** **List Price**  
 ME-27—Amplifier with tubes, with streamline cover..... \$106.92  
 Shipping Weight 30 lbs.  
 MES-27—Complete portable system..... 192.24  
 Shipping Weight 54 lbs.

**MES-27** Portable System Consists of:  
 1—ME-27 Amplifier, with tubes  
 2—12" PM speakers  
 2—25-ft. Cables and plugs  
 1—Portable carrying case Model 3050  
 1—Astatic JT-30 microphone with cable and connectors

## 36 WATT SOUND EQUIPMENT

**AMPLIFIER FEATURES:** Three Input Channels • Bass and Treble Tone Equalizers • Electronic Mixing Overall • Peak Power 45 Watts • U/L Approved.



**AMPLIFIER SPECIFICATIONS for ME-36 and ME-36R**  
 POWER OUTPUT.....36 watts  
 PEAK POWER.....45 watts  
 GAIN.....Microphone 125 DB, phono 78 DB  
 CONTROLS.....Five—Two microphones, phono, 1-bass, 1-treble  
 Separate On-Off Switch on Changer  
 INPUTS.....Three—Two microphones, one phono  
 TUBES.....2-6SJ7, 1-6SC7, 1-6SN7GT, 2-6L6G, 1-5U4G (Rectifier)  
 OUTPUT.....Tapped 2-4-8-15-125-250-500 ohms  
 POWER CONSUMPTION (ME-36).....130 watts, 117 volts, 60 cps.  
 POWER CONSUMPTION (ME-36R).....150 watts, 117 volts, 60 cps.  
 HUM LEVEL......58 DB below 36 watts  
 FREQUENCY RESPONSE.....50 to 10,000 cycles ± 2 DB  
 DIMENSIONS.....(ME-36) 15" x 8" x 8" high  
 DIMENSIONS.....(ME-36R) 15" x 15" x 9" high

**PRICES** **List Price**  
 ME-36—Amplifier with tubes, with streamline cover..... \$135.00  
 Shipping Weight 30 lbs.  
 MES-36—Complete portable system..... 220.86  
 Shipping Weight 58 lbs.  
 ME-36R—Amplifier with tubes, with Webster Model 100 three-speed changer mounted on top of cover..... 253.80  
 Shipping Weight 48 lbs.

**MES-36** Portable System Consists of:  
 1—ME-36 Amplifier with tubes  
 2—12" PM Speakers  
 2—25' Cables and plugs  
 1—Astatic JT-30 microphone with cable and connectors  
 1—Portable carrying case Model 3050

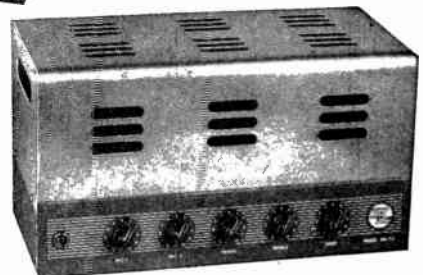
**MODEL ME-36R**  
 Featuring the Webster Model 100 Three-Speed Changer

## HI-POWER 60 WATT AMPLIFIER

**FEATURES:** Push-Pull 807 tubes • Separate bass and treble equalizers • Peak output 80 watts • Full electronic mixing • Two microphone inputs • Two-tone gray Hammertone finish • U/L approved.

**AMPLIFIER SPECIFICATIONS FOR ME-60**  
 POWER OUTPUT.....60 Watts  
 PEAK POWER.....80 Watts  
 SENSITIVITY.....Microphone .007v, Phono 0.7v for full output  
 CONTROLS.....Five: Two microphone, phono, bass, treble (with on-off switch)  
 TUBES.....1-6SC7, 1-6SJ7, 2-6SN7GT, 2-807, 3-5Y3GT (Rectifiers)  
 INPUTS.....Three—two microphone, one phono  
 OUTPUTS.....4, 8, 16 ohms, 70 volt, 140 volt (constant voltage)  
 BOOSTER AMPLIFIER OUTPUT.....1000 ohms, 3.5 volts  
 POWER CONSUMPTION.....190 watts, 117 volts, 60 cps AC  
 HUM LEVEL.....60 db below 60 watts  
 FREQUENCY RESPONSE.....50 to 12,000 cps ± 2 db  
 DIMENSIONS.....17" x 10" x 8 1/2" high

**PRICE** **List Price**  
 ME-60 Amplifier with tubes—with streamline cover.....\$197.50  
 Shipping Weight: 40 lbs.



To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-20

WEST OF ROCKIES ADD 5% TO ALL LIST PRICES

WRITE TO FACTORY FOR COMPLETE CATALOG

**MASCO ELECTRONIC SALES CORP.**

**LONG ISLAND CITY 3, N. Y.**

# PRICES

Prices of manufacturers and suppliers' products listed in **RADIO'S MASTER** are subject at all times to change without notice — they should not be considered final.

Get quick on-the-spot quotations from your distributor who subscribes to our perpetual up-to-the-minute **PRICING SERVICE**.



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# DELIVERY

Delivery is often dependent on the availability of raw materials. So check with your distributor for delivery information.

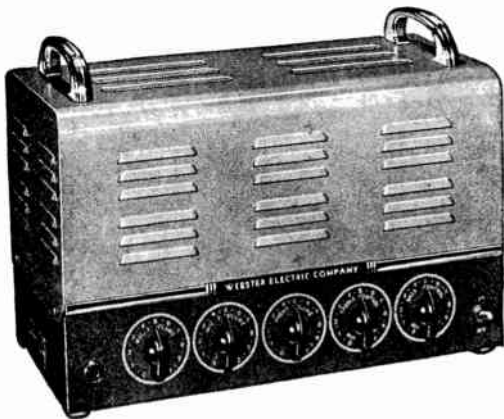
# WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin. Established 1909

## AMPLIFIERS

In auditoriums, churches, schools, restaurants, clubs, playgrounds, retail stores, parking lots and garages—wherever 15 or 25 watts of output is required, Webster Electric amplifiers are an exceptional buy. These units offer outstanding quality and performance and have the

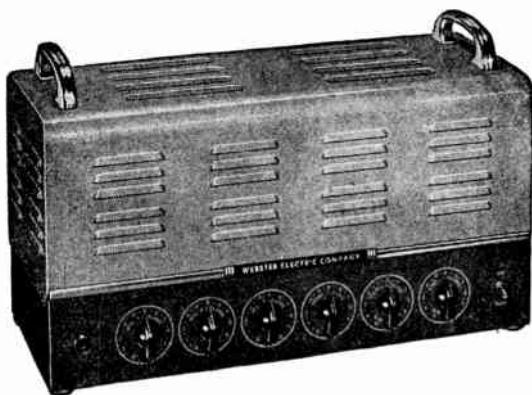
most features of importance to the user. These amplifiers are housed in sturdy, all-steel cases, equipped with metal carrying handles for ease in transportation. The finish is baked enamel, two-tone grey, with chrome trim.



**Model 81-15**

Model 81-15 is a 15 watt amplifier which offers a frequency response of 60 to 15,000 cycles, within 2 db. Separate bass and treble controls make it possible to adjust the amplifier to suit almost any acoustical or noise conditions. Separate gain controls are provided for each of the two high impedance microphone channels and for the high impedance phonograph channel. Selection of the output impedance desired is made by a convenient rotary tap switch. All input and output receptacles, the power cord and replaceable fuse are located on the back of the cabinet.

**List Price \$114.40**



**Model 82-25**

Model 82-25 is a 25 watt amplifier which provides for the mixing of 3 high impedance microphones and one high impedance phonograph pickup, with separate gain controls for each. Separate bass and treble controls permit adjustment of the amplifier for maximum clarity under a wide variety of operations. A complete range of output impedances are available and selection of the impedance desired is accomplished by means of a rotary tap switch. All output and input receptacles are placed on the back panel, together with the power cord and replaceable fuse. The 82-25 amplifier has a frequency response ranging from 30 to 15,000 cycles.

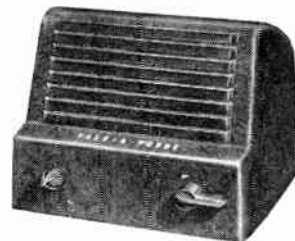
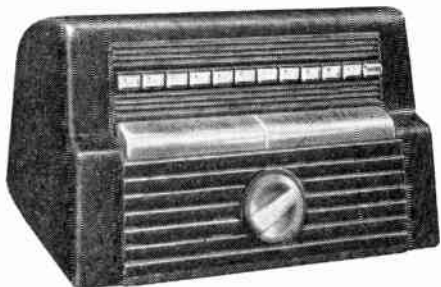
**List Price \$138.25**



# TALK-A-PHONE

## INTER-COMMUNICATION SYSTEMS FOR INDUSTRY • STORES • OFFICES • HOMES

Known wherever inter-communication is used as the World's finest system, TALK-A-PHONE is designed, developed, and precision-engineered by the leader in its field, with more than a quarter-century experience in electronics. TALK-A-PHONE stations are designed to withstand continuous day and night use; and are built to give you years of dependable service. The Armed Forces; Governmental Agencies; America's giant industrial firms, with highly complex and elaborate intercom needs depend on TALK-A-PHONE.



### ONE MODEL DOES EVERYTHING

TALK-A-PHONE's patented, exclusive "DYNASONIC" features gives you one model that "Does Everything." The same unit can be used for every type of application, whether it be as all Master Stations, or a Master and Staff Stations, or a number of Masters inter-mixed with Staff Stations. The Master Stations may talk with any other Master in the system as well as with all Staff Stations. Six, twelve, twenty and thirty capacity Master Stations can be used within the same system. The Staff Station may answer Master Stations and originate calls to one, two or six Master Stations, depending on its capacity. Staff Stations converse with Master Stations only. Staff Stations are not connected to electrical outlet.

Through its "DIFFERENTIAL STAFF" feature, TALK-A-PHONE permits any Staff Station to be used as either "Private" or "Non-Private", and also permits some Staff Stations to be "Private" and others "Non-Private" in the same system. "Private" Staff Stations have complete privacy, and no other station can "listen-in". Persons at "Non-Private" Staff Stations can answer from a distance up to 50 feet from the unit without leaving work. All Master and Staff Stations are assured of privacy, except where by choice, Staff Stations are designated as "Non-Private", in which case the Master Station can "listen-in" on the "Non-Private" Staff Stations.

Now . . . Talk-A-Phone brings you REDIPOWER, The Master Station that automatically supplies the right amount of power needed (up to a full 20 watts) at any time, for any Station in the system. This prevents any volume weakness where a number of Stations are being called simultaneously, or where a high noise level exists. REDIPOWER, which does away with the need for special boosters in many cases, is available in 12, 20, and 30 Station capacity.

**BEAUTIFULLY STYLED:** The Bakelite walnut cabinet of the "CHIEF FORTY-NINER" is unsurpassed in simplicity of design and appearance.

**TRANSLUCENT LIGHTING** further enhances its beauty as well as indicating whether the unit is "on" or "off."

**MULTI-MAGIC SELECTOR:** A patented exclusive TALK-A-PHONE feature. Twelve, twenty, thirty station capacity in SAME BEAUTIFUL CABINET with only TWELVE PUSH BUTTONS. Six-station Master has six push buttons.

**HOLD-A-MATIC CONFERENCE CONTROL:** TALK-A-PHONE "HOLD-A-MATIC" feature. ALLOWS CONFERENCE between THREE or a GROUP OF STATIONS by merely selecting desired buttons.

**UNI-TRANS:** Gives you "DICTATION CONTROL."

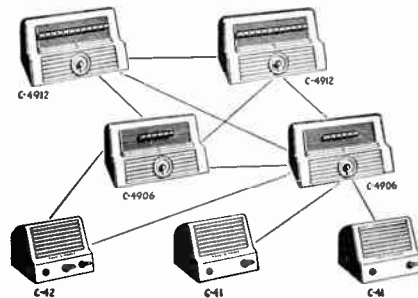
**VOICE RANGE POWER:** The powerful, rugged amplifier gives you amazing, brilliant "voice range" power. Stations may be up to 3000 feet apart.

**DEPENDABILITY:** PROVED IN BILLIONS OF HOURS OF ACTUAL USE.

**PRIVACY EARPHONE:** Optional equipment on Master Stations. Provides listening privacy; and conversation with other Masters without continuous operation of touch bar.

**CRADLE PHONE:** Optional equipment to provide completely private conversations.

**BUSY SIGNAL:** Talk-A-Phone "Busy Signal" functions as a visual indication that the Master Station being called is busy. Can be ordered as optional feature with any "Chief" Master Station.



All Master Stations and C-46 Staff Stations — 12" W x 9" D x 7" H.

C-41 and C-42 Staff Stations — 8 1/4" W x 7 1/2" D x 6 1/4" H.

C-4906 Push button Master for six-station capacity complete with tubes, junction box, and easy-to-follow instructions. Wt. 13 lbs. **List Price ea. \$89.50**

6212 CABLE — For inter-connecting C-4906. **List Price per foot 30c**

C-4912 Push button Master for twelve-station capacity, complete with tubes, junction box, and easy-to-follow instructions. Wt. 14 lbs. **List Price ea. \$106.00**

C-RP-5912 REDIPOWER push button master for 12 Station capacity, complete with tubes, junction box, and easy-to-follow instructions. Wt. 15 lbs. **List Price ea. \$160.00**

6224 CABLE — For inter-connecting C-4912; C-4920; C-RP-5912; and C-4930. **List Price per foot 60c**

C-41 Staff Station for origination of call to one Master. Wt. 5 lbs. **List Price ea. \$22.00**

C-42 Staff Station for origination of calls to two Masters. Wt. 5 lbs. **List Price ea. \$29.00**

C-46 Push button Staff Station for origination of calls to six Masters. Wt. 9 lbs. **List Price ea. \$65.00**

6204 CABLE — For connecting C-41, C-42 and C-46 Staff Stations. **List Price per foot 12 1/2c**

**Master Stations also available in capacities up to 60 Stations. For cradle phone models add \$45.00 to list price of unit. For earphone models add \$20.00 to list price of unit. For "Busy Signal" add \$12.00 to list price of Master. All models available in Executive Gray Cabinets at slightly additional cost. Write for full details.**

**HOW TO DETERMINE CABLE REQUIREMENTS:** To interconnect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., and total. For C-4920 or C-RP-5920 use two lengths of 6224 Cable, and for C-4930 use three lengths of 6224 Cable. To connect C-41 Staff Station, measure from Staff Station to the one Master to which Staff Station originates calls. To connect C-42 and C-46 Staff Stations, measure a separate length of cable from Staff Station to each Master Station to which Staff Station originates calls (for each C-42 or C-46, follow same procedure).

Manufactured under exclusive TALK-A-PHONE Patents. Licensed under U. S. Patents of A. T. & T. Co. and Western Electric Co. Inc. Prices and Specifications Subject to Change Without Notice

All prices 5% higher west of Rocky Mountains

CHICAGO

TALK-A-PHONE CO.

ILLINOIS

# TALK-A-PHONE

## INTER-COMMUNICATION SYSTEMS FOR INDUSTRY • STORES • OFFICES • HOMES

### Master Station



### Sub-Station



TALK-A-PHONE reaches every department with the speed of sound. Quick as you can flick a finger—Talk and Listen. For the Home, Farm, Professional Man, Office and Business. Eliminate time consuming trips, by-pass congested switch-boards.

TALK-A-PHONE offers "private" or "non-private" inter-communication, provides utmost flexibility with true economy. Designed for continuous day and night use.

TALK-A-PHONE operates at but a fraction of a cent a day . . . and it can be installed by anyone. All units are complete, ready for installation. Walnut bakelite cabinets. All models Underwriters Laboratories Approved.

### MASTER SELECTIVE SYSTEM

Designed for use where one Central Location is to converse with several outlying locations. Master Station, in Central Location, can be connected with one or more (up to 10) Sub-Stations. Start with a Master and only one or two Sub-Stations "privately" or "non-privately" and then add later as necessary. Optional installation of system whereby user can connect Sub-Stations "privately" or "non-privately" and still originate calls to the Master. When system is "private," persons at Sub-Stations need operate no controls and can reply from a distance. When system is "private," Master unit cannot listen in on Sub-Stations; however, Sub-Stations can still answer and originate calls. Operates universally on 110-120 volts, AC-DC. Sturdy bakelite cabinets.

Model LM-5—Master Station for 5 Sub-Stations, complete with tubes and easy-to-follow instructions. Weight 7 lbs. List \$45.00  
 Model LM-10—Master Station for 10 Sub-Stations, complete with tubes and easy-to-follow instructions. Weight 7 lbs. List \$58.00

Model LR-3—Sub-Station for use with LM-5 or LM-10 Masters. Weight 5 lbs. List \$15.95

No. 5303—Cable for connecting LR-3 to LM-5 or LM-10. List, per 10' \$ .75



Master Station can talk with any Sub-Station or with all at once. Enables replies at a distance from unit without operation of controls.

### SUPER SELECTIVE SYSTEM

Here is a versatile low cost intercom system offering extreme flexibility to meet many requirements in industry, offices, homes, etc. Consists entirely of Master Stations so that several separate two-way conversations may be carried on simultaneously without interference to each other. Any Station can call and carry on a conversation with any other Station in the system with absolute "privacy." Stations cannot listen in on each other, nor can a third unit listen in on a conversation of two others. Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Variable volume, adjustable at each unit, controls incoming voice. You can begin with two Masters and add later as needed. Operates universally on 110-120 volts, AC-DC. Sturdy bakelite cabinets.

Model LS-5—Master Station for 5 Masters, complete with tubes and easy-to-follow instructions. Weight 7 lbs. List \$45.00  
 Model LS-10—Master Station for 10 Masters, complete with tubes and easy-to-follow instructions. Weight 7 lbs. List \$58.00

No. 5506—Cable for connecting LS-5 Masters. List, per 10' \$1.70

No. 9911—Cable for connecting LS-10 Masters. List, per 10' \$3.40



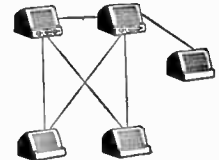
Consists of all Master Stations. Any Station can call any other Station. Several completely private 2-way conversations possible at same time.

### COMBINATION SYSTEM

Personnel can answer incoming calls as far as 40 feet from their unit. Master Stations may talk to each other and with any Sub-Station selectively. Master Stations can switch themselves "private" or "non-private" at will. You can begin with 2 Stations (at least one must be a Master) and add other units as required. Model CL-5 Master has a total inter-connecting capacity of 5 Stations, including Masters and Sub-Stations; while Model CL-10 Master has a total capacity of 10 Stations. Sub-Stations do not consume electric current. Operates universally on 110-120 volts, AC-DC. Sturdy bakelite cabinets.

Model CL-5—Combination Master for 5 Station use, complete with tubes and easy-to-follow instructions. Weight 7 lbs. List \$55.00  
 Model CL-10—Combination Master for 10 Station use, complete with tubes and easy-to-follow instructions. Weight 8 1/2 lbs. List \$74.00  
 Model LR-2—Sub-Station for use with either of above Masters. Weight 5 lbs. List \$15.95  
 Model LR-2M—Same operation as LR-2, but in brown

metal cabinet suitable for wall or desk mounting. Weight 3 lbs. List \$15.95  
 No. 6212—Cable for connecting CL-5 Masters. List, per 10' \$3.00  
 No. 6224—Cable for connecting CL-10 Masters. List, per 10' \$6.00  
 No. 6902—Cable for connecting LR-2 and LR-2M to CL-5 or CL-10 Masters. List, per 10' \$ .60



For the more flexible type of system requiring operation of more than one Master Station, along with Sub-Stations which need not originate calls.

### COMPLETE TWO-STATION SYSTEM

A complete low cost intercom system providing voice communication between any two points. Hundreds of uses . . . connects bedroom with nursery, keeps parents tuned in on baby's every move. Ties in home with garage, farmhouse with barn, etc. . . . Ideal, too, for offices, stores, small factories. Sub-Station can be connected for "private" or "non-private" use. When connected "privately," Master unit cannot listen in on Sub-Station, but both can originate calls to each other. When connected "non-privately," Master can listen in on Sub-Station, and persons can reply to Master from as far as 40 feet from the Sub-Station. Adjustable volume. Sturdy bakelite cabinets. Operates universally on 110-120 volts, AC-DC.

Model LC-2—Two-Station System, complete with Master, Sub-Station, 50' Cable, and easy-to-follow instructions. Wt. 11 lbs. List \$51.00  
 No. 5303—Additional cable for greater distance. List, per 10' \$ .75

### HOW TO DETERMINE CABLE REQUIREMENTS

For LM-5, LM-10 MASTER SELECTIVE Systems, measure from each Sub-Station to the Master and order total. For LS-5, LS-10 SUPER SELECTIVE Systems, measure from first Master to second Master only; from second Master to third Master only; etc., and total. Cable between first and last Masters not necessary. For CL-5, CL-10 COMBINATION Systems, Master cable, measure from Master to Master as above. Sub-Station cable, measure from each Sub-Station to nearest Master only.

All units above available with "privacy" Earphone attachment at \$20.00 per station list. Also in unusually attractive Pearl Gray cabinets at slightly additional cost.

Prices and Specifications Subject to Change Without Notice  
 All prices 5% higher west of Rocky Mountains

CHICAGO

TALK-A-PHONE CO.

ILLINOIS



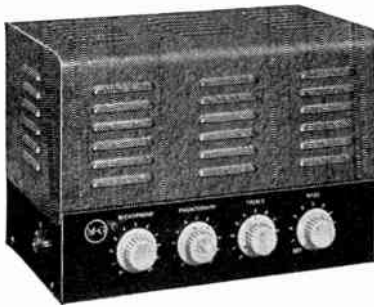
# AMPLIFIERS and SOUND SYSTEMS

**DON McGOHAN, INC., 3700 W. Roosevelt Road, Chicago 24, Ill.**

Amplifiers licensed under U. S. Patents of Western Electric Company, Inc., and American Telephone and Telegraph Company.

M-G Sound Equipment is a complete line of quality products for sound reinforcement and reproduction. Amplifiers and Sound Systems are designed to give exceptional performance but priced within the reach of all users of sound equipment. M-G Amplifiers include features found only in equipment offered usually at greatly increased prices. Components such as loudspeakers, microphones, record

changers and players, projectors, speaker baffles and carrying cases are of equally high quality, all designed to work efficiently together as companion products. Performance ratings of M-G amplifiers are conservative and can be depended upon to deliver performance claimed. Altogether M-G Sound Equipment can be purchased with complete confidence in its value.



## MODEL M-G 18 AMPLIFIER

**Features:** 18-watt undistorted output. Microphone and phonograph inputs. Bass and treble controls. Output impedance 4, 8, 16, 500 ohms.

### SPECIFICATIONS

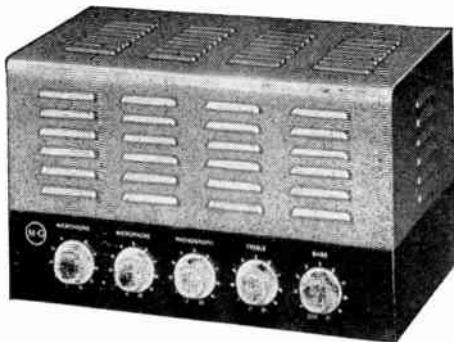
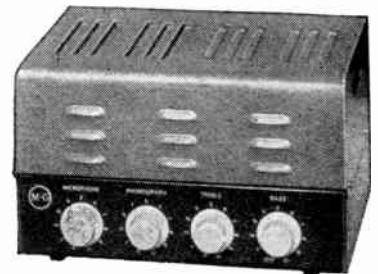
**Power Output:** 18 watts, less than 5% distortion. **Gain:** Microphone, 114 db; phonograph, 75 db. **Controls:** Microphone, phonograph, treble, bass with on-off switch. **Bass range** +10 db at 100 cps.; **treble range** -18 db at 10,000 cps. **Inputs:** Microphone, phonograph. **Tubes:** 1 6SC7, 1 6SJ7, 2 6L6G, 1 5U4G. **Output Impedance:** 4, 8, 16, 500 ohms. **Power Consumption:** 90 watts, 117 volts, 60 cps. **Hum Level:** 63 db below 10 watts. **Frequency Response:** ± 2 db, 35 to 15,000 cps. **Dimensions:** 12" x 7" x 8 1/4" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.

## MODEL M-G 10B AMPLIFIER

**Features:** 10-watt undistorted output. Bass and treble controls. Output Impedance 4, 8, 16, 500 ohms. Can be used with reluctance pickup.

### SPECIFICATIONS

**Power Output:** 10 watts, less than 5% distortion. **Gain:** Microphone, 120 db; phonograph, 80 db. **Controls:** 1 microphone, 1 phonograph, 1 treble, 1 bass with on-off switch. **Bass range** +14 db to -4 db at 100 cps.; **treble range** +10 db to -20 db at 10,000 cps. **Inputs:** 1 microphone (may be used with reluctance pickup), 1 phonograph. **Tubes:** 1 6SC7, 1 6SN7GT, 2 6V6GT, 1 5Y3GT. **Output Impedance:** 4, 8, 16, 500 ohms. **Power Consumption:** 65 watts, 117 volts, 60 cps. **Hum Level:** 65 db below 10 watts. **Frequency Response:** ± 2 db, 35 to 15,000 cps. **Dimensions:** 11 1/4" x 7" x 6 5/8" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.



## MODEL M-G 20B AMPLIFIER

**Features:** 20-watt undistorted output. 2 microphone, 2 phonograph inputs. Bass and treble controls. Output impedance 2, 2.7, 4, 8, 16, 250, 500 ohms. Input for reluctance pickup.

### SPECIFICATIONS

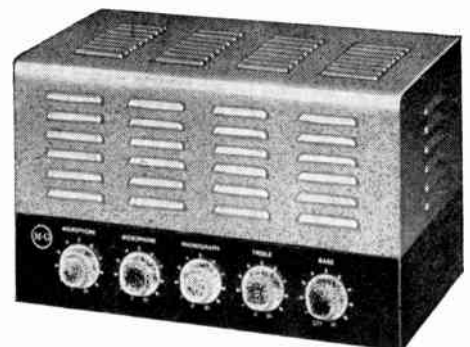
**Power Output:** 20 watts, less than 5% distortion. **Gain:** Microphone, 120 db; phonograph, 75 db. **Controls:** 2 microphone, 1 phonograph for crystal or reluctance, 1 treble, 1 bass with on-off switch. **Bass range** +9 db at 100 cps; **treble range** -18 db at 10,000 cps. **Inputs:** 2 microphone, 2 phonograph (1 crystal, 1 reluctance). **Tubes:** 2 6SC7, 1 6SQ7, 1 6SL7GT, 2 6L6G, 1 5V4G. **Output Impedance:** 2, 2.7, 4, 8, 16, 250, 500 ohms. **Power Consumption:** 90 watts, 117 volts, 60 cps. **Hum Level:** -60 db below 20 watts. **Frequency Response:** ± 2 db, 40 to 15,000 cps. **Dimensions:** 14" x 8" x 8 1/4" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.

## MODEL M-G 30B AMPLIFIER

**Features:** 30-watt undistorted output. 2 microphone, 2 phonograph inputs. Bass and treble controls. Output impedance 2, 2.7, 4, 8, 16, 250, 500 ohms. Input for reluctance pickup.

### SPECIFICATIONS

**Power Output:** 30 watts, less than 5% distortion. **Gain:** Microphone, 120 db; phonograph, 75 db. **Controls:** 2 microphone, 1 phonograph for crystal or reluctance, 1 treble control, 1 bass control with on-off switch. **Bass range** +9 db at 100 cps; **treble range** -18 db at 10,000 cps. **Inputs:** 2 microphone, 2 phonograph (1 crystal, 1 reluctance). **Tubes:** 2 6SC7, 1 6SQ7, 1 6SL7GT, 2 6L6G, 1 5V4G. **Output Impedance:** 2, 2.7, 4, 8, 16, 250, 500 ohms. **Power Consumption:** 130 watts, 117 volts, 60 cps. **Hum Level:** 62 db below 30 watts. **Frequency Response:** ± 2 db, 40 to 15,000 cps. **Dimensions:** 14" x 8" x 8 1/4" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.



*All specifications and prices subject to change without notice.*



# AMPLIFIERS and SOUND SYSTEMS

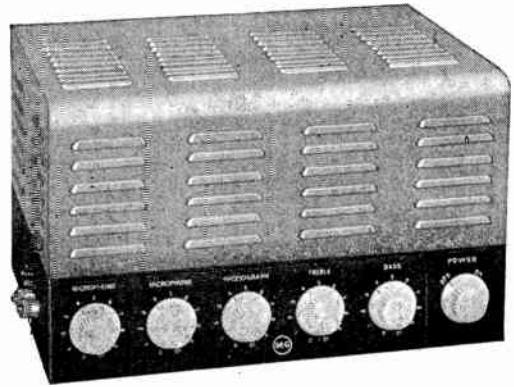
DON McGOHAN, INC., 3700 W. Roosevelt Road, Chicago 24, Ill.

## MODEL M-G 60 AMPLIFIER

**Features:** 60-watt undistorted output. 2 microphone, 2 phonograph inputs. Bass and treble controls. Output Impedance 4, 8, 16, 250 ohms, 70 and 140 volts.

### SPECIFICATIONS

**Power Output:** 60 watts, less than 5% distortion. **Gain:** Microphone, 124 db; phonograph, 80 db. **Controls:** 2 microphone, 1 phonograph, 1 bass, 1 treble, 1 on-off switch. **Inputs:** 2 microphone, 2 phonograph. **Tubes:** 2 6SJ7, 1 6SL7GT, 1 6V6GT, 2 807, 2 5U4G, 1 5Y3GT. **Output Impedance:** 4, 8, 16, 250 ohms, 70 and 140 volts. **Power Consumption:** 195 watts, 117 volts, 60 cps. **Hum Level:** 64 db below 60 watts. **Frequency Response:**  $\pm 2$  db, 20 to 20,000 cps. **Dimensions:** 14" x 10" x 8 $\frac{3}{4}$ " high. **Finish:** Two-tone Midnight gray and slate Hammerloid.



## MODEL M-G 60X BOOSTER AMPLIFIER

### SPECIFICATIONS

**Power Output:** 60 watts, less than 5% distortion. **Gain:** 75 db. **Controls:**  $\frac{1}{2}$  megohm gain, separate power switch. **Tubes:** 1 6SJ7, 1 6V6GT, 2 807, 2 5U4G, 1 5Y3GT. **Output Impedance:** 4, 8, 16, 250 ohms, 70 and 140 volts. **Power Consumption:** 185 watts, 117 volts, 60 cps. **Hum Level:** 64 db below 60 watts. **Dimensions:** 14" x 8" x 8 $\frac{3}{4}$ " high. **Finish:** Two-tone Midnight gray and slate Hammerloid.



M-G 25M, M-G 25

## MODEL M-G 25M MOBILE AMPLIFIER

**Features:** 18 to 25 watt undistorted output. Tone control. Output impedance 2, 2.7, 4, 8, 16, 250, 500 ohms. Removable top can be replaced with 3-speed manual record player (shown) or 3-speed automatic record changer.

### SPECIFICATIONS

**Power Output:** A.C. 25 watts, less than 5% distortion; D.C. 18 watts, less than 5% distortion. **Gain:** Microphone, 120 db; phonograph, 75 db. **Controls:** 2 microphone, 1 phonograph, 1 tone control, 1 separate on-off switch, 1 standby switch. **Tone control range** -21 db at 10,000 cps. **Inputs:** 2 microphone, 1 phonograph. **Tubes:** 1 6SC7, 1 6SQ7, 1 6SL7GT, 2 6L6G, 2 6X5GT. **Output Impedance:** 2, 2.7, 4, 8, 16, 250, 500 ohms. **Power Consumption:** A.C. 90 watts, 117 volts, 60 cps.; D.C. 18 amps., 6 volts. **Hum Level:** 60 db below 25 watts. **Frequency Response:**  $\pm 2$  db, 40 to 15,000 cps. **Dimensions:** 13" x 14 $\frac{1}{2}$ " x 9" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.

**NOTE:** Automatic record changer and manual record player subject to excise tax.

## MODEL M-G 25 AMPLIFIER

**Features:** 25-watt undistorted output. 2 microphone, 1 phonograph inputs. Tone control. Output impedance 2, 2.7, 4, 8, 16, 250, 500 ohms.

### SPECIFICATIONS

**Power Output:** 25 watts, less than 5% distortion. **Gain:** Microphone, 120 db; phonograph, 75 db. **Controls:** 2 microphone, 1 phonograph, 1 tone control, separate on-off switch. **Tone control range** -21 db at 10,000 cps. **Inputs:** 2 microphone, 1 phonograph. **Tubes:** 1 6SC7, 1 6SQ7, 1 6SL7GT, 2 6L6G, 1 5V4G. **Output Impedance:** 2, 2.7, 4, 8, 16, 250, 500 ohms. **Power Consumption:** 90 watts, 117 volts, 60 cps. **Hum Level:** 60 db below 25 watts. **Frequency Response:**  $\pm 2$  db, 40 to 15,000 cps. **Dimensions:** 13" x 14 $\frac{1}{2}$ " x 9" high. **Finish:** Two-tone Midnight gray and slate Hammerloid.

## MODEL M-G 7B AMPLIFIER

**Features:** 7 watts usable output. Microphone and phonograph inputs. Output impedance 4 and 8 ohms.

### SPECIFICATIONS

**Power Output:** 7 watts. **Gain:** Microphone, 113 db; phonograph, 75 db. **Controls:** 1 microphone, 1 phonograph, 1 tone control with on-off switch. **Tone control range** -18 db at 10,000 cps. **Inputs:** 1 microphone, 1 phonograph. **Tubes:** 1 6SC7, 1 6L6G, 1 5Y3GT. **Output Impedance:** 4 and 8 ohms. **Power Consumption:** 60 watts, 117 volts, 60 cps. **Hum Level:** 61 db below 7 watts. **Frequency Response:**  $\pm 3$  db, 80 to 10,000 cps. **Dimensions:** 9" x 5 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ " high. **Finish:** Two-tone Midnight gray and slate Hammerloid.



All specifications and prices subject to change without notice.



# AMPLIFIERS and SOUND SYSTEMS

DON McGOHAN, INC., 3700 W. Roosevelt Road, Chicago 24, Ill.

## SOUND SYSTEMS

### Model M-G 75 Portable Sound System

Includes: 1 Model M-G 7B Amplifier; 1 Model HR Astatic microphone with 15 ft. cable and connectors; 1 8" Jensen heavy duty PM speaker with cable and plug; 1 Model CB-710 carrying case.

### Model M-G 10S Portable Sound System

Includes: 1 Model M-G 10B Amplifier; 1 Model HR Astatic microphone with 15 ft. cable and connectors; 2 8" Jensen heavy duty PM speakers with 25 ft. cables and plugs; 1 Model CB-10 carrying case. (Available with Model JT-30 Astatic microphone instead of Model HR at additional cost).

### Model M-G 18S Sound System

Includes: 1 Model M-G 18 Amplifier, 1 Model JT-30 Astatic microphone with 15 ft. cable and connectors, 2 12" Jensen PM Speakers with 25 ft. cables and plugs, 1 Model C-2230 Carrying Case.

### Model M-G 20S Portable Sound System

Includes: 1 Model M-G 20B Amplifier; 1 Model JT-30 Astatic microphone with 15 ft. cable and connectors; 2 12" Jensen PM speakers with 25 ft. cables and plugs; 1 Model C-2230 Carrying Case.

### Model M-G 30S Portable Sound System

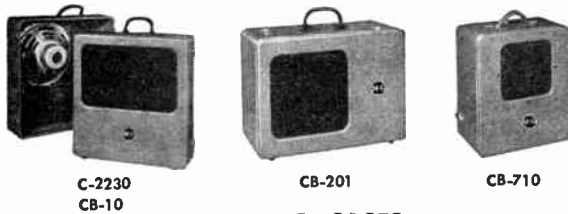
Includes: 1 model M-G 30B Amplifier; 1 Model JT-30 Astatic microphone with 15 ft. cable and connectors; 2 12" Jensen PM speakers with 25 ft. cables and plugs; 1 Model C-2230 Carrying Case.

### Model M-G 25S Portable Sound System

Includes: 1 Model M-G 25 Amplifier; 1 Model JT-30 Astatic microphone with 15 ft. cable and connectors; 2 12" Jensen PM speakers with 25 ft. cables and plugs; 1 Model CB-201 speaker carrying case; 1 Model CB-25 amplifier carrying case. (Optional: 3-speed automatic record changer or manual record player at additional cost.)

### Model M-G 25MS Portable Sound System

Includes: 1 Model M-G 25M Mobile Amplifier; 1 Model JT-30 Astatic microphone with 15 ft. cable and connectors; 2 12" Jensen PM speakers with 25 ft. cables and plugs; 1 Model CB-201 speaker carrying case; 1 Model CB-25 amplifier carrying case. (Optional: 3-speed automatic record changer or manual record player at additional cost.)



## CARRYING CASES

Smartly styled, air luggage type cases built of plywood with rounded corners and covered with durable gray linen weave fabric; black grille; leather handles; equipped with catches. Space within for speakers, microphone and cables.

Model No.	Speaker No. and Size	Width	Dimensions Height less Handles	Depth
C-2230	2-12"	20½"	19½"	11¾"
CB-201†	2-12"	20½"	15"	10"
CB-25*		16¾"	15"	15¼"
CB-10	2- 8"	16"	15"	10½"
CB-710	1- 8"	13½"	15"	9½"

\*Carrying Case for Models M-G 25 or M-G 25M Amplifiers.  
†For Speakers only.

## PROJECTORS

Suitable for sound reinforcement indoors or outdoors. Unaffected by weather. May be turned at any angle and locked in place. Rustproof, weatherproof terminal box. No soldering to connect. Furnished with brackets.



Model VH-24

Model VH-24—25 watts, 16 ohms. Diameter 25", length ww—¾".  
Model VH-20—25 watts, 16 ohms. Diameter 21", length 20¼".  
Model VH-15—15 watts, 8 ohms. Diameter 16", length 15".  
Model VH-91—15 watts, 8 ohms. Diameter 8¾", length 7¾"

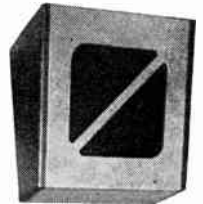
Printed in U.S.A.

All specifications and prices subject to change without notice.

Form 200

## SPEAKER Baffles

Designed for wall mounting. Two-tone fabric covered plywood. Tongue and groove construction. Non-resonant.



B-105  
B-106 B-108

B-112

Model No.	Speaker Size	Width	Dimensions Height	Depth
B-105	5"	6½"	6¾"	4¼"
B-106	6"	7¾"	7¾"	4½"
B-108	8"	9½"	9½"	6½"
B-112	12"	14"	14"	9"

## ASTATIC MICROPHONES

Model HR — Crystal microphone. Output level —52 db. Can be used on desk, in the hand, or on a floor stand. Furnished with 15' shielded cable and connectors. On-off switch.



Model HR

with interlocking metal base. May be used on floor stand.

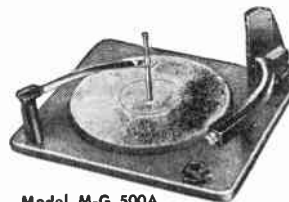
Model JT-30 — Crystal microphone. Output level —52 db. Furnished with wood handle



Model JT-30

## AUTOMATIC 3-SPEED RECORD CHANGER

Model M-G 500A — For use with Models M-G 25 and M-G 25M Amplifiers or Models M-G 25S and M-G 25MS Sound Systems.



Model M-G 500A

## MANUAL 3-SPEED RECORD PLAYER

Model M-G P10A — For use with Models M-G 25 and M-G 25M Amplifiers or Models M-G 25S or M-G 25MS Sound Systems. Shown mounted on Model M-G 25 Amplifier.

# RCA ELECTRONIC COMPONENTS

## SPEAKERS — PICKUPS



QUALITY ENGINEERED TO INSURE DEPENDABLE PERFORMANCE



RCA Duo-Cone 15" Speaker

### PM & EM LOUDSPEAKERS

- Mountings Designed to RTMA Standards.
- Dustproof, Rust-Resistant.
- Universal Transformer Mounting Bracket on All 4", 4" x 6", and 5" PM's.
- Rugged Mechanical Construction With Welded Housing Assembly.
- Moisture-Resistant Voice-Coil Suspension Assures High Efficiency and Dependability.
- Speaker Mounting Bracket Enclosed With All 4", 4" x 6", and 5" PM's.
- Rim Gaskets Supplied with all 12" Speakers.

### RCA SPEAKER CHARACTERISTICS

#### Permanent-Magnet Types

SIZE	TYPE No.	RESONANT FREQUENCY (cps)	MAGNET WEIGHT (oz.)	VOICE-COIL IMPEDANCE	MAXIMUM POWER HANDL'G CAP. (WATTS)	SUGGT'D LIST PRICE
2" x 3"	214S1	230-340	1.0	11.8 ohms at 1000 cycles	0.125	\$ 4.75
4" (shallow pot type)	304S2	175-225	1.0	3.2 ohms at 400 cycles	3	4.00
4"	404S2	170-225	1.47	3.2 ohms at 400 cycles	3	4.35
4" x 6"	246S2	150-200	0.68	3.2 ohms at 400 cycles	3	4.20
4" x 6"	446S2	150-200	1.47	3.2 ohms at 400 cycles	3	4.75
5"	205S2	150-200	0.68	3.2 ohms at 400 cycles	3	4.00
5"	405S2	150-200	1.47	3.2 ohms at 400 cycles	3	4.60
5" x 7"	257S1	120-140	1.47	3.2 ohms at 400 cycles	6	5.75
6"	306S1	100-140	1.47	3.2 ohms at 400 cycles	4	6.25
6" x 9"	269S1	95-120	2.4	3.2 ohms at 400 cycles	8	8.75
8"	208S2	75-95	2.15	3.2 ohms at 400 cycles	8	7.50
8"	208S4	75-95	2.15	6-8 ohms at 400 cycles	8	7.50
10"	410S1	75-125	6.8	6-8 ohms at 400 cycles	10	13.25
12"	112S1	65-90	2.15	3.2 ohms at 400 cycles	12	10.50
12"	202S1	65-90	.97	6-8 ohms at 400 cycles	12	9.90
12"	412S6	65-90	6.8	3.2 ohms at 400 cycles	12	13.75
12"	412S7	65-90	6.8	6-8 ohms at 400 cycles	12	15.00
15"	515S2	40-55	32	16 ohms at 400 cycles	25	82.50

#### Field-Coil Types

SIZE	TYPE No.	RESONANT FREQUENCY (cps)	FIELD RESISTANCE (ohms)	FIELD CURRENT	VOICE COIL IMPEDANCE	MAXIMUM POWER HANDL'G CAP. (WATTS)	SUGGT'D LIST PRICE
4" x 6"	746S1	150-200	450	65 ma.	3.2 ohms at 400 cycles	3	\$ 6.00
5"	705S1	150-200	450	65 ma.	3.2 ohms at 400 cycles	3	6.00
6" x 9"	869S1	95-120	6	1 amp.	3.2 ohms at 400 cycles	8	8.25
12"	712S2	70-85	1000	70 ma.	3.2 ohms at 400 cycles	12	14.00

#### Transformers for Use with 15" Speaker (515S2)

TYPE No.	DESCRIPTION	PRIMARY IMPEDANCE	SECONDARY IMPEDANCE	POWER-HANDLING CAPABILITY	SUGGT'D LIST PRICE
213T1	Output Transformer (Line-to-Voice Coil)	250, 500, 1000, 1500, 2000 ohms	16 ohms	25 watts	\$ 9.95
214T1	Output Transformer (Tube-to-Voice Coil)	4500, 7000, 10000, 14000 ohms	16 ohms	25 watts	10.95

## CRYSTAL PICKUPS & STYLI

### CRYSTAL PICK-UPS

Stock No.	Suggested List Price*
9890	\$ 7.00
14820	11.00
31050	4.20
31156	4.75
34307	4.20
37158	4.75
38598	7.25
38610	5.55
39686	4.75
39919	7.25
70338	6.75
70338A	7.00

Stock No.	Suggested List Price*
70339	\$ 7.00
72551	7.75
74067	6.00
74625	6.00
74984	7.40
75044	10.75
75475	9.75
75575	6.00
75976	6.75
76257	6.75
76297	7.40

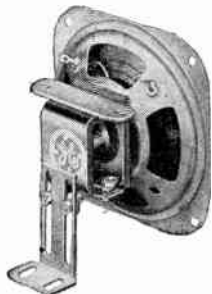
### STYLI

Stock No.	Suggested List Price*
39564	\$ 1.40
70915	3.00
72345	3.00
74068	1.60
74818	1.60
74985	1.80
75045	1.50
75046	1.50
75496	1.50
75497	1.50
75770	2.50
76374	1.45

Note: Stock #72898 Adapter Kit (package quantity 10) List Price \$.25 each can be used with Stock #70338 Crystal to replace Stock #71173 used in Models 55U and 55AU.

# GENERAL ELECTRIC

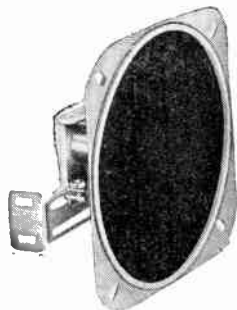
## LOUDSPEAKERS for FIDELITY • DURABILITY • DEPENDABILITY A Speaker for Every Application



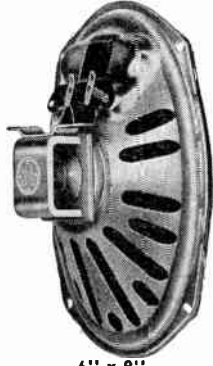
4"



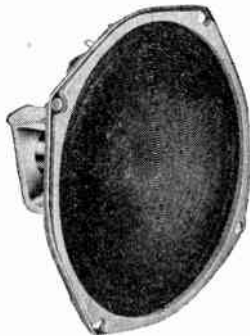
5"



5 1/4"



6" x 9"



6 1/2"



8"



10"



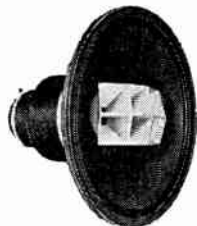
12"

Cat. Number	Size (Inches)	Magnet Weight (Ozs.)	Rating Power (Watts)	V.C. Imp. (Ohms)	Response (Cycles)	List Price*
400D	4	1.3	4	3.2	140 to 7,000	\$ 4.90
402D	4	1.0	4	3.2	140 to 7,000	4.60
403D	4	.68	4	3.2	140 to 7,000	4.30
500D	5	1.3	4	3.2	125 to 8,000	5.20
503D	5	.68	4	3.2	125 to 8,000	4.55
525D	5 1/4	1.3	4	3.2	120 to 7,000	5.45
526D	5 1/4	1.0	4	3.2	120 to 7,000	5.00
527D	5 1/4	.68	4	3.2	120 to 7,000	4.60
625D	6 1/2	1.3	4	3.2	110 to 9,000	6.35
626D	6 1/2	1.0	4	3.2	110 to 9,000	5.75
650D	6 1/2	2.98	8	3.2	110 to 10,000	7.75
703D	6x9	1.47	8	3.2	70 to 13,000	8.65
800D	8	2.98	8	3.2	80 to 11,000	10.30
810D	8	6.8	12	3.2	80 to 10,000	13.80
818D	8	6.8	12	8.0	80 to 10,000	14.40
1000D	10	6.8	12	3.2	60 to 7,000	17.55
1001D	10	14.5	25	8.0	60 to 8,000	28.45
1003D	10	9.0	25	8.0	60 to 8,000	21.30
1012D	10	3.16	12	3.2	60 to 7,000	11.80
1018D	10	6.8	12	8.0	60 to 7,000	18.10
1200D	12	6.8	12	3.2	60 to 8,000	19.00
1201D	12	14.5	25	8.0	50 to 13,000	33.95
1203D	12	9.0	25	8.0	50 to 13,000	23.60
1212D	12	3.16	12	3.2	60 to 8,000	12.95
1218D	12	6.8	12	8.0	60 to 8,000	19.55
400C22	4	1.3	4	3.2	160 to 7,000	4.30
525C18	5 1/4	1.3	4	3.2	120 to 7,000	4.60

# speakers, cabinets multicellular horns



9356 Santa Monica Blvd.  
Beverly Hills, Calif.  
161 Sixth Avenue  
New York 13, N.Y.



**604B  
DUPLEX  
SPEAKER**

604B, with its associated dividing network (N-1000B) is the finest single loudspeaker on the market. Meets critical requirements of broadcast and recording monitoring, public address and music distribution systems. Separate units for high and low frequencies. Voice coils made of edge-wound ribbon. Multicellular horn provides uniform sound distribution (60° hor., 40° vert.). 1,000 cycle crossover. V. C. and network impedance 16 ohms. Speaker handles 30 watts. Frequency response from 30 to 16,000 cps. Wt. including network, 40 lbs. Dimensions: 15 $\frac{3}{8}$ " dia.; 11 $\frac{1}{2}$ " deep.

Net Price: \$140.00

N-1000B Network must be ordered as separate item.

Net Price: \$19.00

## CABINETS

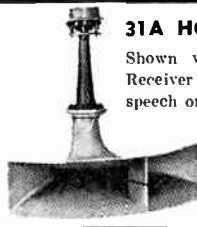
Engineered for high quality sound reproduction. Cabinets are made of heavy plywood. All joints are screwed and glued. Interiors padded to eliminate spurious rattles and reflections. Code letters show speaker size: A-15"; B-12"; C-8".

**605-A**—Furniture Finish Walnut or Mahogany.  
Height 35 $\frac{3}{4}$ ", Width 31", Depth 17 $\frac{1}{2}$ ".  
Net Price: \$150.00

**612-A, B**—Hammer-tone Gray.  
Height 29 $\frac{1}{2}$ ", Width 25 $\frac{1}{2}$ ", Depth 17 $\frac{3}{4}$ ".  
Net Price \$56.00

**614-A, B, C**—Portable, Hammer-tone Gray.  
Height 24 $\frac{3}{4}$ ", Width 18 $\frac{3}{4}$ ", Depth 14 $\frac{1}{4}$ ".  
Net Price: \$47.50

**618-B, C**—Portable, Slanting Front, Hammer-tone Gray.  
Height 22", Width 17", Depth 13 $\frac{1}{4}$ ".  
Net Price: \$38.00

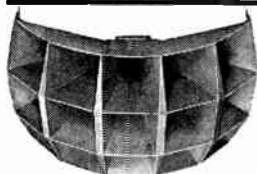


**31A HORN\***

Shown with 720A Receiver and 27A Receiver Attachment. Handles 30 watts, speech or music. Width 23", Height 9", Depth 15". Weight, 9 $\frac{1}{2}$  lbs. Gray finish.

List Price: \$61.05

\*Distributed by Graybar Electric Co.



(SEE  
TABLE  
BELOW)

## MULTICELLULAR HORNS

Altec Lansing multicellular horns are constructed from true exponential horn cells grouped in configurations to meet various sound distribution needs. The large multicellular horn is the best way to cover great distances and areas with high levels of acoustic power above 200-300 cps, and to direct this energy for maximum acoustic efficiency. Chart shows horns available. Throats must be ordered separately to type required.

(See Table Below)



**603B MULTICELL DIA-CONE SPEAKER**

Offers high efficiency, broad distribution, wide frequency response, freedom from distortion. Dia-Cone principle provides extended frequency response. Multicellular horn loads high frequency diaphragm and distributes sound over 60° hor., 40° vert.: 15" cone insures full bass reproduction and 25 watt power-handling capacity. Voice coil: 8 ohms. Weight: 18 lbs. Diameter: 15 $\frac{3}{8}$ ". Depth 7".  
Net Price: \$75.00



**600B DIA-CONE SPEAKER**

Efficiency, small space requirements, light weight and superior quality of reproduction, make the 600B an ideal unit in the lower priced speaker field. Utilizes Dia-Cone principle. Similar in construction to the 603B. V. C. 8 ohms. Power rating: 20 watts. Weight: 12 lbs. Diameter: 12 $\frac{1}{4}$ ". Depth: 5 $\frac{1}{4}$ ".  
Net Price: \$46.50



**400B DIA-CONE SPEAKER**

Designed for use where the benefits of large-speaker performance cannot be utilized because of space and weight limitations. An extremely efficient, high quality unit, it is ideal for use in portable devices, airplanes, busses, etc. V. C. imp. 8 ohms. Power rating: 12 watts. Weight: 4 lbs. Diameter: 8 $\frac{1}{4}$ ". Depth: 3 $\frac{5}{8}$ ".  
Net Price: \$22.50

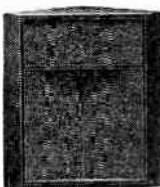


**755A SPEAKER\***

Exceptional frequency response, small size and moderate power handling capacity provide an ideal combination for low level distribution systems where multiple speakers are used. Its small size makes wall installations practical and easy. 70-13,000 cps. Impedance, 4 ohms. 3 watts. Dimensions: 8 $\frac{3}{8}$ " dia. x 3 $\frac{1}{8}$ " deep. Weight: 4 $\frac{1}{4}$  lbs.

List Price: \$24.60

\*Distributed by Graybar Electric Co.



**820A CORNER SPEAKER SYSTEM**

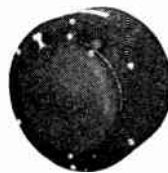
The Concert Grand of the loudspeaker world—full two-way system built into an attractive mahogany corner cabinet—includes newly designed direct radiating horn in reflex cabinet, an 802B H.F. unit mounted on H-808 multicellular horn, two 803A L.F. units and an N-300D (800 cycle) network. Provides unsurpassed quality over the entire audio range for home music installations, small auditoriums, audition rooms, etc. Impedance 12 ohms—30 watts. Dimensions: height 47 $\frac{3}{8}$ "; maximum width 42 $\frac{1}{2}$ "; maximum depth 29". Wt. 230 lbs.

Net Price: \$525.00

821A frame only—Net Price: \$99.00

**290  
SPEAKER**

Designed to fit on throats of Altec Lansing multicellular horns. So used, 290 speaker will produce sound level of 115 db (ref. 10<sup>16</sup> watts/cm<sup>2</sup>) at 5' with input of 0.1 watt at 1 kc. Mounted in cast bakelite ring, entire diaphragm and v.c. assembly is field replaceable. When used for all-range reproduction, attenuate frequencies below 300 cps. 30 watt capacity above 300 cps. 24 ohm v.c. under normal horn loading conditions. 6 $\frac{3}{8}$ " dia. x 4 $\frac{7}{8}$ " deep. Wt. 21 lbs.  
Net Price: \$159.00

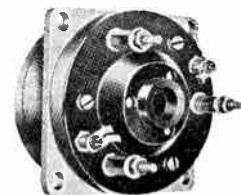


**720A RECEIVER\***

500-6500 cps. 30 watts. 8 ohms. 4 $\frac{1}{16}$ " x 4 $\frac{1}{16}$ " x 3 $\frac{1}{4}$ ". Weight, 4 lbs.

List Price: \$67.50

\*Distributed by Graybar Electric Co.



Horn Code #	Cell Configuration	Sound Distribution		Dimensions t-L-W-H	Net Weight (Less Speakers)	NET PRICE	Code No. Throat Required			Throat Code No.	NET PRICE
		Horizontal	Vertical				1 Unit	2 Units	4 Units		
H-803	2 x 4	70°	35°	36 x 32 x 18	85	\$132.00	30162			30162	\$18.00
H-1003	2 x 5	90°	35°	35 x 40 x 18	131	177.00	30210	30170		30166	21.00
H-1504	3 x 5	105°	60°	34 x 40 x 24	160	249.00				30210	21.00
H-1803	3 x 6	105°	53°	35 x 43 x 25	184	249.00	30166			(2)30170	36.00
										30172	42.00

† Overall length of horn including throat and 288 unit (s).





# SPEAKERS

These speakers are engineered and manufactured solely for the replacement field for use in home receivers, auto sets, television sets and intercommunication systems. RTMA standard dimensions. Fully dust-proofed. Baked aluminum enamel finish. RTMA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all 3 1/2" to 6 1/2" speakers and may be attached to any two of the FOUR mounting holes in the U shaped pat. Voice coil impedance of speakers listed below is 3.2 ohms ± 10%.



Figure A

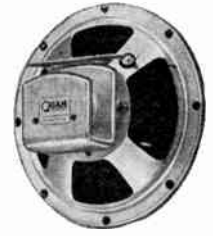
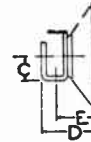


Figure B

ED — Electro Dynamic Speakers

PM — Permanent Magnet Speakers

TYPE	CAT. No.	SIZE	FIGURE	FIELD	MAX. WATTS INPUT (approx.)	DIMENSIONS IN INCHES			SHIP. WT. LBS.	LIST PRICE
						C	D	E		
ED	3E45	3 1/2"	A	450 Ohms	2.5	1 1/4	1 7/8	1 1/4	3/4	\$ 4.40
PM	3A07*	3 1/2"	A	.68 oz. Alnico 5	2.5	3/4	1 19/32	1 1/8	1/2	4.00
ED	4E45	4"	A	450 Ohms	3	1 1/4	2	1 7/8	1	4.40
	4E10	4"	A	1000 Ohms	3	1 1/4	2	1 7/8	1	4.40
	4E27	4"	A	2700 Ohms	3	1 1/4	2	1 7/8	1	4.40
PM	4A07*	4"	A	.68 oz. Alnico 5	3	3/4	1 23/32	1 5/8	1/2	4.00
	4A1	4"	A	1.0 oz. Alnico 5	3	1	2 1/8	1 5/8	3/4	4.25
	4A15	4"	A	1.47 oz. Alnico 5	3	1	2 1/8	1 5/8	3/4	4.70
ED	5EV6	5"	B	6 Volt	3.5	1 1/4	2 1/8	1 19/32	1 1/4	4.50
	5E45	5"	B	450 Ohms	3.5	1 1/4	2 1/8	1 19/32	1	4.60
	5E10	5"	B	1000 Ohms	3.5	1 1/4	2 1/8	1 19/32	1	4.60
	5E18	5"	B	1800 Ohms	3.5	1 1/4	2 1/8	1 19/32	1 1/4	4.60
	5E27	5"	B	2700 Ohms	3.5	1 1/4	2 1/8	1 19/32	1	4.60
PM	5A07*	5"	B	.68 oz. Alnico 5	3.5	3/4	1 7/8	1 7/8	3/4	4.20
	5A1	5"	B	1.0 oz. Alnico 5	3.5	1	2 1/8	1 7/8	1	4.45
	5A15	5"	B	1.47 oz. Alnico 5	3.5	1	2 1/8	1 7/8	1	4.85
ED	52EV6	5 1/4"	A	6 Volt	4	1 1/4	2 1/2	1 1/2	1 1/2	5.00
	52E10	5 1/4"	A	1000 Ohms	4	1 1/4	2 1/2	1 1/2	1 1/4	5.00
PM	52A1	5 1/4"	A	1.0 oz. Alnico 5	4	1	2 23/64	1 3/4	1	4.65
	52A21	5 1/4"	A	2.15 oz. Alnico 5	4	1 1/8	2 5/8	1 7/8	1 1/4	5.70
ED	6EV6	6 1/2"	D	6 Volt	5	1 1/4	2 23/32	2 1/32	1 1/2	5.40
	6EHV6	6 1/2"	D	6 Volt	6	1 31/64	2 23/32	2 1/8	3/4	6.10
	6E10	6 1/2"	D	1000 Ohms	5	1 1/4	2 23/32	2 1/32	1 1/2	5.40
	6E18	6 1/2"	D	1800 Ohms	5	1 1/4	2 23/32	2 1/32	1 1/2	5.40
	6E25	6 1/2"	D	2500 Ohms	5	1 1/4	2 23/32	2 1/32	1 1/2	5.40
	6E45	6 1/2"	D	450 Ohms	5	1 1/4	2 23/32	2 1/32	1 1/2	5.40
PM	6A1	6 1/2"	D	1.0 oz. Alnico 5	5	1	2 5/8	2	1	4.80
	6A15	6 1/2"	D	1.47 oz. Alnico 5	5	1	2 5/8	2	1	5.20
	6A21	6 1/2"	D	2.15 oz. Alnico 5	5	1 1/8	2 7/8	2 1/8	1 1/4	5.85
	6A31	6 1/2"	D	3.16 oz. Alnico 5	6	1 3/8	3 11/64	2 9/32	1 1/2	6.75
ED	7EV6	7"	D	6 Volt	7	1 9/32	2 3/4	—	2	6.75
	7EV6A†	7"	D	6 Volt	7	1 9/32	2 3/4	—	2	6.75
PM	7A21*	7"	D	2.15 oz. Alnico 5	6	7/8	2 21/32	—	1	7.25
	7A31	7"	D	3.16 oz. Alnico 5	9	1 1/4	3 1/32	—	2	8.50
ED	8EV6	8"	D	6 Volt	7	1 1/4	3 9/32	—	1 3/4	6.75
	8E10	8"	D	1000 Ohms	7	1 1/4	3 9/32	—	1 1/2	6.75
	8EH10	8"	D	1000 Ohms	9	1 11/32	3 1/2	—	2 1/4	7.75
	8E18	8"	D	1800 Ohms	7	1 1/4	3 9/32	—	1 3/4	6.75
	8EH18	8"	D	1800 Ohms	9	1 11/32	3 1/2	—	2 1/4	7.75
	8E25	8"	D	2500 Ohms	7	1 1/4	3 9/32	—	1 3/4	6.75
	8EH25	8"	D	2500 Ohms	9	1 11/32	3 1/2	—	2 1/4	7.75
PM	8A21	8"	D	2.15 oz. Alnico 5	7	1 1/8	3 13/32	—	1 1/2	7.20
	8A31	8"	D	3.16 oz. Alnico 5	9	1 3/8	3 21/32	—	2 1/4	8.50

\*Very shallow construction.

†Rotated Pot

3 1/2" speakers — without Adjust-a-Cone suspension.

## TELEVISION SPEAKERS

ED	5E62	5"	B	62 Ohms	3.5	1-1/4	2-7/16	1-19/32	1-1/4	\$4.60
	5E95	5"	B	95 Ohms	3.5	1-1/4	2-7/16	1-19/32	1-1/4	4.60
	46E62	4" x 6"	C	62 Ohms	3.5	1-5/64	2-15/64	1-5/8	1-1/4	5.30
	46E95	4" x 6"	C	95 Ohms	3.5	1-5/64	2-15/64	1-5/8	1-1/4	5.30
	6E62	6 1/2"	D	62 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40
	6E95	6 1/2"	D	95 Ohms	5	1-1/4	2-23/32	2-1/32	1-1/2	5.40



# SPEAKERS

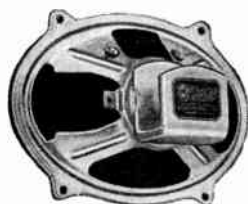


Figure C

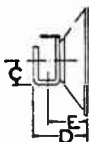


Figure D

QUAM speakers have been produced under the same management since 1923 and are used by leading set and sound equipment manufacturers throughout the world. They are nationally advertised, fully protected by patents—their use insures customer satisfaction. QUAM WEATHERPROOFED SPEAKERS are especially designed for OUTDOOR THEATRE installation. Quotations on request.

TYPE	CAT. No.	SIZE	FIGURE	FIELD	MAX. WATTS INPUT (approx.)	DIMENSIONS IN INCHES			SHIP. WT., LBS.	LIST PRICE
						C	D	E		
ED	10E60	10"	B	600 Ohms	10	1 3/4	5 1/8	—	4	\$10.50
	10E10	10"	B	1000 Ohms	10	1 3/4	5 1/8	—	4	10.50
	10E15	10"	B	1500 Ohms	10	1 3/4	5 1/8	—	4	10.50
	10E25	10"	B	2500 Ohms	10	1 3/4	5 1/8	—	4	10.50
PM	10A31	10"	B	3.16 oz. Alnico 5	9	1 3/8	4 1/2	—	2 3/4	10.50
	10A4A	10"	B	4.64 oz Alnico 5	10	1 3/8	4 1/2	—	3 1/4	11.70
	10A6A	10"	B	6.8 oz Alnico 5	12	1 7/8	4 5/8	—	3 1/2	13.60
ED	12E60	12"	B	600 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E10	12"	B	1000 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E15	12"	B	1500 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E25	12"	B	2500 Ohms	12	1 3/4	5 5/8	—	5 1/4	12.65
PM	12A31	12"	B	3.2 oz. Alnico 5	10	1 1/4	4 19/32	—	3 3/4	11.35
	12A4A	12"	B	4.64 oz. Alnico 5	12	1 3/8	5 1/8	—	4	12.65
	12A6A	12"	B	6.8 oz. Alnico 5	14	1 7/8	5 1/4	—	4 3/4	14.50
ED	46E45	4" x 6"	C	450 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
	46E10	4" x 6"	C	1000 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
	46E15	4" x 6"	C	1500 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
PM	46A07*	4" x 6"	C	.68 oz. Alnico 5	3.5	3/4	1 1 1/8	1 27/64	3/4	4.45
	46A1	4" x 6"	C	1.0 oz. Alnico 5	3.5	1	2 1/4	1 3/8	1	4.75
	46A15	4" x 6"	C	1.47 oz. Alnico 5	3.5	1	2 1/4	1 3/8	1	5.15
ED	57E45	5" x 7"	C	450 Ohms	5	1 1/4	3 1/64	2 11/32	1 1/2	6.00
	57E10	5" x 7"	C	1000 Ohms	5	1 1/4	3 1/64	2 11/32	1 1/2	6.00
PM	57A1	5" x 7"	C	1.0 oz. Alnico 5	5	1	2 57/64	2 9/32	1	5.40
	57A15	5" x 7"	C	1.47 oz. Alnico 5	5	1	2 57/64	2 9/32	1	5.80
	57A21	5" x 7"	C	2.15 oz. Alnico 5	5	1 1/8	3 9/64	2 13/32	1 1/4	6.45
ED	69E6	6" x 9"	C	6 Volt	8	1	3 1 1/8	—	2	7.50
	69E10	6" x 9"	C	1000 Ohms	8	1	3 1 1/8	—	2	7.50
PM	69A2*	6" x 9"	C	1.4 oz. Alnico 5	8	7/8	2 1 1/8	—	1 1/2	7.50
	69A3	6" x 9"	C	3.2 oz. Alnico 5	10	1 1/4	3 5/8	—	1 3/4	8.95

\*Very shallow construction.

Voice coil impedance of above speakers is 3.2 ohms ± 10%.

## PUBLIC ADDRESS SPEAKERS

PM	8A4	8"	B	4.64 oz. Alnico 5	12	1 3/8	3 3/4	—	2 1/2	\$10.20
	8A6	8"	B	6.8 oz. Alnico 5	12	1 7/8	3 3/8	—	3	12.10
PM	10A4	10"	B	4.64 oz. Alnico 5	14	1 3/8	4 1/2	—	3 1/4	11.70
	10A6	10"	B	6.8 oz. Alnico 5	14	1 7/8	4 5/8	—	3 1/2	13.60
	10A10	10"	B	10 oz. Alnico 5	20	1 3/8	4 21/64	—	3 1/2	18.00
PM	12A4	12"	B	4.64 oz. Alnico 5	15	1 3/8	5 1/8	—	4	12.65
	12A6	12"	B	6.8 oz. Alnico 5	15	1 7/8	5 1/4	—	4 3/4	14.50
	12A10	12"	B	10 oz. Alnico 5	25	1 3/8	4 1 1/8	—	4 3/4	19.00
COAX	12A6CO	12" Co	B	6.8 oz. Alnico 5	14.0	2 1/4	6 1 1/8	—	10	30.00
	15A10CO	15" Co	B	10 oz. Alnico 5	20.0	2 7/8	8 3/8	—	15	47.50

Voice coil impedance of above speakers is 6-8 ohms.

### QUAM ADJUST-A-CONE SUSPENSION

While in other speakers, the spider is cemented in place with no means of accurate final adjustment, the QUAM method permits precision centering of the voice coil in a final production operation.

### QUAM U SHAPED COIL POT

A patented feature used throughout the QUAM replacement line, provides an unbroken flux path of sufficient cross section to carry the full energy of the magnetic field.

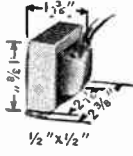
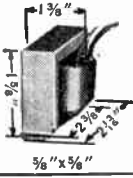
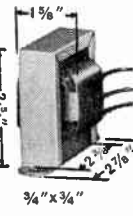


# TRU-MATCH

# OUTPUT TRANSFORMERS

Designed by speaker engineers to give a true impedance match for a wide range undistorted sound.

Specifications of each unit include a full stack of best electrical steel, the maximum amount of copper, highest quality insulation and adhesives. Underwriters approved lead wire and complete vacuum impregnation. Individually packed in attractive boxes using the widely known QUAM descriptive part numbering system.

Catalog Number	Primary Impedance (Ohms)	Secondary Load (Ohms)	Core Size (Inches)	Power Rating (Watts)	Primary M.A. (Max.)	Shipping Weight (Oz.)	List Price
 TA20	2000	3.2	1/2 x 1/2	5	60	6	\$1.50
TA50	5000	3.2	1/2 x 1/2	5	40	6	1.75
TA75	7500	3.2	1/2 x 1/2	5	35	6	1.75
TA100	10000	3.2	1/2 x 1/2	5	30	6	1.75
TA100T	10000 CT <sub>1</sub>	3.2	1/2 x 1/2	5	30	6	2.00
TA160	16000	3.2	1/2 x 1/2	5	10	6	1.75
TA250	25000	3.2	1/2 x 1/2	5	10	6	1.75
TAL	LINE <sub>2</sub>	3.2	1/2 x 1/2	5	—	6	2.50
 TC20	2000	3.2	5/8 x 5/8	8	60	10	\$2.25
TC50	5000	3.2	5/8 x 5/8	8	50	10	2.25
TC70	7000	3.2	5/8 x 5/8	8	40	10	2.25
TC85	8500	3.2	5/8 x 5/8	8	40	10	2.25
TC100T	10000 CT <sub>1</sub>	3.2	5/8 x 5/8	8	40	10	2.50
TC140T	14000 CT <sub>1</sub>	3.2	5/8 x 5/8	8	40	10	2.50
TC160	16000	3.2	5/8 x 5/8	8	15	10	2.25
TC250	25000	3.2	5/8 x 5/8	8	40	10	2.25
TCL	LINE <sub>2</sub>	6-8	5/8 x 5/8	8	—	10	3.00
TCU	UNIV <sub>3</sub>	3.2	5/8 x 5/8	8	50	10	3.50
 TD25	2500	3.2	3/4 x 3/4	12	70	17	\$3.00
TD50T	5000 CT <sub>1</sub>	3.2	3/4 x 3/4	18	150	17	3.25
TD70	7000	3.2	3/4 x 3/4	12	50	17	3.00
TD100T	10000 CT <sub>1</sub>	3.2	3/4 x 3/4	12	50	17	3.25
TD140T	14000 CT <sub>1</sub>	3.2	3/4 x 3/4	12	50	17	3.25
TDL	LINE <sub>2</sub>	6-8	3/4 x 3/4	15	—	17	3.75
TDU	UNIV <sub>3</sub>	3.2	3/4 x 3/4	12	50	17	4.00

1. TA10T, TC10T, TC14T, TD5T, TD10T & TD14T have center tapped primaries for push-pull output use. Plate to plate impedance is given.
2. TAL, TCL & TDL are for speaker to line use

- and have primary taps at 500, 1000, 1500 & 2000 ohms.
3. TCU & TDU are universal type output transformers and provide matching impedances of 2500, 4000, 7500, 10000 & 16000 ohms, also 7500 ohm CT, 10000 ohm CT & 16000 ohm CT.

## QUAM FOCALIZER UNIT KITS

Each kit consists of a Focalizer\* unit, a centering handle, an aluminum mounting plate, brass mounting screws and nuts and instruction sheet.

- Provides sharper focus of the Television picture.
- Unaffected by temperature and voltage fluctuations.
- Easy to install.
- Ideal for replacement or rebuilding Television sets for larger tubes.
- Used as original equipment in many leading sets.

Q F 1—for use with most picture tubes anode voltages up to 12 KV.

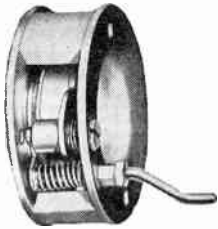
List Price \$4.75

Dimensions: O.D. 3 3/8" Thickness: 1 3/8"  
Weight: 1 1/4 lbs.

Q F 2—for use with picture tubes operating at anode voltages of 12 KV and up.

List Price \$5.95

Dimensions: O.D. 3 3/8" Thickness: 1 1/4"  
Weight: 1 1/2 lbs.



## QUAM ION TRAPS

Quam ion traps can be used on any picture tube where a trap was used as original equipment. Traps are equipped with wing nut and binding screw for easy installation and positive placement. Individually packed with instruction sheet.

IT 1—Double field for tubes up to 10" in diameter. Field strength of 38 Gauss. Generally used with straight gun tubes.

List Price \$1.50

IT 2—Double field for tubes from 10" in diameter up. Field strength of 46 Gauss. Generally used with straight gun tubes

List Price \$1.50

IT 3—Single field or 14", 16", 17" and 19" tubes. Field strength of 42 Gauss. Generally used with tubes having a bent gun

List Price \$1.00



# QUAM REAR SEAT AUTO SPEAKERS

### Catalogue # AS-1 6 1/2" PM

Economy model: Kit includes Quam 6 1/2" PM Adjust-A-Cone speaker with capacity to handle full output of any single-ended auto set; 1.47 oz. Alnico V Magnet; rugged 3-position switch for dash mounting, ample cable for any installation, flocked grill screen, baffle plate, miscellaneous hardware, and installation instructions.

Shipping wt. 2 3/4 lbs. List Price \$9.95

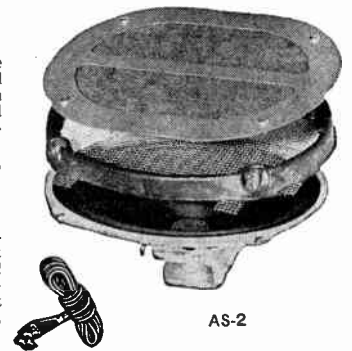
### Catalogue # AS-2 6" x 9" PM

Deluxe model: Kit includes Quam heavy duty 6" x 9" PM Adjust-A-Cone speaker with ample capacity to handle full output of the most powerful auto set; 2.15 oz. Alnico V Magnet; rugged 3-position switch for dash mounting, sufficient cable for any installation, flocked grill screen, baffle plate, sponge rubber gasket for easy and trouble-free installation, miscellaneous hardware, and installation instructions.

Shipping wt. 4 lbs. List Price \$13.95



AS-1



AS-2

# WRIGHT *Verified Speakers*



established in 1939 by D. H. Wright (former president of Wright-DeCoster, Inc.) inaugurated some new principles which have proven very beneficial to this growing business.

## PERMANENT REPLACEMENT SPEAKERS

Model Number	Speaker Size	Watts Output	Alnico 5 Magnet Wt.	V. C. Impd.	List Price
NP-468	4"	4	.68 oz.	3.5 ohms	\$4.00
NP-510	5"	5	1.00 "	3.5 "	4.45
NP-515	5"	6	1.47 "	3.5 "	4.85
NP-610	6"	6	1.00 "	3.5 "	5.05
NP-615	6"	6	1.47 "	3.5 "	5.40

NP-832	8"	8	3.16 oz.	3.5 ohms	\$ 8.50
NP-8680	8"	12	6.8 "	8 "	12.00

These 8" speakers are exceptional units, as tests will prove. Used with the 10-P Flush Mounting Grille or the B-1965 Harmonic Baffle they insure a splendid, satisfactory installation that will always be a good advertisement for additional business. The NP-832 also makes a fine replacement speaker for a full-console radio or TV set.

NP-1068	10"	12	6.8 oz.	8 ohms	\$13.50
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Wherever a 10" speaker is to be used, whether Television, Radio, or Sound, this speaker has the specifications for fine results.

NP-1232	12"	8	3.16 oz.	3.5 ohms	\$11.50
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A perfect replacement speaker for a Full-console Radio or Television Receiver where a 12" unit is used.

NP-1268	12"	14	6.8 oz.	8 ohms	\$14.50
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The many years that this 12" speaker has been used in all types of installations shows what the sound engineers think of it.

NOP-631	6 x 9	9	3.16 oz.	3.5 ohms	\$9.00
NOP-521	5 x 7	6	2.15 "	3.5 "	6.50

**Model M Cabinet**—Outside diameter 6 $\frac{3}{4}$ "—Depth 3 $\frac{1}{4}$ ". Inside diameter at front 6 $\frac{5}{8}$ ". Four holes for mounting 6" speaker. Made of strong aluminum it can be used indoors or outside. Louvers front and back make it suitable for two way paging. Gives sufficient baffle for music. Can be used as is or painted..... List Price \$6.25

**Model B-1965 Harmonic Baffle**—These Dome like ceiling baffles with their silvery finish are pleasing to the eye. They are excellent for Paging, Singing, or Orchestral reproduction. For the best results use the NP-8680 8" speakers..... List Price \$10.95

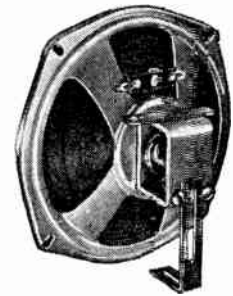
**Model 10-PC Flush Mounting Grille**—Chrome Plated.

**Model 10-P8 Flush Mounting Grille**—Bonderized and Prime Coated for Painting. These Grilles are an item that the Sound Engineers have wanted for a long time as they mount flush they used the entire wall or ceiling as a baffle. Used with either the NP-832 or NP-86808 speakers these grilles will make a satisfactory, well finished sound installation..... List price \$4.00

## TRANSFORMERS

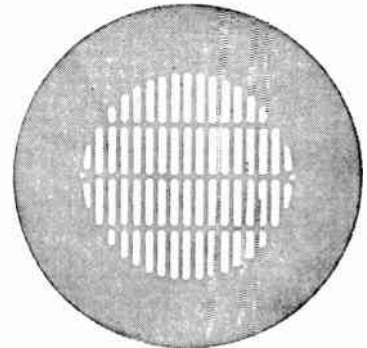
Model 4063 1/2 x 1/2 Universal or Line — 5 Watts 3.5 Secondary List Price.....	\$2.00
Model 1580 5/8 x 5/8 Universal or Line — 5 Watts 3.5 Secondary List Price.....	3.00
Model L-1848 7/8 x 7/8 Line — 18 Watts 4 and 8 ohm Secondary List Price.....	5.00
Model 5112 1 x 1 Line — 40 Watts 4 — 8 & 16 ohm Secondary List Price.....	6.00

For Full Detailed Information Write for Catalog PC-No. 6

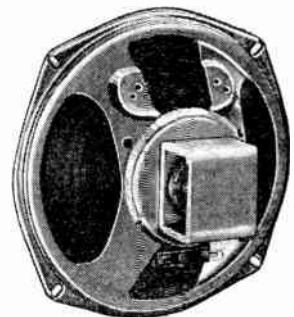


NP-610

The above illustration shows how versatile our adjustable mounting bracket really is. It will mount the speaker in practically any position. All 4, 5, and 6-inch speakers come complete with these brackets at no additional cost.



MODEL 10-P  
Flush Mounting Grille



MODEL NP-832  
8" PM Speaker

The 10-P Flush Mounting Grille and the NP-832 8" Speaker combination is being used extensively by particular Sound Engineers.



Standard Series speakers, although moderately priced, are exceptionally good in performance and are highly recommended for use in radio and television receivers, recorders, public address equipment, intercommunication systems and similar applications. Models listed on this page have been completely redesigned in every detail. Magnetic structures have been designed to achieve maximum gap energy, cones selected for uniformity of response, and all speakers are completely dust-proof. Models listed are standard fidelity response only. Standard Series speakers are finished in aluminum.

**ALNICO 5 PM MODELS**

These PM speakers embody the highly efficient Alnico 5 magnets which insure long life and highest efficiency. Because Alnico 5 magnets are many times more powerful, ounce for ounce, than their predecessors, speakers so equipped offer obvious advantages: lighter weight, for savings in shipping costs; and smaller size, for savings in space in cabinet installations.

Nominal Size	Model No.	Stock No.	Cap Energy Level	DIMENSIONS, Inches			VOICE COIL			*Transformer Size	List Price
				O.D.	Depth	Baffle Opng.	Diam., In.	Imped., Ohms	Power Watts		
12"	F12-S	ST-102	1.5	12 3/8	6 1/8	10 1/2	1	6-8	10.0	7/8 x 7/8"	\$18.85
	P12-T	ST-101	1.1	12 3/8	6 1/8	10 1/2	1	6-8	9.0	3/4 x 3/4"	14.50
10"	P10-S	ST-120	1.5	10 1/8	5 1/4	8 3/4	1	6-8	9.0	3/4 x 3/4"	16.30
	P10-T	ST-119	1.1	10 1/8	5 1/4	8 3/4	1	6-8	8.0	3/4 x 3/4"	12.75
6x9"	P69-S	ST-812	1.5	6 3/8 x 9 1/4	3 1/4	5 3/8 x 8 1/8	1	3-4	8.0	3/4 x 3/4"	14.00
	P69-T	ST-811	1.1	6 3/8 x 9 1/4	3 1/4	5 3/8 x 8 1/8	1	3-4	7.5	3/4 x 3/4"	11.85
	P69-V	ST-810	.51	6 3/8 x 9 1/4	3 1/4	5 3/8 x 8 1/8	3/4	3-4	5.0	5/8 x 5/8"	9.75
8"	P8-S	ST-104	1.5	8 1/8	4 1/8	6 3/8	1	6-8	8.0	3/4 x 3/4"	13.70
	P8-T	ST-117	1.1	8 1/8	4 1/8	6 3/8	3/4	3-4	7.0	3/4 x 3/4"	11.50
	P8-U	ST-116	.74	8 1/8	3 3/8	6 3/8	3/4	3-4	6.0	5/8 x 5/8"	10.20
	P8-W	ST-115	.51	8 1/8	3 3/8	6 3/8	3/4	3-4	5.0	5/8 x 5/8"	8.70
7"	P7-T	ST-807	1.1	7 3/8	3 1/4	6	3/4	3-4	6.5	3/4 x 3/4"	9.85
	P7-U	ST-806	.74	7 3/8	3 1/4	6	3/4	3-4	5.5	5/8 x 5/8"	8.65
6"	P6-T	ST-112	1.1	6 1/8	3 1/8	5 1/4	3/4	3-4	6.0	5/8 x 5/8"	9.65
	P6-V	ST-110	.51	6 1/8	2 1/8	5 1/4	3/4	3-4	4.0	5/8 x 5/8"	7.40
	P6-W	ST-109	.36	6 1/8	2 1/8	5 1/4	3/4	3-4	3.5	1/2 x 1/2"	6.40
	P6-X	ST-108	.25	6 1/8	2 3/8	5 1/4	3/4	3-4	3.0	1/2 x 1/2"	5.70
5 1/4"	P525-V	ST-803	.51	5 1/4	2 1/2	4 1/2	3/8	3-4	4.0	5/8 x 5/8"	6.65
5"	P5-V	ST-107	.51	5	2 1/4	4	3/8	3-4	3.5	1/2 x 1/2"	6.70
	P5-X	ST-105	.25	5	2 1/4	4	3/8	3-4	2.5	1/2 x 1/2"	5.30
	P5-X	ST-740	.25	5	2 1/4	4	3/8	45-50	2.5	1/2 x 1/2"	5.55
4"	P4-X	ST-113	.25	5	2	3 1/2	3/8	3-4	2.0	1/2 x 1/2"	5.00
	P4-X	ST-739	.25	5	2	3 1/2	3/8	45-50	2.0	1/2 x 1/2"	5.40

\*Size recommended. See Transformer listing. †Millions of ergs. ‡No transformer mounting facilities.

**FIELD COIL MODELS**

Like their PM counterparts, Standard Series field coil models have been completely redesigned and are equipped with hum neutralizing coils. Finish is aluminum. Models listed on this page are standard fidelity.

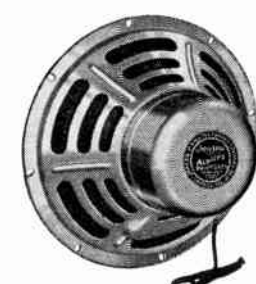
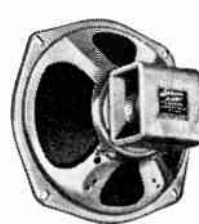
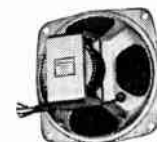
Nominal Size	Model No.	Stock No.	Cap Energy Level	DIMENSIONS, Inches			VOICE COIL			FIELD		*Transformer Size	List Price
				O.D.	Depth	Baffle Opng.	Diam., In.	Imped., Ohms	Power Watts	Resist., Ohms	Power Watts		
12"	F12-S	ST-744	1.5	12 3/8	6 1/8	10 1/2	1	3-4	10.0	1000	8.5	7/8 x 7/8"	\$18.52
	F12-S	ST-173	1.5	12 3/8	6 1/8	10 1/2	1	3-4	10.0	1500	8.5	7/8 x 7/8"	18.46
10"	F10-S	ST-745	1.5	10 1/8	5 5/8	8 3/4	1	3-4	9.0	750	8.5	3/4 x 3/4"	15.53
	F10-S	ST-175	1.5	10 1/8	5 5/8	8 3/4	1	3-4	9.0	1500	8.5	3/4 x 3/4"	16.04
6x9"	F69-T	ST-814	1.1	6 3/8 x 9 1/4	3 1/4	5 3/8 x 8 1/8	1	3-4	7.5	4	6-volt	3/4 x 3/4"	11.73
	F69-U	ST-813	.74	6 3/8 x 9 1/4	3 1/4	5 3/8 x 8 1/8	3/4	3-4	6.0	4	6-volt	5/8 x 5/8"	10.06
8"	F8-S	ST-746	1.5	8 1/8	4 1/8	6 3/8	1	3-4	8.0	750	8.5	3/4 x 3/4"	13.46
	F8-S	ST-177	1.5	8 1/8	4 1/8	6 3/8	1	3-4	8.0	1500	8.5	3/4 x 3/4"	14.03
	F8-T	ST-179	1.1	8 1/8	4 1/8	6 3/8	3/4	3-4	7.0	1000	7.0	3/4 x 3/4"	11.21
	F8-T	ST-180	1.1	8 1/8	4 1/8	6 3/8	3/4	3-4	7.0	1800	7.0	3/4 x 3/4"	11.33
	F8-W	ST-736	.36	8 1/8	3 3/8	6 3/8	3/4	3-4	4.0	1000	5.0	5/8 x 5/8"	8.40
	F8-W	ST-737	.36	8 1/8	3 3/8	6 3/8	3/4	3-4	4.0	1800	5.0	5/8 x 5/8"	8.86
7"	F7-T	ST-809	1.1	7 3/8	3 1/4	6	1	3-4	7.0	4	6-volt	3/4 x 3/4"	10.93
	F7-U	ST-808	.74	7 3/8	3 1/4	6	3/4	3-4	5.5	4	6-volt	5/8 x 5/8"	9.43
6"	F6-U	ST-186	.74	6 1/8	3 3/8	5 1/4	3/4	3-4	5.0	1000	6.0	5/8 x 5/8"	8.57
	F6-U	ST-187	.74	6 1/8	3 3/8	5 1/4	3/4	3-4	5.0	1800	6.0	5/8 x 5/8"	8.57
	F6-X	ST-189	.25	6 1/8	2 1/8	5 1/4	3/8	3-4	3.0	450	4.5	1/2 x 1/2"	7.02
	F6-X	ST-166	.25	6 1/8	2 1/8	5 1/4	3/8	3-4	3.0	1000	4.5	1/2 x 1/2"	7.13
5"	F5-X	ST-168	.25	6 1/8	2 1/8	5 1/4	3/8	3-4	3.0	1800	4.5	1/2 x 1/2"	7.48
	F5-X	ST-194	.25	5	2 1/8	4	3/8	3-4	2.5	450	4.5	1/2 x 1/2"	6.79
	F5-X	ST-165	.25	5	2 1/8	4	3/8	3-4	2.5	1000	4.5	1/2 x 1/2"	6.84
4"	F4-X	ST-167	.25	5	2 1/8	4	3/8	3-4	2.5	1800	4.5	1/2 x 1/2"	7.13
	F4-X	ST-196	.25	5	2 1/4	3 1/2	3/8	3-4	2.0	450	4.5	1/2 x 1/2"	6.50
	F4-X	ST-164	.25	5	2 1/4	3 1/2	3/8	3-4	2.0	1000	4.5	1/2 x 1/2"	6.56
F4-X	ST-198	.25	5	2 1/4	3 1/2	3/8	3-4	2.0	2800	4.5	1/2 x 1/2"	6.84	

\*Size recommended. See Transformer listing. †Millions of ergs. ‡Tapped at 300 ohms. 1500-ohm section can be used at full power excitation. Field resistance for full excitation will rise approximately 20%. §No transformer mounting facilities.

**VOLUME AND RANGE CONTROLS**

These "L Pad" type volume controls are highly satisfactory for use in voice coil circuits. Complete with pointer knob and escutcheons.

ST-276—Level Control, 6-8 ohms, 5 watts.....	\$2.50
ST-411—Level Control, 6-8 ohms, 15 watts.....	3.30
ST-606—Range Control, 16 ohms, 15 watts.....	3.80
ST-760—Level Control, 3-4 ohms, 5 watts.....	2.75
ST-761—Level Control, 500-600 ohms, 15 watts.....	4.60





# Jensen

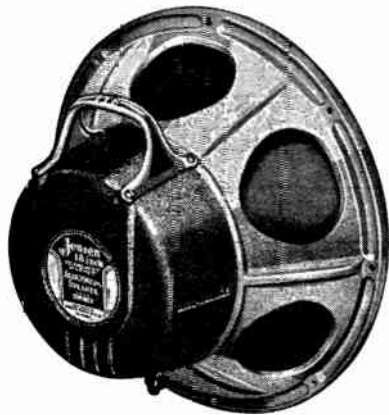
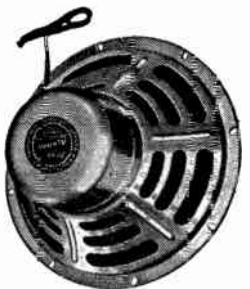


## Concert SPEAKERS

JENSEN Concert Series speakers have long been known and acclaimed by the trade and by users for their plus performance. From the earliest days, Concert speakers have been recognized by such familiar designations as A12-PM, PM8-C and others and have been known as the finest speakers anywhere available for heavy-duty applications. Now, in greatly improved design, they are highly

recommended for any purpose where exceptional power handling ability and high-quality performance are essential. Standard fidelity models are listed on this page.

Concert speakers are attractively finished in blue-gray lacquer and completely dustproofed. Field coil models are equipped with hum neutralizing coils.



### ALNICO 5 PM MODELS

Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches			VOICE COIL			*Transformer Size	List Price
				O.D.	Depth	Baffle Opening	Diam. In.	Imped., Ohms	Power Watts		
15"	P15-N	ST-654	6.6	15 1/8	8	13 1/4	1 1/2	8	20.0	1x1"	\$70.50
	P15-P	ST-655	4.6	15 1/8	8	13 1/4	1 1/2	8	18.0	1x1"	54.75
	P15-Q	ST-678	3.2	15 1/8	8	13 1/4	1 1/4	8	16.0	7/8 x 7/8"	44.25
12"	P12-N	ST-656	6.6	12 1/8	7	10 1/2	1 1/2	8	18.0	1x1"	56.50
	P12-P	ST-657	4.6	12 1/8	6 7/8	10 1/2	1 1/2	8	16.0	7/8 x 7/8"	39.20
	P12-Q	ST-673	3.2	12 1/8	6 7/8	10 1/2	1 1/4	8	14.0	7/8 x 7/8"	32.90
	P12-R	ST-103	2.2	12 1/8	6 7/8	10 1/2	1	6-8	12.0	7/8 x 7/8"	21.20
10"	P10-Q	ST-676	3.2	10 3/8	5 1/4	8 3/4	1 1/4	8	12.0	7/8 x 7/8"	29.00
	P10-R	ST-121	2.2	10 3/8	5 1/4	8 3/4	1	6-8	10.0	7/8 x 7/8"	18.70
8"	P8-Q	ST-677	3.2	8 1/2	4 1/8	6 3/4	1 1/4	8	10.0	7/8 x 7/8"	29.45
	P8-R	ST-169	2.2	8 1/2	4	6 3/4	1	6-8	9.0	3/4 x 3/4"	16.40

Model P8-Q weatherproof design. No transformer mounting facilities.

### FIELD COIL MODELS

Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches			VOICE COIL			FIELD		*Transformer Size	List Price
				O.D.	Depth	Baffle Opening	Diam. In.	Imped., Ohms	Pwr. Watts	Resist., Ohms	Power Watts		
5"	F15-N	ST-661	6.6	15 1/8	8 3/8	12 1/8	1 1/2	8	20.0	4000	17.5	1x1"	\$55.66
	F15-N	ST-662	6.6	15 1/8	8 3/8	12 1/8	1 1/2	8	20.0	5300	17.5	1x1"	56.66
	F15-Q	ST-663	3.2	15 1/8	8 3/8	12 1/8	1 1/2	8	16.0	1000	12.0	7/8 x 7/8"	36.05
12"	F12-N	ST-666	6.6	12 1/8	7 1/8	10 1/2	1 1/2	8	18.0	4000	17.5	1x1"	46.17
	F12-N	ST-667	6.6	12 1/8	7 1/8	10 1/2	1 1/2	8	18.0	5300	17.5	1x1"	46.17
	F12-Q	ST-668	3.2	12 1/8	7 1/8	10 1/2	1 1/4	8	14.0	1000	12.0	7/8 x 7/8"	26.57

\*Size recommended. See Transformer listing. †Millions of ergs. Field resistance for full excitation will rise approximately 20%.

## AUDITORIUM SPEAKERS

The first highly-efficient large-size speaker was designed and produced by JENSEN in 1928. It was named the "Auditorium" and never were critics more consistent in its endorsement as the utmost in heavy-duty speakers. For more than 20 years JENSEN Auditorium speakers have set the highest standards for efficiency, response characteristics and faithful performance. Today, the Auditorium line has been completely redesigned and comprises undeniably the best known and most highly respected speakers available, second only to JENSEN Coaxials. They are recommended for theatres, public address systems, fine electronic musical instruments, where the utmost in quality reproduction and power handling ability are required.

Nominal Size	Model No.	Stock No.	†Gap Energy Levels	DIMENSIONS, Inches			VOICE COIL			*Transformer Size	List Price
				O.D.	Depth	Baffle Opening	Diam. In.	Imped., Ohms	Pwr. Watts		
18"	PMJ-18	ST-541	28.1	18	9 3/4	15 3/4	2 1/2	8	30	1x1 1/4"	\$340.00
15"	P15-L	ST-758	13.6	15 1/8	8	13 1/4	2	8	25	1x1 1/4"	122.50

\*Size recommended. See Transformer listing. †Millions of ergs.



**MOST PERFORMANCE AT  
LOWEST COST FOR RADIO  
AND TV REPLACEMENTS  
& UTILITY APPLICATIONS**

JENSEN has designed these VIKING loudspeakers to give you the most performance at low cost for radio and TV replacements and utility applications. A complete range of sizes from 3 1/2 inch to 12 inch, with three oval types—all with Alnico 5 magnets. Designs are especially compact, an evident advantage in the servicing of compact and portable sets. CTM Bracket Set available separately contains parts and hardware for mounting speaker on chassis and 1/2 x 1/2 transformer on speaker if necessary.

Nominal Size	Model No.	DIMENSIONS		V. C. Imped. Ohms	Price**
		Overall	Depth		
3 1/2"	35J4	3 7/8	1 3/8	3.2	\$1.89
4"	4J4	4 1/8	1 5/8	3.2	1.87
5"	5J4	5 1/8	1 3/4	3.2	2.05
5 1/4"	525J4	5 5/8	1 3/8	3.2	2.12
6"	6J4	6 1/8	2 1/8	3.2	2.26
7"	7J9	7 1/8	2 1/8	3.2	3.04
8"	8J9	7 1/2	2 1/8	3.2	3.25
10"	10J11	10 3/8	3 3/8	3.2	5.54
12"	12J11	12 3/8	4 3/8	3.2	6.01
4x6"	46J6	6 5/8 x 4 1/8	1 3/8	3.2	2.49
5x7"	57J9	7 1/2 x 5	2 3/8	3.2	3.17
6x9"	69J9	9 1/4 x 6 3/8	3	3.2	3.51
6x9"	69J10*	9 1/4 x 6 3/8	3 1/8	3.2	4.28

\*Especially recommended for automotive replacement use.

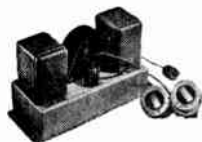
CTM Bracket Set contains necessary parts and hardware for mounting 1/2" x 1/2" transformer on speaker and speaker on receiver chassis. Fits 3 1/2", 4", 5", 5 1/4" and 6" speakers. Dealer Net \$0.25\*\*



# Jensen



### G-610 TRIAXIAL 3-WAY LOUDSPEAKER SYSTEM



H-510  
COAXIAL



H-222  
COAXIAL



K-310  
COAXIAL



K-210  
COAXIAL



**GENUINE JENSEN WIDE RANGE** is the designation given to a distinguished series of loudspeakers, each designed to give the finest possible reproduction for the particular type and size. A selection of a high fidelity loudspeaker from this series thus insures a maximum of reproduction quality at any cost level. Particular attention has been given to the 7 Performance Points essential to thrilling, realistic reproduction: (1) Wide Frequency Range, (2) Balanced Frequency Response, (3) Smooth Response, (4) Wide Angle Distribution, (5) Low Distortion, (6) Good Efficiency, and (7) Adequate Power-Handling Capacity.

The G-610 Triaxial, world's finest unitary system loudspeaker, reproduces everything the ear can hear and provides true transport to the original. Model H-510, with compression-driver horn loaded "tweeter" and Acoustic Lens, is the outstanding speaker of the times in the 15 inch coaxial class. New coaxial Model H-222, also with horn-loaded compression-driver "tweeter," offers for the first time, "big speaker" performance in a 12-inch unit. For complete information on these and other Jensen speaker systems and components, write for free High Fidelity Catalog 1020.

## TRIAxIAL AND COAXIAL SPEAKERS

Nominal Size	Model No.	Type	Stock No.	Input Imped. Ohms	Power Watts	Freq. Range Rating†	Baffle Opening In.	O.D. In.	Depth In.	List Price
15"	G-610	Triaxial	ST-900	16	35	+8 LIM	13 1/4	15 3/8	10 3/4	\$382.50
15"	H-510	Coaxial	ST-828	16	25	+7 LIM	13 1/4	15 3/8	9 1/8	154.50
12"	H-222	Coaxial	ST-875	16	25	+7 LIM	10 1/2	12 3/8	8 3/4	79.50
15"	K-310	Coaxial	ST-830	16	16	+7 LIM	13 1/4	15 3/8	8 3/8	65.50
12"	K-210	Coaxial	ST-831	8	12	+7 LIM	10 1/2	12 3/8	6 3/8	39.50

## EXTENDED-RANGE SINGLE-UNIT DIRECT-RADIATOR LOUDSPEAKERS (+6 LIM)‡

Nominal Size	Model No.	Stock No.	*Gap Energy Level	Dimensions, Inches			Baffle Open	Voice Coil Imped. Ohms	Pwr. Watts	Transformer Size†	List Price
				O.D.	Depth	Baffle Open					
15"	P15-NX	ST-817	6.6	15 1/2	8	13 1/4	1 1/2	8	18.0	1"x1"	\$76.75
12"	P12-NX	ST-819	6.6	12 1/8	7	10 1/2	1 1/2	8	16.0	1"x1"	61.50
	P12-RX	ST-885	2.2	12 1/2	6 1/2	10 1/2	1	6-8	11.0	3/8"x3/8"	23.80
	P12-SX	ST-821	1.5	12 1/2	6 1/2	10 1/2	1	6-8	9.0	3/8"x3/8"	21.20
10"	P10-RX	ST-886	2.2	10 1/2	5 1/4	8 3/4	1	6-8	9.0	3/8"x3/8"	21.00
	P10-SX	ST-823	1.5	10 1/2	5 1/4	8 3/4	1	6-8	8.0	3/8"x3/8"	18.55
8"	P8-RX	ST-887	2.2	8 1/2	4	6 3/4	1	6-8	8.0	3/8"x3/8"	18.20
	P8-SX	ST-825	1.5	8 3/8	3 1/2	6 3/4	1	6-8	7.0	3/8"x3/8"	15.20
6"	P6-TX	ST-826	1.1	6 1/2	3 3/8	5 1/4	3/4	3-4	5.0	5/8"x5/8"	10.35
5"	P5-TX	ST-827	1.1	5 1/8	2 3/8	4 1/8	3/4	3-4	4.0	1/2"x1/2"	9.50

\*Millions of ergs. †Size recommended. ‡See page C-11 for explanation. #Complete with Crossover Control Network.



### RP-302 H-F UNIT

Improve the realism of your sound reproduction . . . make a 3-way system from your present coaxial, or a 2-way from a single speaker by adding this new compact "super-tweeter" from the famous G-610 Triaxial. Makes an unexcelled top end for custom built multi-channel systems. Unit sits atop cabinet or mounts flush on baffle. Provides smooth, clean "highs" from 4000 cycles to limits of audibility. Impedance, 16 ohms. Useful coverage angle, 120 degrees. Maximum power, 30-40 watts speech and music with A-402 Crossover Network. A-402 recommended for best results, but can be used with 2 mfd condenser. Satin brass finish. OD, 2 3/4"; length 3 3/8". Specify ST-899. List Price.....\$56.00

**A-402 Crossover Network.** Full 180° constant-resistance type. RP-302 connects to hi-channel, present speaker or system to low channel. Crossover at 4000 cycles. Impedance, 16 ohms input and each channel. Screw terminals for easy connections. In metal case, 4 3/8" high, 3 1/2" wide, 3 3/4" deep. Specify ST-898. List Price.....\$11.25

### IMPEDANCE-ADJUSTING TRANSFORMERS

Provide alternative input impedances for 15" Triaxial and Coaxial speakers. Mount directly on speaker or network chassis. No wiring—plugs into socket on speaker or network chassis.

Model	Stock No.	For Speakers	Impedance	List
T-201	ST-846	G-610 Triaxial	4 and 8 ohms	\$20.60
T-202	ST-847	G-610 Triaxial	500/600 ohms	20.60
T-101	ST-833	H-510; K-310	4 and 8 ohms	13.25
T-102	ST-834	H-510; K-310	500/600; 250	13.25

**A-110 Control Network.** For H-510 and K-310 Coaxials. Mounts on speaker; plug-in connections. Impedance, 16 ohms. Complete with Level Control and H-F Range Control with 30" cables, satin brass flush escutcheons and bar knobs. ST-832. List.....\$31.50

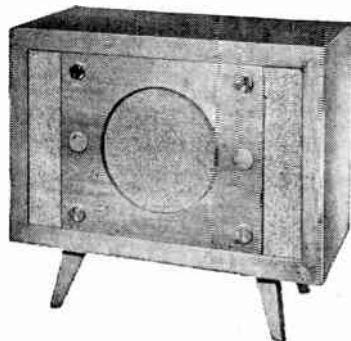
**ST-901 H-F Control.** For RP-302 and K-210 h-f response control. 16-ohm L pad, complete with satin-brass escutcheon and bar knob. List Price.....\$5.75



# Jensen



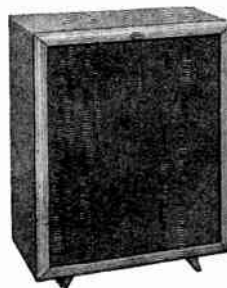
## BASS REFLEX CABINETS



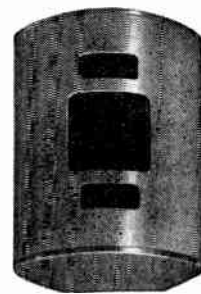
TYPE M



TYPE D



TYPE C



TYPE H

**TYPE M CUSTOMODE IMPERIAL CABINET** is an outstanding example of fine modern design with the outstanding performance of JENSEN Bass Reflex. Accommodates any 15" speaker. May be placed on side or end as desired. Front panel easily, quickly removed for installation or replacement by unscrewing four brass discs. Speaker is held in place by means of machine screws and anchor nuts set into back of panel. Concealed cut-outs for H-F Range and Level Controls. Furnished complete with removable grille cloth-screen and two wedge foot rails. (Note: Leg Assembly illustrated not furnished and must be ordered separately. See below.)

**LEG ASSEMBLY FOR M CABINET.** Modern leg assembly for "low-boy" effect with Type M cabinet as illustrated above. Raises cabinet 8" above floor. Not furnished with cabinet; must be ordered separately. Shipping wt., 15 lbs. Specify ST-843 for Blonde; ST-863 for Cordovan.

List Price ..... \$15.75

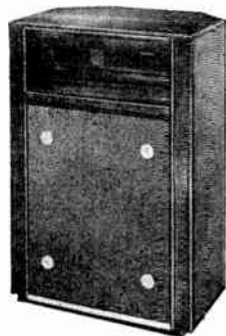
**TYPE B UTILITY CABINET** is designed for those who desire inexpensive but durably built enclosures. Well constructed of impregnated composition board and finished in hammered brown lacquer. For 12-inch speakers. Feet unmounted are furnished.

**TYPE D IMPERIAL CABINET** is handsomely styled, suitable for any environment, and is well constructed of beautifully striped satin finish veneered walnut, with interlaced bronze strip grille over matching fabric. They are available in two sizes; for 15-inch and for 12-inch speakers.

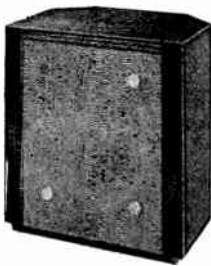
**TYPE C CABINETS.** Here at last is a cabinet for low-budget high-fidelity audio systems. Features include attractive tapered foot design, sturdy baffle with Bass Reflex concealed under grille cloth, in choice of blonde or mahogany finishes. Lacquer easily applied to blonde for other finish colors if desired. Concealed cut-outs in Model C-151 for easy installation of flush H-F and Level Controls used with Jensen Triaxial and Coaxial speakers.

**TYPE H SECTOR CABINET** is especially designed for public entertainment or paging. With front curved to a 14 1/4" radius, they fit anywhere—in corners, on walls, at intersection of ceiling and wall, or on posts. May be mounted in pairs or clusters for wide-angle sound distribution. Finished in brown lacquer; covering colors may be applied to match installation.

Jensen No.	Stock No.	Speaker Size	Finish	DIMENSIONS, Inches			Shipping Weight, Lbs.	List Price
				Height	Width	Depth		
M-253	ST-838	15"	Blonde Mahogany	36	24	18	80	\$164.27
M-353	ST-858	15"	Cordovan Mahogany	36	24	18	80	164.27
D-151	ST-157	15"	Regular Walnut	31	27 3/4	13 3/4	50	77.50
C-151	ST-868	15"	Blonde Mahogany	32	28	15	53	62.00
C-151	ST-869	15"	Mahogany	32	28	15	53	62.00
D-121	ST-156	12"	Regular Walnut	31	27 3/4	13 3/4	50	77.50
C-121	ST-866	12"	Blonde Mahogany	29	26	13 1/2	42	49.75
C-121	ST-867	12"	Mahogany	29	26	13 1/2	42	49.75
B-121	ST-742	12"	Brown Lacquer	28 1/2	23 3/4	11 3/4	34	36.00
C-81	ST-864	8"	Blonde Mahogany	23 1/2	20	9	26	37.50
C-81	ST-865	8"	Mahogany	23 1/2	20	9	26	37.50
H-81	ST-141	8"	Brown Lacquer	22 3/4	17 3/4	8 1/2	14	24.75



### NEW Type BL Cabinets Back-Loading Folded-Horn Design



←BL-151  
BL-121→

#### Outstanding Performance . . . In Corner or on Sidewall

Jensen acoustic research now brings you these new back-loading folded-horn cabinets for better bass response. Ideal for corner where walls give horn extension, but may be used against side-wall with excellent results. Reduces resonance, lowers distortion. Baffle easily, quickly removed from front for access to speaker. Fine furniture treatment throughout, with selected hardwood veneers, hand rubbed.

BL-151. For 15" Speakers. Recommended for Coaxial and Triaxial units. Removable front panel covering compartment for controls, h-f unit, etc. Three 1 1/4" holes in panel covered by matching wood squares. 38 3/4" H; 25 1/2" W; 18 3/4" D. Shipping wt., 106 lbs.  
BL-151. Cabinet. Mahogany. ST-877. List Price ..... \$175.00  
BL-151. Cabinet. Blonde Korina. ST-876. List Price ..... \$180.00  
BL-121. For 12" Speakers. Has one concealed cut-out under grille cloth for control. 28 3/4" H; 25 1/2" W; 18 1/4" D. Shpg. wt., 65 lbs.  
BL-121. Cabinet. Mahogany. ST-879. List Price ..... \$96.75  
BL-121. Cabinet. Blonde Korina. ST-878. List Price ..... \$102.00

NEW JENSEN FREQUENCY RANGE RATING SYSTEM					
JENSEN F-R RATING	HEARING REFERENCES		TYPICAL USES		
	20,000 CYCLES	ULTRA HIGH		AUDIBILITY LIMIT (BEST EARS—TONE TEST)	BROADCAST MONITORING
+8 LIM	F I D E L I T Y	NOISE SOUND EFFECTS PERCUSSION INSTRUMENTS	CUSTOM RADIO-PHONOGRAPH INSTALLATIONS		
+7		BEST EARS		MUSIC (Average Home Conditions)	
+6		MUSIC (Average Home Conditions)			MAXIMUM AUDIBLE RANGE
+5					
+4	MEDIUM	MINIMUM ACCEPTABLE RANGE FOR MUSIC	AUTO RADIO		
+3	LOW	MINIMUM ACCEPTABLE RANGE FOR MUSIC	COMPACT RADIOS (LIMITED BY CIRCUITS)		
+2					
+1 LIM	3,000 CYCLES				

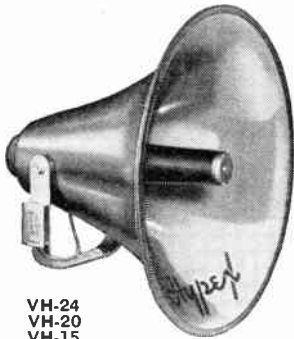
©1949 Jensen Mfg. Co., Chicago, Ill.

Instead of the former practice of stating frequency limits of loudspeakers in cycles, the f-f region between the minimum useful limit for music and maximum limit for hearing has been divided into eight steps, each of which is just distinguishable from the next as an audible difference for music. The rating of a speaker is determined from the highest interval in which loudness is maintained at a significantly high percentage of normal. The table above relates the ratings to hearing and typical applications.





# Jensen



VH-24  
VH-20  
VH-15

## JENSEN HYPEX PROJECTORS

Because of the Hypex formula (Patent 2,338,262) giving wider sound distribution and greatly improved acoustical performance, JENSEN Hypex projectors are superior to the usual "exponential" type horns. The Alnico 5 unit is entirely enclosed within the one-piece rigid horn yet easily removed and replaced. Stainless steel and other corrosion-resistant materials and specially treated steel parts insure against weather exposure. Models VH-24, VH-20 and VH-15 have mounting brackets with clutch-type heavy "U" trunnions which afford complete flexibility of adjustment with positive locking into desired position. Weatherproof terminal boxes provide easy, solderless connections with no exposed terminals. Model VH-91 has a universal mounting bracket which permits pointing in any direction and secure locking by a single wing nut.



VH-91



V-21

### SPECIFICATIONS

Model No.	Stock No.	Cut-Off, CPS	Acoust. Path, In.	Coverage Angle Degrees	Power Rating Watts	Voice Coil Imped. Ohms	Diam. In.	Length, In.	Trans.* Core Size	List Price
VH-24	ST-685	110	58	75	25	16	25	22 3/4	1x1 1/4	\$89.50
VH-20	ST-684	140	52	80	25	16	21	20 1/4	1x1 1/4	76.00
VH-15	ST-757	180	36	90	15	8	16	15	3/4 x 3/4	56.50
VH-91	ST-171	300	16	100	15	8	8 7/8	7 7/8	3/8 x 3/8	35.80

\*Not included.

## HYPEX "Three-sixty" PROJECTORS

Designed for the reproduction of speech and music signals at high efficiency where high noise levels exist. The Hypex formula, made famous by JENSEN Hypex projectors, is incorporated in their design giving greatly improved acoustical performance. With the sound distributed over a circle, they are especially suitable for installations where coverage of relatively large areas and suspension from the ceiling are desired. Model VR-11 is recommended for speech reproduction while Model VR-241, of larger size, is intended for speech and music reinforcement. Driver unit has phenolic diaphragm; VR-241 uses same diaphragm as VH-24 and VH-20; VR-11 uses same diaphragm as VH-15 and VH-91. VR-241 is equipped with weatherproof terminal box with connecting cable passing through rubber grommet and leads attached to screw terminals provided. VR-11 has two-conductor rubber-covered cable for connections. Both equipped with heavy eyebolt at top for suspension.



VR-11



VR-241

### SPECIFICATIONS

Model No.	Stock No.	Cut-Off, CPS	Acoust. Path, In.	Coverage Angle Degrees	Power Rating Watts	Voice Coil Imped. Ohms	Diam. In.	Length, In.	Trans.* Core Size	List Price
VR-241	ST-789	140	54	360	25	16	25	22	1x1 1/4	\$98.50
VR-11	ST-791	280	18	360	15	8	11	10 3/8	3/4 x 3/4	46.50

\*Not included.

## MODEL V-21 DRIVER UNIT

This driver unit incorporates the driver element used in the new Hypex projectors and is electrically and mechanically interchangeable with the former U-20 ST-630 and U-201 ST-732 Driver units. It is designed for replacement service on former Models H-20 ST-726, H-201 ST-733 and H-24 ST-727 Hypex horns. Unit is PM type and equipped with internal screw terminals. Flange is designed for 1/2" bolt attachment, with three 1/8" holes spaced 120 degrees apart on a radius of 2 3/4". Voice coil input 16 ohms and power rating 25 watts.

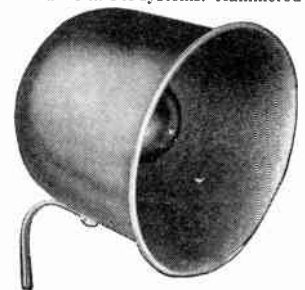
Model V-21 Driver Unit, ST-787.....List Price \$36.25

## SPEECH MASTER PROJECTORS

Sturdy construction, overall mechanical protection, double dust-proofing, streamline design and exceptional acoustical performance recommend these projectors for paging and intercommunication. PM design. Good talk-back performance in PA systems. Hammered gray finish; chrome trim. RC 36" cord. Space within case for 1/2" x 1/2" transformer.



AP-10



AR-10

Model No.	Stock No.	V.C. Imped. Ohms	Power Watts	Diam. In.	Depth In.	List Price
AP-10	ST-590	3-4	5	5	4 1/2	\$19.30
AP-10	ST-591	45-50	5	5	4 1/2	20.30
AP-11	ST-592	3-4	5	5	4 1/2	15.75
AP-11	ST-593	45-50	5	5	4 1/2	16.75
AR-10	ST-643	3-4	6	10	8	23.50
AR-10	ST-644	45-50	6	10	8	24.50

## THE "HYPEX" HORN FORMULA

### — An Exclusive Jensen Feature

"Hypex" comes from the mathematical term "hyperbolic exponential," which describes the important difference between Jensen projectors and those based on the simple exponential theory. Jensen research discovered a better, more efficient horn formula which maintains effective acoustic loading right down to acoustic cut-off and all Jensen Hypex\* Projectors have this exclusive feature for better performance. For the facts on this development and a complete description of horn behavior, write for Technical Monograph No. 5, "Horn-Type Loudspeakers."

Price 25c.



# Jensen



## IMPEDANCE MATCHING TRANSFORMERS

Loudspeakers are relatively low-impedance devices with voice coil impedance values ranging from 3 to 50 ohms. Vacuum tube power output stages on the other hand, are high-impedance devices with impedance load rated anywhere from 1,000 to 14,000 ohms. To reconcile these widely differing impedances, output or impedance matching transformers must be inserted between the signal output and the loudspeaker voice coil. To determine which transformer is to be used in any given case, first of all find out the impedance of the loudspeaker in question and then locate for that speaker the

transformer which will match nearest the impedance of the signal source. Differences of the order of 10% are usually of no importance but if a close match cannot be obtained, it is best to select an impedance value which will present a higher rather than lower-than-rated impedance to the output tubes. Thus where a 5,000-to-16 ohm transformer is needed, it would be better to select a 6,000-to-16 ohm unit than a 4,000-to-16 ohm unit. For full and complete treatise on impedance matching, consult Jensen Technical Monograph No. 2. (Price 25c).

### ADJUSTABLE IMPEDANCE

**Type "ZX"** For matching conventional "plate" impedance values. Adjustments are easily made with flexible lead and pin-tip jack. Impedance values: voice coil, 4,500, 7,000, 10,000 and 14,000 ohms. All except voice coil are center-tapped for push-pull tubes.

#### Cased Type, Pin-Tip Adjustment. Not Mountable on Speaker.

Stock No.	Core Size	Impedance	Mfg. Ctrs., Inches	Power Watts	For Use With:	List Price
ZX-3000	1x1 1/4"	8	1 1/4 x 3 3/8	35.0	PLJ-18, PMJ-18, P15-L, P15-LL	\$20.58
ZX-3001	1x1 1/4"	16	1 1/4 x 3 3/8	35.0	VH-20, VH-24, VR-241, H-510	20.58

#### Uncased Type, Pin-Tip Adjustment. Mountable on Speaker.

ZX-1002	3/4 x 3/4"	6-8	2 3/8	10.0	P12-T, P10-S, P10-SX, P10-T, P8-R, P8-S, P8-SX, P8-RX, VH-15, VR-11	6.00
ZX-1005	3/4 x 3/8"	6-8	3 1/8	16.0	P15-Q, P12-P, P12-Q, P12-R, P12-RX, P12-S, P12-SX, P10-Q, P10-R, P10-RX, P8-P, P8-Q, P8-RX, K-210	8.64
ZX-1007	1x1"	8	3 1/8	25.0	P15-N, P15-NX, P15-P, P12-N, P12-NX	11.70

**Type "ZY"** Same as Type "ZX" except for matching "line" impedance values. Impedances: 500, 1,000, 1,500, 2,000 and voice coil. No center tap available.

#### Cased Type, Pin-Tip Adjustment. Not Mounted on Speaker.

ZY-4000	1x1 1/4"	8	1 1/4 x 3 3/8	35.0	PLJ-18, PMJ-18, P15-L, P15-LL	20.58
ZY-4001	1x1 1/4"	16	1 1/4 x 3 3/8	35.0	VH-20, VH-24, VR-241, H-510	20.58

#### Pin-Tip Adjustment. Mountable on Speaker.

ZY-2005	1x1"	8	3 1/8	25.0	P15-N, P15-NX, P15-P, P12-N, P12-NX	11.70
ZY-2003	3/4 x 3/8"	6-8	3 1/8	16.0	P15-Q, P12-P, P12-Q, P12-R, P12-S, P12-SX, P10-Q, P10-R, P8-P, P8-Q, K-210	8.64
ZY-4004	3/4 x 3/4"	3-4	2 3/8	10.0	P8-T	6.00
ZY-2002	3/4 x 3/4"	6-8	2 3/8	10.0	P12-T, P10-S, P10-SX, P10-T, P8-R, P8-S, P8-SX, VH-15, VR-11	6.00
ZY-4002	3/4 x 3/8"	3-4	2 3/8	6.5	P8-U, P8-V, P6-T, P6-X, P6-V	4.02
ZY-4005	3/4 x 3/8"	6-8	2 3/8	6.5	VH-91	4.02

**Types "ZP" and "ZL"** Lower priced than "ZX" or "ZY" Types but perfectly satisfactory when used in proper application. Soldering iron required for making adjustments on terminal block. "ZL" for "plate," "ZP" for line.

#### Solder Lug Terminals. Mountable on Speaker.

ZP-1023	1/2 x 1/2"	4500/3-4 7000/3-4 10000/3-4 14000/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	2.58
ZP-1025	1/2 x 1/2"	1500/3-4 2000/3-4 2500/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	2.58
ZL-2021	1/2 x 1/2"	500/3-4 1000/3-4 1500/3-4 2000/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	2.58
*ZP-1024	5/8 x 5/8"	4500/6-8 7000/3-4 10000/3-4 14000/3-4	2 3/8	6.5	P8-U, P8-V, P6-T, P6-TX, P6-V	3.00
*ZP-1026	5/8 x 5/8"	4500/6-8 7000/6-8 10000/6-8 14000/6-8	2 3/8	6.5	VH-91	3.00
ZL-2022	5/8 x 5/8"	500/6-8 1000/6-8 1500/6-8 2000/6-8	2 3/8	6.5	VH-91	3.00

### Type "Z" FIXED IMPEDANCE

#### Cased Type, Screw Terminals. Not Mountable on Speaker.

Stock No.	Impedance	For Use With:	List Price
Z-2731	500/16 or 8	PLJ 18, PMJ-18, P15-L, P15-LL, P15-NL, VH-20, VH-24	\$25.68
Z-2732	16/8	PLJ 18, PMJ-18, P15-L, P15-NL, VH-20, VH-24	24.30
Z-2733	16/8	XP-101	14.40

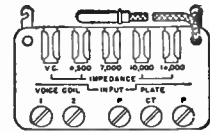
#### Uncased, Pig-tail Leads. Mountable on Speaker.

Z-1888	500/6-8		
Z-2386	*3000/6-8		
Z-2387	*5000/6-8	P15-N, P15-NX, P15-P, P12-N, P12-NX, P15-N, P12-N	7.20
Z-3341	*6000/6-8		
Z-1891	*10000/6-8		
Z-2241	*14000/6-8		
Z-3346	500/16	VH-20, VH-24, VR-241	7.20
Z-3319	500/6-8		
Z-3320	*3000/6-8	P15-QX, P12-P, P12-SX, P12-R, P12-S, P12-SX, P10-Q, P10-R	
Z-3321	*5000/6-8		
Z-3318	*6000/6-8	P12-RX, P8-Q, P8-RX, P15-Q, P12-Q	4.80
Z-3322	*10000/6-8		
Z-3323	*14000/6-8		
Z-3329	500/3-4		
Z-3330	*3000/3-4		
Z-3331	*5000/3-4	F12-S	4.80
Z-3332	*6000/3-4		
Z-3333	*10000/3-4		
Z-3334	*14000/3-4		
Z-3324	500/6-8		
Z-3325	*3000/6-8		
Z-3326	*4500/6-8	P12-T, P10-S, P10-SX, P10-RX, P10-T, P8-R, P8-S, P8-SX, VH-15, VR-11	3.30
Z-3309	*7000/6-8		
Z-3327	*10000/6-8		
Z-3328	*14000/6-8		

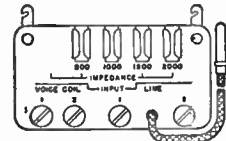
#### Cased Type, Solder Lug Terminals. Not Mountable on Speaker.

Stock No.	Impedance	For Use With:	List Price
Z-3344	500/8 or 4	PMJ-18, P15-L, P15-N, P15-NX	\$16.20
Z-3342	500/16 or 8	P15-N, P15-NX, P15-P, P12-N	12.30
Z-3343	500/8 or 4	P12-NX, VH-20, VH-24, VR-241	12.30
Z-3335	500/3-4		
Z-3336	*3000/3-4		
Z-3337	*4500/3-4	P8-T, F10-S, F8-S, F8-T	3.30
Z-3338	*7000/3-4		
Z-3339	*10000/3-4		
Z-3340	*14000/3-4		
Z-3310	500/3-4		
Z-3311	1500/3-4		
Z-3312	2000/3-4		
Z-3313	2500/3-4		
Z-3314	*4500/3-4	P8-U, P8-V, P6-T, P6-TX, P6-V, F8-W, P6-U	2.28
Z-3315	*7000/3-4		
Z-3316	*10000/3-4		
Z-3317	*14000/3-4		
Z-3345	45-50/6-8	VH-91, VR-11	2.52
Z-3300	500/3-4		
Z-3301	1500/3-4		
Z-3302	2000/3-4		
Z-3303	2500/3-4	AP-10, AP-11, AR-10, P6-X, P5-TX, P5-V, P5-X, P4-X, P6-X, F6-W, F5-W, F5-X, F4-X, RK-51	1.80
Z-3304	4500/3-4		
Z-3305	*7500/3-4		
Z-3306	*10000/3-4		
Z-3307	*12000/3-4		
Z-3308	3-4 grid	All 3-4 ohm V.C. speakers	2.04

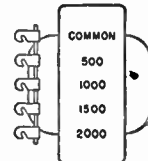
\*Center-tapped



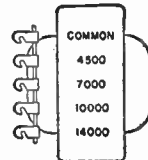
TYPE "ZX"



TYPE "ZY"



TYPE "ZL"



TYPE "ZP"



# RACON

ACOUSTICAL  
EXCELLENCE

RE-ENTRANT TRUMPETS  
RADIAL HORNS and SPEAKERS  
PM DRIVER UNITS

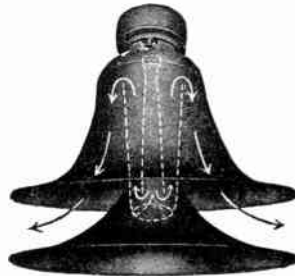
## Re-Entrant Trumpets, Radial Horns and Speakers



RE-35 RE-50 RE-60

RACON re-entrant horns and speakers are designed to deliver highly concentrated sound with great efficiency over long distances. This is due to true exponential design throughout and the elimination of all vibratory members and sound dissipating devices. The base and inside tone arms are husky aluminum castings and bell is a heavy gauge aluminum spinning. The RE-35, RE-50 and RE-60 incorporate reflectors made of patented RACON ACOUSTIC MATERIAL to prevent resonant effects. All models are supplied with "U"-bracket mounting (ratchet swivel type on request). Finish is in weatherproof hard baked gray hammertone. RE-60 & RE-50 recommended for maximum low frequency music reproduction. RE-35 and RE-25 best suited for incidental music and high speech intelligibility.

The SR-35R and SR-60R are weatherproof radial re-entrant horns designed to project sound over an area of 360 degrees. The centre reflectors are of patented RACON ACOUSTIC MATERIAL and the defectors are aluminum spinnings covered with this same non-vibratory material. Standard "U" bracket supplied. Thread size is 1 1/8"-18, permitting the use of any driver unit listed below. The SR-60R is ideal for church tower sound installations and the SR-35 for incidental music and speech.



SR-35R SR-60R



SR-15R SR-12R

The SR-15R and SR-12R are rated at 25 and 10 watts respectively and are supplied complete with built-in 15 ohm\* driver units. These models are intended primarily for speech in paging and "talk back" systems and are completely weatherproof. Supplied with cast swivel ratchet and wall bracket.

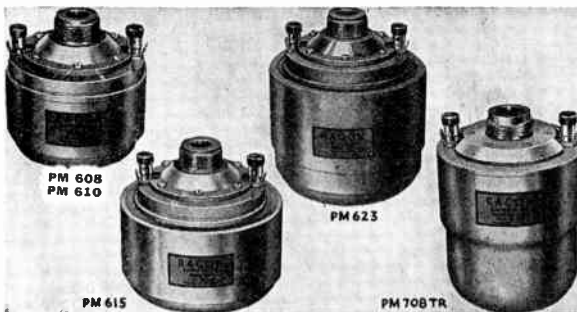
Model No.	Acoustic Length	Bell Diam.	Over-all Length	Cut-off (cycles)	Distrib. Angle	Ship. Wt. lb.	Code	List Price
**RE-60	6'	26"	28"	112	45°	21	REMOL	\$70.00
**RE-50	4 1/2'	25 1/4"	23 1/2"	140	50°	19	REMOY	49.50
**RE-35	3 1/2'	20 1/2"	16 1/4"	175	55°	12 1/2	REMOX	35.50
**RE-25	2 1/2'	13 1/2"	11"	225	60°	9	REMOD	26.50
**SR-60R	6 1/2'	36"	34 1/2"	115	360°	47	RADAL	90.00
**SR-35R	4'	17"	16"	175	360°	16	RADAK	47.50
SR-15R	20"	9"	12"	350	360°	7	RADAS	39.25
SR-12R	15"	7"	9"	450	360°	4	RADAB	29.50

\* 8 or 45 ohms on request at same price.  
\*\* horn only

## Waterproof Permanent Magnet Driver Units

The driver unit is the most important single element in a successful public address system. In these five new driver units, primary emphasis is on: high continuous power handling capacity with ample reserve

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



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

Long life plastic diaphragms and formers are supplied with aluminum wound voice coils to increase efficiency. Voice coil leads are non-fatiguing beryllium copper, insuring lifetime performance. All units are completely waterproof, yet permit ready replacement of diaphragm where needed.

### NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

Model No.	Net	Weight Ship.	Flux Density per sq. cm.	Frequency Range	Imp.	Diam.	Ht.	Thread	Capacity (watts) Peak	Oper.	Code	List Price
PM-623	8 1/2 lbs.	9 1/2 lbs.	15,500 gaussess	80-7000	15	5 1/4"	4 1/2"	1 3/8"-18	65	35	RETIX	\$52.50
PM-615	8 lbs.	9 lbs.	13,500 gaussess	90-7000	15	4 1/4"	4 1/2"	1 3/8"-18	60	30	RETIN	38.50
PM-610	3.5 lbs.	4 lbs.	12,000 gaussess	90-7000	15	4 1/8"	3 1/2"	1 3/8"-18	60	30	REPIX	34.00
PM-60R	5 lbs.	5 1/2 lbs.	11,000 gaussess	90-6500	15	4"	3 1/4"	1 3/8"-18	50	25	RETIP	29.00
PM-708TR*	6 lbs.	6 1/2 lbs.	11,000 gaussess	90-6500	15	4 1/2"	5 1/2"	1 3/8"-18	50	25	RETIR	42.75

\*NOTE: Contains built-in 25-watt line matching transformer, primary tapped at 500, 1000, 1500, 2000; secondary 8 and 15 ohms.



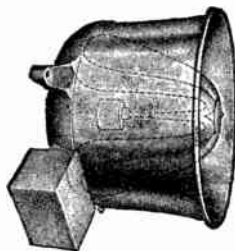
# RACON ACOUSTICAL EXCELLENCE

**DOUBLE RE-ENTRANT MARINE SPEAKERS  
RE-ENTRANT PAGING SPEAKERS  
CONE SPEAKER ENCLOSURES**

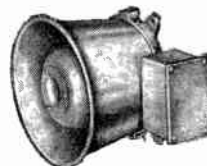
## DOUBLE RE-ENTRANT MARINE SPEAKERS

The regular (model MR-30M), midjet (model MG-21J), and miniature (model MN-15B) marine speakers are approved by the U. S. Coast Guard for all Emergency Loudspeaker Systems on ships.

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



MR-30M



MG-21J

Model No.	Frequency Range	Distribution Angle	Bell Diam.	Capacity (watts) Oper. Peak	Imp.	No. Driver Units	Over-all Length	Ship. Wt. lb.	Code	List Price
MR-30-M	250-6000	50°	14"	30 60	15	1	10"	29 1/4	REDIX	\$150.00
MR-32M	250-6000	50°	14"	60 120	8	2	18 1/2"	43	REDIT	208.50
MG-21J	350-6000	55°	9 1/2"	25 50	15	1	6 3/4"	14	RASOM	61.00
MG-21-B	350-6000	55°	9 1/2"	20 35	15	1	6 3/4"	9 1/2	RASOB	49.75
MN-15B	450-6000	65°	6 1/4"	20 35	15*	1	4 3/4"	6 1/4	REDUP	39.35
MN-15C	(same as MN-15B, but less "U" bracket)									
MN-15D	(same as MN-15B, but less "U" bracket and less transformer box)									
	* 8 or 45 ohms on request at same price.									

## RE-ENTRANT PAGING SPEAKERS



RE-15 RE-12



DW-9R

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

Model No.	Frequency Range	Distribution Angle	Operating Capacity	Imp.	Bell Diam.	Over-all Length	Ship. Wt. lb.	Code	List Price
RE-15	350-11,000	60°	25 watts	*15 ohms	9"	9 3/4"	6	REMAB	\$36.00
RE-12	450-10,000	65°	10 watts	*15 ohms	7"	6 1/2"	3 1/4	REDOX	27.80
DW-9R	750-10,000	70°	8 watts	*15 ohms	5"	2 1/2"	2	REDOX	29.00

\* 8 or 45 ohms on request at same price.

### CONE SPEAKER ENCLOSURE

These enclosures are strongly constructed and incorporate an acoustically damped steel back and an aluminum bell. A watertight overlap seal permits use indoors or outdoors. Cone opening is protected by screening and fine cloth mesh. Provided with two offset mounting hooks.

#### MODEL CP-12AW

Cone Size .....12"  
BELL DIA. ....17"  
LENGTH .....20"  
SHIPPING WT...8 lbs.  
CODE .....ROBOT  
LIST PRICE ....\$17.50



CP-12AW

### EXPLOSION PROOF DRIVER UNITS

The model XP-1 and XP-2 explosionproof driver units are listed under REEXAMINATION SERVICE of Underwriter's Laboratories, file E 17959.

Model XP-1 is specifically approved for use in Class I, group C & D locations where vapors present an explosion hazard. Model XP-2 is specifically approved for use in Class II, group E, F & G locations where explosive dusts are present.

Both units incorporate a husky non-corrosive aluminum casting, with access to the driver unit by means of a removable cast back cover plate. Ample room internally for line-matching transformers up to 30 watts where required. A serrated mounting bracket permits easy installation. For use with any straight or re-entrant horn. The casting is tapped for standard 1/2" conduit. Power: 30 watts continuously, with peaks up to 60 watts. High sensitivity permits use as a microphone-speaker in "talk-back" systems. Finish is in hard baked gray over a zinc chromate primer.

See Racon bulletin XP for more detailed specifications.

#### S P E C I F I C A T I O N S

	XP-1	XP-2
Power	30 w	30 w
Peak Power	60 w	60 w
Response	90-7000 cps	90-7000 cps
Impedance	15 ohms	15 ohms
*Thread	1 3/8"-18	1 3/8"-18
**Sensitivity	96.6 db	92.6 db
Mounting	1 1/2" pipe	1 1/2" pipe
Cable Entrance	1/2" conduit	1/2" conduit
Dimensions	8 3/4" H x 7" Dia.	8 3/4" H x 7" Dia.
Net Weight	15 lbs.	16.5 lbs.
Shipping Wt.	16 lbs.	17.5 lbs.
Code	RODAX	RODAX
	*1-7/16"-16 on special order	
	**4'-1 watt-1000 cycles	





## STRAIGHT EXPONENTIAL TRUMPETS

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

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

Model No.	Air Column (length)	Units Required	Cut-off (cycles)	Distribution Angle	Bell Diam.	Material	Ship. Weight	Code	List Price
*ST-415A	6'	1	115	45°	30"	Unbreakable	37 lb.	REGON	\$135.00
**ST-414A	6'	1	115	45°	30"	Stormproof	39 lb.	RIDER	100.00
*ST-417A	6'	1	115	45°	30"	All Aluminum	35 lb.	RHINO	99.00
**ST-412A	4 1/2'	1	145	50°	25"	Stormproof	34 lb.	RACEY	76.00
*ST-413A	4 1/2'	1	145	50°	25"	All Aluminum	27 lb.	RIANT	73.50
**ST-411A	3 1/2'	1	195	50°	22"	Stormproof	28 lb.	RENEW	52.50
*ST-410A	3 1/2'	1	195	50°	22"	All Aluminum	23 lb.	REPEX	36.75
**ST-251A	2'	1	250	55°	12"	Stormproof	6 lb.	RISAT	18.35
**ST-251B	2'	1	250	55°	12"	All Aluminum	5 lb.	RIMAD	17.50

\* Delivery, 4 weeks. \*\* Delivery, 1-2 weeks.  
NOTE: Models with 2, 4 and 8 unit throats available. Prices on request.

## CELLULAR HORN TWEETERS

Response is essentially flat to 12,000 cycles, with excellent usable output to 15,000 cycles. Cellular horn design permits wide angle distribution. Designed for a 1000-cycle crossover to assure optimum cone response. The

CHU-2 must be used with a crossover network. The networks listed below are recommended and when employed, tweeter model CHU-2 may be used with amplifiers having an output rating to 25-30 watts.

NOTE: Instructions are packed with each tweeter, providing an easy method of home building a professional type 1000-cycle crossover network.

Model No.	Impedance	Freq. Range	Dispersion Horiz.	Angle Vert.	Material	Ship. Wt.	Code	List Price
CHU-2	15 Ohms	750-15000	100°	50°	Alum. Cast.	6 lbs.	RALUX	\$40.25



CON-20



CON-15R

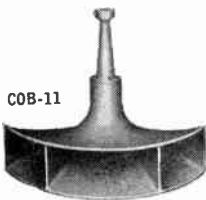


## CROSSOVER NETWORKS

Both models CON-20 and CON-15R have a crossover of 1000 cycles. The CON-20 is an L/C network and the CON-15R is of the high pass filter type. Cone speaker impedance may vary from 4-15 ohms.

Model No.	CON-15R	CON-20
Description	Var. Audio Taper R-C Network	Var. Audio Taper R-C-L Network
Ship. Wt.	2 1/2 lbs.	3 1/2 lbs.
Code	RAFIR	RADUX
List Price	\$11.80	\$24.00

## COBRA TYPE HORN



COB-11

The RACON COB-11 "cobra" type horn is designed for public address systems requiring high clarity reproduction with maximum concentration of sound in a horizontal plane. It is of "straight" horn design and

exponentially flared for maximum transfer of energy. The low cutoff of 250 cycles results in crisp, highly articulate quality without a trace of boominess. The horn consists of a heavy two-piece non-vibratory aluminum casting and is provided with a two-section serrated mounting bracket. Finish is baked gray hammertone over a zinc chromate primer.

Cut-off	250 cycles
Dispersion	120° H, 40° V
*Thread	1 3/8" - 18
Dimensions	17 3/8" H, 22 1/4" W, 13 3/8" D
Net Wt.	12 lbs.
Shipping Wt.	17 lbs.
Code	ROBON
List Price	\$72.50

\* 1-7/16"-16 on request at same price.

## ACCESSORIES



DC-302A



DC-2U



RB-150A



TB-150

### Steel Swivel Brackets for Cone Projectors

For wall or truck mounting. Has tooth ratchet swivel and pipe connection to give 180° angular movement. Can be used on any Racon Cone Projector.

Model No.	Description	Cone Size	Code	List Price
RB-150	Without Base	8" or 12"	RAMIS	\$3.90
RB-150A	With Base	8" or 12"	RAMIT	5.50

### Bronze Swivel Bracket for Re-entrant Trumpets

A cast bronze three-legged base and ratchet connection. May be used when specifying ratchet mounted trumpets. Over-all height 9".

Model No.	Description	Code	List Price
TB-150		RAMUG	\$6.50

### Multiple Horn and Unit Connectors

Model No.	Description	Material	Code	List
DC-302A	2 St. Trumpet Connector 75° Dispersion Angle	Bronze	RADIX	\$18.35
DC-2U	Dual Unit Connector for all standard thread horns to permit the use of two driver units on one horn	Bronze	RADAX	15.75



**JAMES B. LANSING SOUND, Inc.**  
**LOS ANGELES 39, CALIFORNIA**

**GENERAL PURPOSE SPEAKER SPECIFICATIONS**

POWER INPUT.....	D-130—15".....	D-131—12".....	D-208—8".....
IMPEDANCE (Nominal).....	25 Watts.....	20 Watts.....	12 Watts.....
OUTSIDE DIAMETER.....	16 Ohms.....	16 Ohms.....	8 Ohms.....
DEPTH.....	15 7/8".....	12 1/2".....	8 1/4".....
FIELD.....	5 5/8".....	5".....	2 7/8".....
V. C. DIAMETER.....	Perm. Mag. 4".....	Perm. Mag. 4".....	Perm. Mag. 2".....
SHIPPING WEIGHT.....	23 pounds.....	22 pounds.....	6 pounds.....
PRICE.....	\$110.00.....	\$105.00.....	\$38.00.....

Jim Lansing general purpose speakers have large Alnico V Permanent Magnets, edge wound ribbon voice coils, aluminum high frequency center diaphragm vented to the rear to eliminate nonlinear compression effects, heavy, rigid aluminum frames, and 4" diameter voice coils.

**SPEAKER SYSTEM COMPONENTS**



Low frequency unit—15"

130A used with D1001 system—Voice coil impedance 16 ohms  
 130B used with D1050 system—Voice coil impedance 32 ohms  
 Power input.....25 watts  
 Voice coil diameter.....4"  
 Outside diameter.....15 5/8"  
 Depth.....5 5/8"  
 Shipping weight.....23 pounds

LIST PRICE \$112.50



Complete high frequency driver, horn and lens assembly 175 DLH

175 DLH used with both D1001 and D1050 systems  
 Power input.....25 watts above 1200 c.p.s.  
 Nominal impedance.....16 ohms  
 Field.....permanent magnet  
 Distribution.....90° solid angle  
 Index of refraction.....1.3  
 Horn throat.....1" diameter  
 Mounting hole diameter.....5 5/8"  
 Overall length.....11 1/2"  
 Shipping weight.....12 pounds

LIST PRICE \$190.00



Dividing network

N1200 used with both D1001 and D1050 systems  
 Input impedance.....16 ohms  
 Output impedance.....16 ohms  
 Cross over.....1200 c.p.s.  
 Attenuation.....18 DB per octave  
 Shipping weight.....6 pounds

LIST PRICE \$55.00

**Complete Two-Way System Kits**

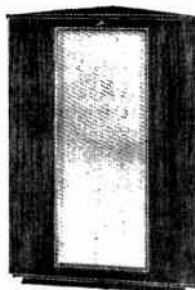
The D1001 and D1050 speaker systems can be purchased as a kit for installation in your own cabinet or for built-in installations.

**D1001 system includes:**

1 130A—15" low frequency unit  
 1-175 DLH—high frequency driver and horn-lens assembly  
 1 N1200—dividing network  
 Shipping weight 41 pounds  
**LIST PRICE \$357.50**

**D1050 system includes:**

2 130 B—15" low frequency units  
 1-175 DLH—high frequency driver and horn-lens assembly  
 1 N1200 dividing network  
 Shipping weight 62 pounds  
**LIST PRICE \$470.00**



**System Corner Enclosure**

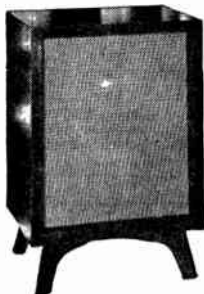
Height 50" . . . Front width 34"  
 Depth 17"  
 Shipping Weight 73 Pounds  
 With the D1050 system installed available in:

D1004	Dark Mahogany	.....	List Price \$650.00
D1005	Primavera Blonde	.....	660.00
D1006	Utility Gray	.....	645.00

The corner enclosure is also furnished with the D1001 speaker system installed.

D1007	Dark Mahogany	.....	List Price \$537.50
D1008	Primavera Blonde	.....	547.50
D1009	Utility Gray	.....	532.50

**D208 Speaker Enclosure**

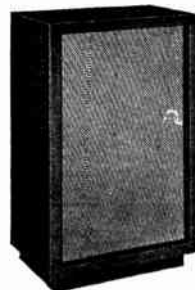


Height 29 1/2"  
 Width 19 3/8"  
 Depth 15-13/16"  
 Shipping Weight 52 pounds

This enclosure with the D208 speaker provides exceptionally fine, wide range reproduction. Speaker and enclosure must be ordered separately and will be shipped separately.

**D208 Speaker Enclosure Available in:**

C508	Utility Gray	.....	List Price \$70.50
C509	Dark Mahogany	.....	70.50
C510	Primavera Blonde	.....	70.50



**Console Enclosure**

Height 38 1/2" . . . Width 29"  
 Depth 16"

Shipping Weight 110 Pounds

With the D1001 speaker system installed available in:

D1000	Utility Gray	.....	List Price \$492.50
D1002	Dark Mahogany	.....	507.50
D1003	Primavera Blonde	.....	517.50

The console enclosure can also be used to install the D130—15" or D131—12" general purpose speakers. Speaker and enclosure must be ordered separately and will be shipped separately. Available in:

C500	Utility Gray for D130	.....	List Price \$135.00
C501	Utility Gray for D131	.....	135.00
C502	Dark Mahogany for D130	.....	150.00
C503	Dark Mahogany for D131	.....	150.00
C504	Primavera Blonde for D130	.....	160.00
C505	Primavera Blonde for D131	.....	160.00

**FIRST IN FINE SOUND**

# University

## LOUDSPEAKERS AND REPRODUCER EQUIPMENT



### REFLEX TRUMPETS



MODEL PH with Model PA-30 DRIVER UNIT



MODEL PMA ADAPTER  
For mounting University "U" bracket speakers on standard 1/2" pipe.

LIST PRICE \$1.50



2YC Connector

Used with two driver units, provides to 60 watts for any trumpet or projector.

LIST PRICE \$10.00



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

List Price \$2.50



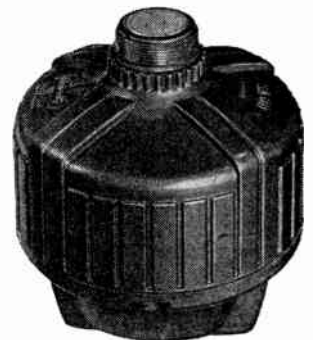
MODEL PA-30

Recommended for reproduction of chimes, carillons, organ music. Ideal for rental work, high efficiency, maximum distance penetration. Built-in transformer with various impedances and for 70 V. systems.



MODEL SA-HF

Meets all PA and industrial requirements. For heavy noise areas, speech or quality music.



MODEL MA-25

Fills low cost requirements without compromising quality. Rugged, weatherproof. Highly efficient to 6000 cycles.

MODEL SA-30

Completely die-cast aluminum housing makes it a "must" in hazardous locations or rough service. Built-in transformer with various impedances and for 70 V. systems.

The reflex trumpet, pioneered by University represents the most efficient modern method of converting electrical power into acoustic energy. Conversion efficiencies as high as 30-40% are achieved, as compared with 2-10% ordinarily obtained with cone speakers.

University Trumpets are completely weatherproof for any location, any climate. They receive meticulous attention during fabrication, right down to the rust-proofed hardware. All castings and exponentially spun air column members must conform, uniformly, to the time-tested, performance-proven University formula of flare rate.

The four trumpet sizes available cover every public address requirement. Model GH has a very low frequency cut-off especially suited for reproduction of finest musical programs. Model LH is recommended for general applications requiring good music and speech characteristics. PH, with slightly higher cut-off, is suggested where economy must be considered in planning the system. Model SMH is designed primarily for voice reproduction where a heavy duty 25 watt speaker must be relied on for continuous, highly intelligible speech reinforcement. Models SMH and PH give excellent coverage of wide-angled areas; the LH and GH provide greater distance penetration.

MODEL	GH	LH	PH	SMH
LOW FREQUENCY CUTOFF	85 cps.	120 cps.	150 cps.	200 cps.
SOUND DISTRIBUTION	65°	75°	85°	95°
AIR COLUMN LENGTH	6 1/2 ft.	4 1/2 ft.	3 1/2 ft.	2 1/2 ft.
BELL DIAMETER	30 3/8"	25 5/8"	20 1/4"	16 1/4"
HORN LENGTH (less driver unit)	27 7/8"	19"	15 3/4"	12"
SHIPPING WEIGHT (less driver unit)	25 lbs.	20 lbs.	11 lbs.	9 lbs.
LIST PRICE	\$60.00	\$44.50	\$29.00	\$24.50

### BREAKDOWN-PROOF DRIVER UNITS

University Drivers incorporate exclusive built-in features that guarantee finer performance, long trouble-free service. W-shaped Alnico 5 magnet assembly reduces reluctance losses, avoids surface leakage. Waterproof, multi-impedance line matching transformers are included in some models. University drivers give full-rated performance at both extremes of the spectrum. Special bi-sectional mechanism automatically centers diaphragm/voice coil assembly in the voice coil gap on magnet top plate. This "rim-centering" results in permanent voice coil concentricity and greater conversion efficiency.

MODEL	PA-30	SA-30	SA-HF	MA-25
CONTINUOUS POWER	30 watts	30 watts	25 watts	25 watts
FREQUENCY RESPONSE	80-10,000 cps.	90-10,000 cps.	90-10,000 cps.	90-6000 cps.
VOICE COIL IMPEDANCE	16 ohms	16 ohms	16 ohms	16 ohms
TRANSFORMER IMPEDANCES	165/250/500/1000/2000 ohms	45/165/250/1000/2000 ohms		
DIAMETER, OVERALL	6 3/4"	5"	4 1/2"	4 1/8"
LENGTH, OVERALL	6 3/4"	6 3/4"	5"	3 3/4"
SHIPPING WEIGHT	6 lbs.	5 lbs.	4 lbs.	3 1/2 lbs.
LIST PRICE	\$50.00	\$45.00	\$37.00	\$25.00

# University

## LOUDSPEAKERS AND REPRODUCER EQUIPMENT



### PAGING AND INTERCOM SPEAKERS

Recommended for general purpose paging and talk-back applications, these speakers reproduce with crisp clarity for maximum penetration through areas with high noise intensity. Offer high efficiency, wide frequency range, small size, high power handling capacity and waterproof breakdown-proof construction.

Employing the famous University reflex design and hermet-

ically sealed driver units, these speakers are conservatively rated, and capable of lifetime, trouble-free operation. Specially controlled rising frequency characteristic results in exceptional penetration of high ambient noise levels with unusually high intelligibility. Remarkable sensitivity make them ideal for talk-back, and for conversion of simple intercom sets into excellent paging and talk-back systems.

### DIRECTIONAL AND RADIAL TYPE SPEAKERS



**MODEL IB8**  
Serrated swivel-mounting bracket permits complete vertical or horizontal adjustment. Die cast triangular base fits University Model CTR-20 line matching transformer. Model SPA adapter may be used for mounting to 1/2" pipe.

**MODEL MIL**—For installations requiring concentrated power to cover small areas. High conversion efficiency conserves amplifier power, ideal for low level systems.

**MODEL MIS**—Designed for flange or flush mounting in cabinets, walls, ceilings, bulkheads, etc. Ideal for replacement of cone speakers to increase output.

**MODEL CR**—Reflex speaker conservatively rated at 20 watts continuous duty, and featuring built-in driver unit. For speech system requiring high efficiency and intelligibility.

**MODEL IBR**—Small radial speakers, complete with built-in driver unit. Affords 360° horizontal dispersion resulting in wide coverage with a minimum of speakers.



MODEL	IB8	MIL	MIS	IBR	CR
CONT. POWER	12 watts	3 watts	3 watts	12 watts	20 watts
IMPEDANCES	8 ohms	8 ohms (45 ohms on order)	8 ohms (45 ohms on order)	8 ohms	16 ohms
DISPERSION	90°	120°	150°	360°	90°
FREQUENCY	300-10,000	400-9000	500-9000	300-10,000	250-6000
DIMENSIONS	8 1/2" dia., 9" high	6 3/8" dia., 7" high	3 7/8" deep, 5 1/2" O.D. 4 7/8" mount. dia.	9 3/4" dia., 11" high	11 1/2" dia.
SHIPPING WEIGHT	5 lbs.	4 lbs.	3 lbs.	5 lbs.	9 lbs.
LIST PRICE	\$32.50	\$25.00*	\$20.00*	\$39.00	\$42.00

### WIDE ANGLE SPEAKERS



LIST PRICE  
\$35.00

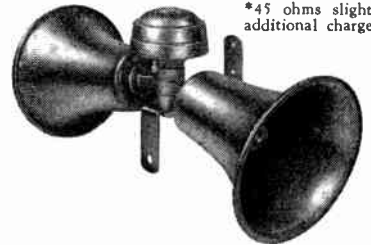
**COBREFLEX-2 WIDE ANGLE SPEAKER**—By popular demand, a new heavy duty wide angle, paging speaker designed to be used with any of the University screw-in heavy duty driver units, and designed to withstand the most grueling climatic and mechanical abuses. Horn employs a new principle of dual exponential reflex expansion which produces a remarkably uniform 120° x 60° field pattern. Low frequency cut-off is 250

cycles. The speaker is of heavy die-cast aluminum construction, versatile "U" bracket mounting with serrated swivel joints for positive locking. All parts, including the hardware, double-treated against corrosion.

The perfect answer for covering wide areas with a minimum of speakers. Very effective in coping with reverberation problems since the sound can be controlled in the vertical, horizontal and axial planes. Ideal as well for use as wide angle mid-range reproducer in multiple speaker hi-fi systems. Supplied less driver.

**MODEL 2W-25 TWO-WAY PAGING SPEAKER**

The economical and practical means of covering two opposite areas effectively and efficiently. A single 25 watt driver serves both reflexed horns through a carefully designed "T" acoustic coupler. Each horn has a wide 120° sound projection pattern. Clever mounting bracket permits sound projection 10° downward or outward. No energy is lost in unoccupied space. Driver included.



\*45 ohms slight additional charge

MODEL	2W-25
CONT. POWER	25 watts
IMPEDANCE	16 ohms
DISPERSION	120° each horn
FREQUENCY	350-6000 cps
DIMENSIONS	20 1/2" lg. bell 8" dia. mouth 9 lbs.
SHIPPING WEIGHT	9 lbs.
LIST PRICE	\$48.00

### RADIAL REFLEX PROJECTORS

FOR 360° HORIZONTAL DISPERSION

The answer for applications requiring uniform 360° dispersion with a minimum of speakers. Higher conversion efficiency of radial reflex projectors using driver unit mechanisms has increased their popularity over radial cone speakers, especially in industrial applications. Reproduction of chime and liturgical music in church towers are also natural applications. Using a 2YC connector, single projectors can operate from 50-60 watt amplifiers.

MODEL RLH has longest air column and is recommended for maximum low frequency response; RPH for both music and speech and RSH where reproduction of speech is most important.



MODEL	RLH	RPH	RSH
LOW FREQ. CUTOFF	120 cps.	140 cps.	180 cps.
SOUND DISTRIB.	360°	360°	360°
AIR COLUMN LGTH.	5 ft.	4 ft.	3 ft.
BELL DIAMETER	28 1/8"	25 1/8"	18 7/8"
*OVERALL HEIGHT	18 1/2"	14"	11"
*SHIPPING WEIGHT	27 lbs.	21 lbs.	18 lbs.
LIST PRICE	\$59.00	\$45.00	\$38.50

2YC CONNECTOR

Permits use of two University driver units on a single trumpet or radial projector for double power output.







### SUBMERGENCE-PROOF SPEAKERS



University "submergence-proof" speakers go beyond the normal requirements of commercial and industrial speakers. They are built for applications demanding the utmost ruggedness and immunity to salt spray, gasses, live steam, and specially harmful dusts and fungus. Designed originally to U. S. Navy "submergence" specs, all models shown will continue to function even when under water, drain automatically, and will provide reliable, uninterrupted service with negligible maintenance under the most grueling conditions.

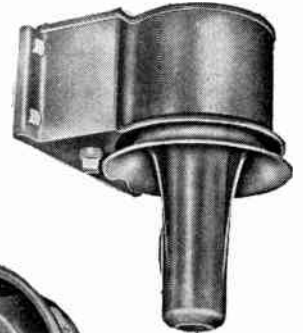


**MODEL MM-2TC** — Bulkhead-mounted, directional speaker providing a dispersion of 120°. Includes provision for a transformer and attenuator. Accessible from front, with cable entrance and control at bottom. (Also available complete with 5420 transformer and T-pad, Model MM2TC-T.)



**MODEL MM-2F** — Similar to Model MM-2 but designed for flange mounting. Permits flush mounting in wall, ceiling, bulkheads, dashboards or wherever appearance is important, or projecting objects might suffer damage.

**MODEL MM-2** — A compact speaker with reflex air column and hermetically sealed, built-in driver. Adjustable serrated swivel mounting bracket allows easy installation. Base fits Model CTR-20 weatherproof line matching transformers.



**MODEL MSR** — Reflexed air column horn for 360° horizontal dispersion. Features completely die-cast aluminum housing and horn, hermetically sealed driver unit. Provides for both line matching transformer and volume control within housing. For wall or bulkhead mounting. (Model MSR-T includes 5420 transformer & T-pad.)

MODEL	MM-2TC	MM-2F	MSR	MM-2
CONT. POWER	15 watts	15 watts	15 watts	15 watts
IMPEDANCE	16 ohms	16 ohms	16 ohms	16 ohms
DISPERSION	120°	150°	360°	150°
FREQUENCY	300-6000 cycles	300-6000 cycles	250-6000 cycles	300-6000 cycles
DIMENSIONS	10" high 4 1/8" depth 6 1/4" wide	7 1/2" O.D. 3 3/4" depth 6 3/4" mount. hole dia.	10 3/4" high 8 1/4" depth 7 3/4" wide	10 3/4" high 6" O.D. 4 3/4" depth
SHIPPING WEIGHT	5 lbs.	5 lbs.	11 lbs.	5 lbs.
LIST PRICE	\$65.00	\$40.00	\$65.00	\$42.00

### SUPER POWER SPEAKERS

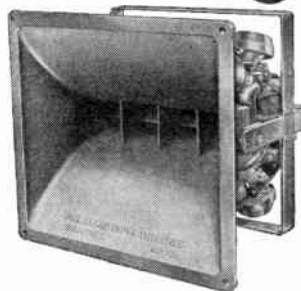
— FOR LONG RANGE,  
ALL-WEATHER SOUND CASTING

In contrast to other speakers, these handle tremendous powers—up to 720 watts. Lightweight projectors concentrate powerful force capable of penetrating terrific noise levels. Rugged in construction, simple to install, foolproof in operation and immune to weather conditions. Ideally suited for stadiums, racetracks, airplane sound casting. Popular for the transmission of chime and organ music from church towers. University Super-power Speakers are also the answer for civil defense in connection with air raid alert and "panic control" systems.



**MODEL 4A4** projector uses four 25 watt driver units, each feeding into separate reflexed air columns which combine into a concentrated beam of high intensity sound. Supplied less driver units; use MA-25 or SA-HF.

**MODEL B-6** is powered by six driver units feeding into a phase-corrected mixing chamber, and coupled to an exponential horn. Driver units supplied, unwired.



**MODEL B-12**—Uses 12 special drivers. Ideal for high noise areas and transmitting great distances from a central point. Weather-proof and rugged. "U" mounting bracket and wired driver units included.

**MODEL B-24**—Newly designed, for super power sound-casting. Compact design and small dimensions permit its use either singly or in clusters to form any desired power or sound distribution pattern. Uses 24 special driver units, which are supplied completely wired.

MODEL	4A4	B-6	B-12	B-24
POWER, CONT.	100 watts	150 watts	300 watts	720 watts
FREQUENCY	200-10,000 cps.*	100-10,000 cps.	100-10,000 cps.	250-6000 cps.***
IMPEDANCE	Can be wired for 4, 16, 64 ohms	Supplied unwired; single and multiple inputs from 2 to 125 ohms possible.	Double input 90 ohms each; single input 45-50 ohms total	Supplied completely wired for 10 ohms
DISPERSION	80°	80°	80°	90° x 45°
DIMENSIONS (Overall)	18 1/4" high 20 1/2" depth 16 1/8" width	31 3/8" high 56 3/8" depth 31 3/8" (bell diam.)	31 3/8" high 47" depth 31 3/8" (bell diam.)	22" high 18 3/8" depth 24" width
SHIPPING WEIGHT	30 lbs.	60 lbs.	90 lbs.	120 lbs.
LIST PRICE	\$93.00	\$542.50	\$972.50	On request

\*When used with SA-HF Driver Units. May be used with MA-25.

\*\*10,000 cps. drivers available on request at extra cost.

\*\*\*Available with SA-30 Driver Units on request at extra cost.

# University

## LOUDSPEAKERS AND REPRODUCER EQUIPMENT



### EXPLOSION-PROOF SPEAKERS

Introduction of the new University Models 7101 and 7102 Explosion-Proof Speakers makes it possible to install loud-speaker system in locations where flammable liquids, gasses, dust and other combustibles are present. Approved by the Underwriters' Laboratories for Class I and Class II locations, Models 7101 and 7102 permit industries previously denied

CONT. POWER 25 watts  
 VOICE COIL IMPEDANCE 16 ohms  
 TRANSFORMER IMPEDANCES 45, 500, 1000, 1500, 2,000 ohms  
 FREQUENCY 200-10,000 cps.  
 DISPERSION 95°  
 DIMENSIONS 19" length  
 15 3/4" height  
 SHIPPING WEIGHT 25 lbs.  
 LIST PRICE 7101 \$125.00 7102 \$150.00

the advantages of sound, paging and intercom to proceed immediately with 100% safe installations. In addition to approved explosion-proof construction, these speakers represent the last word in rugged design and are complete with multi-tap built-in line matching transformers. For specific applications and architects' and engineers' specifications, consult the University Technilog.

MODEL 7101 is Underwriters' Laboratories approved for Class I, Groups C and D.

MODEL 7102 is approved for Class I, Groups C and D and Class II, Groups E, F and G.



### UNIVERSITY POWRMIKE SOUND SYSTEM

A COMPLETE SYSTEM REQUIRING NO AMPLIFIER  
 PORTABLE • NO TUBES • NO A.C. PLUG-IN

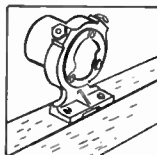
Capable of a maximum of 1 1/2 watts output, POWRMIKE is intended for speech reinforcement where modest coverage is required. Distances to 100 feet or over, depending upon noise and wind conditions, can be bridged with clear, highly intelligible voice reproduction. Completely portable, the entire POWRMIKE System is comprised of a

special close-talking microphone, super-efficient loudspeaker, and adapter plate for standard "hot-shot" 6 volt battery. Has built-in volume control. Ideal for announcing, directing, speaking, supervising — indoors, outdoors, mobile, police, fire, marine, commercial and industrial applications.



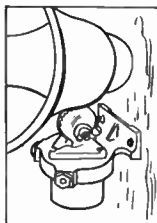
MODEL	DESCRIPTION	LIST PRICE
PC-66	Complete system comprising PC-2 microphone, PS-4 speaker, "Hot-Shot" battery adapter plate with volume control. Completely wired and assembled—less battery.	\$66.00
PC-2	Powrmike microphone, with 12 ft. cable.	\$30.00
PC-4	Powrmike speaker, 4 ohms, with carrying handle.	\$32.50

### WEATHERPROOF LINE MATCHING TRANSFORMERS

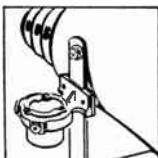


← The CTR-20 may be mounted to wall, ceiling, or any other flat surface by means of screws, using the heavy bracket which is an integral part of the one-piece casting.

For mounting to University Paging speakers, the triangular base of the speaker if fastened to the top of the CTR-20 where three screws have been provided for this purpose. The CTR-20 mounting bracket then supports both the transformer and the speaker.



→ The CTR-20 may also be clamped to the "U" type mounting bracket used on trumpets and radial projectors. The clamp bar is supplied with all CTR-20 transformers.



MODEL CTR-20—Designed to afford maximum utility in application and utmost convenience of installation. Since most University loudspeakers and drivers are capable of response to 10,000 cycles and beyond, these transformers have been designed to assure perfect performance throughout the entire audio spectrum. Only highest grade audio silicon metal is used. Insulation withstands 1000 breakdown tests. Efficiency is exceptionally high. Versatile and rugged, CTR-20 has multi-tap primary and secondary windings, water tight construction with gland nut entrances and durable heavy, cast aluminum case.

MODEL CTR-20		\$15.00
PRIMARY IMP.	45, 500, 1000, 1500, 2000 ohms	
SECONDARY IMP.	4-8-16 ohms	
POWER HANDLING	Capacity 25 watts	
SHIPPING WEIGHT	3 lbs.	
MODEL 5420	Same as above but for indoor use; strap mounting	\$5.00



A Compilation of Useful Information That Simplifies Speaker Application —

### UNIVERSITY 28-PAGE TECHNILOG

— CONTAINS BOTH TECHNICAL AND PRODUCT DATA

Written by sound experts to simplify the work of installation and servicemen, makes possible for dealers and salesmen to easily select the

proper equipment for specific applications. Technilog is a valuable addition to any technical library and it's available to the trade at no cost.

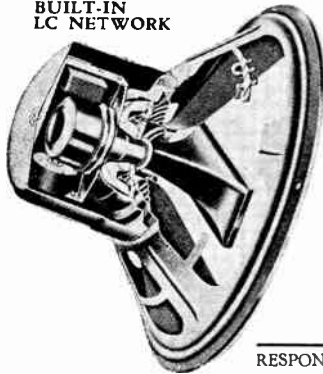
— REQUEST YOUR COPY FROM YOUR DISTRIBUTOR TODAY!





## HIGH FIDELITY CONE SPEAKERS

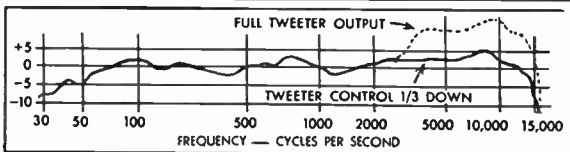
FEATURING  
BUILT-IN  
LC NETWORK



**MODEL 6201 DUAL RANGE COAXIAL SPEAKER** — One of the few true coaxial systems. Complete with horn type tweeter, driven by a separate high efficiency driver. Has built-in inductance-capacitance type crossover network complete with variable balance control and supplied with 36" of connecting cable, fully wired. Model 6201 is an engineered package requiring only connection of the two free wires to the amplifier for instant operation.

RESPONSE	45-15,000 cps.
POWER CAPACITY	25 watts continuous
SOURCE IMPED.	8 ohms
DIMENSIONS	12 1/8" dia. 8 3/4" depth RMA Stand. 12" mounting
SHIPPING WGT.	10 1/2 lbs.
LIST PRICE	\$75.00

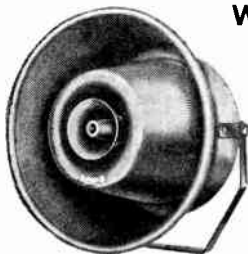
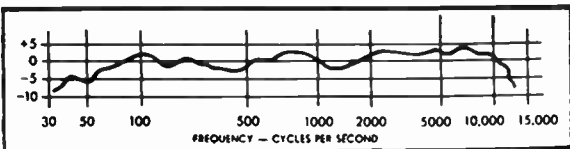
Heavy University W-shape gold dot Alnico V magnet treated one-piece diaphragm in woofer prevents erratic reproduction of transients, eliminates harmonic distortion of fundamental tones.



For General  
High Fidelity  
Applications

**MODEL 6200 EXTENDED RANGE SPEAKER**—A highly efficient, extended range PM loudspeaker with full-bodied response to 10,000 cycles. Ideal for the improvement of commercial radio and phono combinations, for high quality PA and for sound reinforcement in clubs, churches, schools, hospitals and stores. Requires less than half the audio power needed by ordinary 12" speakers.

RESPONSE	45-10,000 cps.
POWER CAPACITY	30 watts
NOMINAL IMPED.	6-12 ohms
DIMENSIONS	12 1/8" diameter 4 1/4" depth RMA Stand. 12" mounting
SHIPPING WGT.	5 1/4 lbs.
LIST PRICE	\$35.00



## WIDE RANGE WEATHERPROOF COAXIAL SPEAKERS

Model WLC is the new improved, all-weather coaxial speaker system designed to simplify indoor and outdoor "high quality" sound installations. A complete system comprising a low frequency cone speaker, driver type high frequency reproducer and a 1000 cycle LC crossover network. Completely wired and contained in a compact, heavy gauge all-metal dual horn assembly. Affords remarkable smooth overall response and is capable of 30 watts input and life-like reproduction from 50 to 15,000 cycles. Recommended for bandshells, outdoor movies, auditoriums and dance halls.

POWER CAPACITY	30 watts
IMPEDANCE	8 ohms
RESPONSE	50-15,000 cps.
DISPERSION	90°
DIAMETER	33 1/2"
DEPTH	20"
SHIPPING WEIGHT	80 lbs.
LIST PRICE	\$200.00

**THE DIFFUSICONE 8 and 12**—These extended range speakers prevent loss of the "highs" at listening points progressively off speaker axis. The University Diffusicone Models bring within every music lovers' grasp the endless pleasures of true Concert Hall Quality reproduction—at amazingly low cost—and with no need for undue concern over the location of the speaker. Diffusicone is the answer to the long needed basic improvement in the performance of ordinary extended range speakers. Ideal for flush ceiling installations.



### Dual horn arrangement produces radial pattern



Exclusive dual horn arrangement sets up two distinct sound wave paths. High audio frequency sound waves are directive—tend to propagate along speaker axis. This is overcome by splitting energy into 2 paths, along path of both inner and outer horns. Diffraction then occurs to the more stubborn very high frequencies by passing the wavefront of the radial or outer horn through small orifices which terminate this radial projector. Diffraction takes place as a consequence of the relationship between the aperture diameter and the wave lengths of the frequencies in question. Result is exceptional uniform response.

MODEL	DIFFUSICONE 8	DIFFUSICONE 12
FREQ. RESPONSE	70-13,000 cps. uniform field pattern	45-13,000 cps. uniform field pattern
POWER CAPACITY	25 watts, cont. duty	30 watts, cont. duty
IMPEDANCE	8 ohms	8 ohms
DIA. OVER.	8 3/8"	12 1/8"
DEPTH. OVER.	3 3/8"	4 1/4"
MTG. CIRCLE	7 7/8", 8 mtg. holes,	11 3/8", 8 mtg. holes,
DIA.	8 punched	4 punched
SHIPPING WGT.	3 1/2 lbs.	5 1/2 lbs.
LIST PRICE	\$45.00	\$35.00

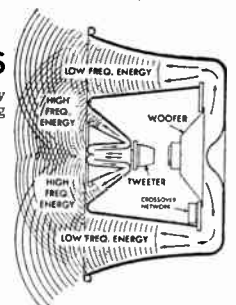


**C-15W SUPER 15" WOOFER**  
At last, a 15" loudspeaker designed not only to provide the acme of attainable perfection in the specific reproduction of low frequencies, but one which defies obsolescence due to impedance matching requirements as speaker systems are altered or expanded.

- **DUAL IMPEDANCE RANGE VOICE COIL**—4-8 ohms and 10-16 ohms available at speaker terminals.
- **LONGEST VOICE COIL AXIAL DEPTH**—Coil remains in gap, results in superior conversion efficiency and transient response.

The C-15W may be used in any 2, 3, or 4-way speaker system utilizing woofer crossover up to 2000 cycles. Amplifiers rated to 50 watts may be employed.

LIST PRICE \$115.00



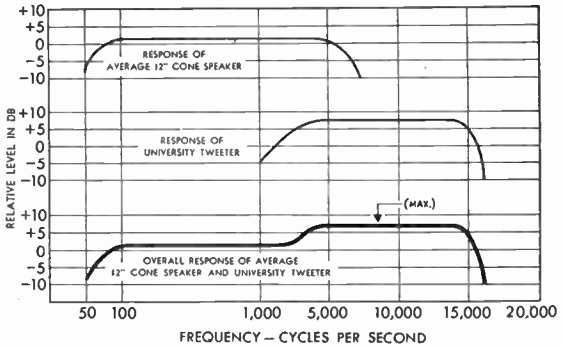
# University

## LOUDSPEAKERS AND REPRODUCER EQUIPMENT

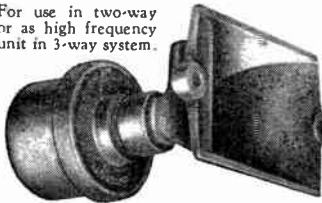


### HIGH FREQUENCY TWEETER SPEAKERS

Featuring new "reciprocating flares" principle, the greatest advance in wide angle horn design! Eliminates poor uniformity of response caused by variations in intensity and resultant dips and peaks. Also prevents shifts in energy level between vertical and horizontal planes and production of unequal amounts of sound in the two planes. University engineers have perfected these properly loaded exponential high frequency horns which provide maximum efficiency without detrimental spatial distribution defects. Only University tweeters offer these highly important performance advantages. Exclusive "reciprocating flares" formula of horn expansion is positive assurance of superior reproduction.



For use in two-way or as high frequency unit in 3-way system.

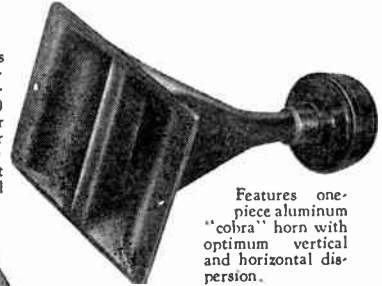


#### MODEL 4401 2000 CYCLE TWEETER

Handles the output of amplifiers up to 25 watts when used with PM or field excited 8-15 inch cone speakers. Features "reciprocating flares" one piece horn, breakdown proof diaphragm, light weight voice coil suspension and heavy Alnico V magnet.

#### MODEL 4408-4409 COBRA HORN TWEETER

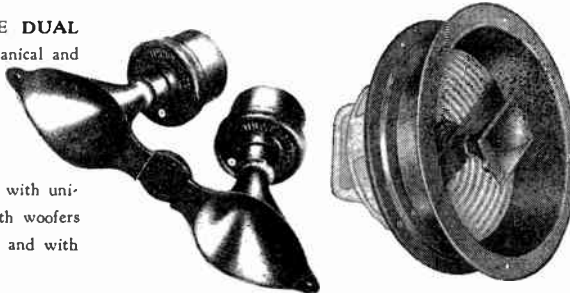
New models designed for wide range reproduction requiring a crossover down to as low as 600 cycles. Recommended for two and three way speaker systems, for the high fidelity enthusiast who seeks highest quality, and for professional reproduction.



Features one-piece aluminum "cobra" horn with optimum vertical and horizontal dispersion.

#### MODEL 4402 WIDE ANGLE DUAL TWEETER

Has electrical, mechanical and acoustical characteristics which make it the most versatile high frequency tweeter available. Essentially flat response from 2000 to 15,000 cycles with uniform dispersion. May be used with woofers of from 4 to 16 ohms impedance, and with amplifiers rated up to 50 watts.



#### MODEL 4407 CO-AXIAL TWEETER ADAPTER

Used with conventional 12" cone speaker, it adds brilliant highs frequently lost by single element reproducers. Model 4407 is the "wide range answer" wherever performance, easy installation and economy are important. Includes 4401 single tweeter, aluminum adapter ring, tweeter mounting strap and hardware.

MODEL	4407	4401	4402	4408	4409
RESPONSE	2000-15,000 cycles	2000-15,000 cycles	2000-15,000 cycles	600-15,000 cycles	600-15,000 cycles
IMPEDANCE	For 6-16 ohm woofers	For 6-16 ohm woofers	4-8 ohms and 10-16 ohms	Use with woofer from 6-16 ohms	For 6-16 ohm woofers
POWER	Amplifiers up to 25 watts	Amplifiers up to 25 watts	Amplifiers up to 50 watts	Amplifiers up to 15-20 watts	Amplifiers up to 25-40 watts
DISPERSION	90° Horizontal 45° Vertical	90° Horizontal 45° Vertical	120° Horizontal 50° Vertical	120° Horizontal 60° Vertical	120° Horizontal 60° Vertical
WIDTH (Overall)	---	4 1/2"	9 1/2"	7 3/8"	7 3/8"
DEPTH (Overall)	---	5 7/8"	5 3/8"	11 1/8"	10 1/2"
HEIGHT (Overall)	---	2 3/8"	2 3/8"	5 1/8"	5 1/8"
SHIPPING WEIGHT	5 lbs.	2 lbs.	4 lbs.	5 lbs.	5 lbs.
LIST PRICE	\$25.00	\$20.00	\$40.00	\$27.50	\$40.00

### UNIVERSITY CROSSOVER NETWORKS

**MODEL 4405 HIGH PASS FILTER**—Offers a simple, economical method of preventing entry of low frequencies into the tweeter circuit. Only frequencies above 2000 cycles are permitted to actuate tweeter. Frequencies below 2000 cycles are shunted to the cone speaker. Features die-cast aluminum case and high frequency volume control. Use with 4401, 4402 and 4407.



MODEL	4405	4410	4420
CROSSOVER	2000 cycles	600 cycles	2000 cycles
INPUT IMP.	6-16 ohms	6-16 ohms	6-16 ohms
HEIGHT	2 3/8"	4 1/8"	3 3/8"
LENGTH	3 1/2"	9 1/4"	7 1/8"
DEPTH	2 1/4"	1 3/8"	2 3/8"
ANTENNUATOR	Built-in, Variable	Built-in, Variable	Built-in, Variable
SHIPPING WGT.	2 lbs.	4 lbs.	3 lbs.
LIST PRICE	\$10.00	\$35.00	\$20.00

**MODEL 4410 and 4420 FILTERS**—Inductance/capacitance networks which prevent low frequencies from entering tweeter and also eliminate high frequencies from the woofer circuit. Results in clearer reproduction since the woofer is not required to reproduce higher frequencies. Both models include external high frequency antenuator.



For use with any University tweeter in accordance with crossover frequency requirement.



# ATLAS SOUND CORP.

the complete line for every public address need!



## ATLAS 'DR' WEATHERPROOF DOUBLE-REENTRANT PROJECTORS

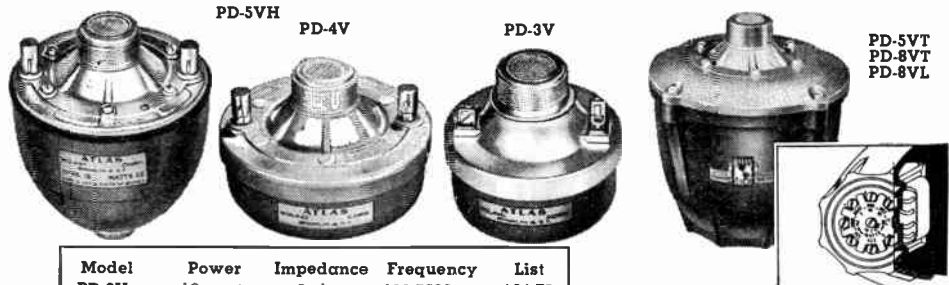
**Non-Resonant • Uniform Response • Sturdy • Stormproof  
Compact • Demountable**

The modified exponential taper developed in Atlas projectors has proved most efficient for overall performance. All acoustical paths are clean and uniform. Reflex turns are smooth and flowing. These important features eliminate turbulence, frequency cancellation and resultant signal distortion. Ruggedly constructed of heavy castings, precision stampings, accurate die castings and uniform metal spinnings. All metal-to-metal surfaces insulated with non-vibratory material. Bell rim dampened and mechanically protected with formed rubber rim. All metals specially processed by chemical and electro-chemical means to impart complete weather-protection. Heavy "U" bracket mountings, securely fastened to main body casting of each model, do not fail even under extreme stress, strain or vibration. 1 3/8" - 18 thread. For greatest efficiency and low frequency response, the larger size horns are recommended. The smaller horns are excellent where space and cost limitations pertain.

Model	Air Column	Low Frequency	Lgth.	Diam.	List Price
DR-32	2 1/2 ft.	175 c.p.s.	12 in.	14 in.	\$26.00
DR-42	3 1/2 ft.	135 c.p.s.	15 in.	21 in.	31.00
DR-54	4 1/2 ft.	105 s.p.s.	18 in.	23 in.	43.00
DR-72	6 ft.	85 c.p.s.	25 in.	31 in.	65.00

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

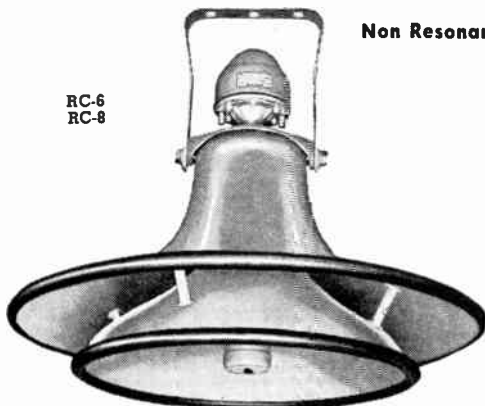
All models include Atlas "Alnico-V-Plus" super-efficient magnetic circuit — magnetically shielded, hermetically sealed. One-piece unbreakable, high temperature and fatigue-proof phenolic diaphragm. Deluxe PD-5VT and PD-8VT include built-in "Uni-Match" transformer for universal matching to constant impedance and constant voltage systems. All transformer taps and direct voice coil connections are brought out to waterproof "terminal window" on rear of phenolic unit housing. 1 3/8" - 18 thread.



Model	Power	Impedance	Frequency	List
PD-3V	12 watts	8 ohms	100-7000	\$24.75
PD-4V	25 watts	16 ohms	90-6000	27.50
PD-5VH	25 watts	16 ohms	80-9000	35.50
PD-5VT	25 watts	16 ohms*	80-9000	45.00
PD-8VT	30 watts	16 ohms*	80-10,000	50.00
PD-8VL**	30 watts	16 ohms	80-10,000	42.50

\*Actual voice coil impedance. "Uni-Match" transformer offers 150, 250, 1000, 2000 ohms and variable 70-volt line connections.  
\*\*Identical to Model PD-8VT, but supplied less transformer.

## ATLAS RADIAL DRIVER UNIT PROJECTORS



**Non Resonant • Dual Rubber Rims • Uniform 360° Coverage • 100% Stormproof**

One of these projects often is more efficient for large and high noise level areas than several ordinary projectors. Both models suited for general speech and music. Improved all-aluminum construction provides smooth, uniform response. Completely stormproof, finished in durable neutral gray enamel. Thread 1 3/8" - 18. Use of H-2U two-unit adapter doubles power output for single projector high power application.

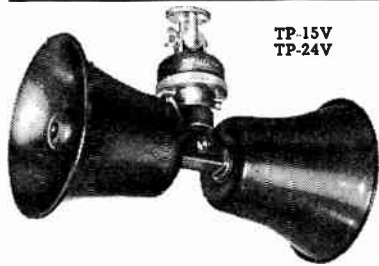
	RC-8	RC-6
Air Column	5 feet	4 feet
Bell Diameter	29"	25"
Overall Ht. (incl. bracket)	26"	21 1/2"
Low Freq. Cutoff	120	150
List (horn only)	\$53.50	\$43.00

# ATLAS SOUND CORP.



the complete line for every public address need!

## ATLAS NEW ALNICO-V-PLUS PAGING AND TALK-BACK SPEAKERS



TP-15V  
TP-24V



HU-24V



HU-12

HU-15V

Model	HU-12	HU-15V	HU-24V	TP-15V	TP-24V
Power*	3 watts	12 watts	12 watts	12 watts	12 watts
Impedance	8 ohms#	8 ohms †	8 ohms †	8 ohms †	8 ohms †
Frequency	375-9000 c.p.s.	300-7000 c.p.s.	200-7000 c.p.s.	250-7000 c.p.s.	190-7000 c.p.s.
Length	7½ in.	11 in.	14½ in.	15½ in.	22 in.
Diameter	6¼ in.	8½ in.	10 in.	9½ in.	10 in.
Air Column	13½ in.	16½ in.	24 in. ea. side	19½ in. ea. side	27 in. ea. side
List	\$25.00	\$32.50	\$35.75	\$47.50	\$52.00

\* Given power ratings are conservative and are for continuous input. Peak power ratings may safely exceed this amount by 25%.

# Model HU-12 available in 45 ohms.

† Available in 16 ohms.

These speakers include the newly developed, unbreakable, hermetically sealed driver units using the Alnico V-Plus magnetic circuit. As reproducers, and as microphones in talk-back circuits, they provide a maximum of efficiency. The new ball swivel mounting bracket permits quick and simple directional adjustment in every position, horizontal and vertical. All-chromium construction, finished in high lustre gray enamel over electrochemically treated surfaces.

**Model HU-12**—Subminiature speaker with high intelligibility at minimum input power.

**Model HU-15V**—Medium-size speaker that withstands considerable input power. Large diaphragm and magnetic assembly similar to those used in the larger Atlas reproducers.

**Model HU-24V**—Oversize speaker with obvious advantage of longer air column, so that it also reproduces music with excellent results.

**Model TP-15V**—Dual speaker ideal for industrial and talk-back uses, often producing two-speaker results from a single unit.

**Model TP-24V**—Oversize dual speaker with longer air column for added efficiency, especially at the lower frequencies.

## SPEAKER SUPPORT STANDS

**SS-2**—Collapsible type for outdoor use. Supports cluster of speakers under adverse wind conditions. Comes complete with special top swivel bracket for simple removal of horn from stand. Ht. extension 5-10 ft.

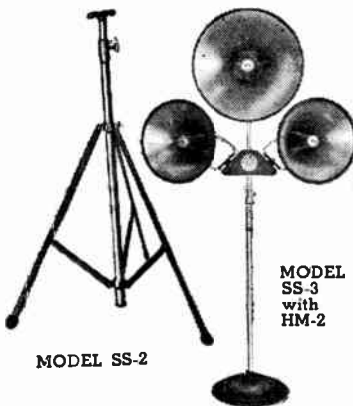
List \$38.00

**SS-3**—Same as SS-2 above, but with round iron base.

List \$34.25

**HM-2 Horn Mounting Accessory**—Permits 3 speakers on SS-2 or SS-3 Stand. Supplied with 2 PS-1 fittings and hardware for attachment to DR projectors.

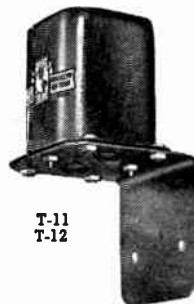
List \$16.50



MODEL SS-2

MODEL SS-3 with HM-2

## NEW WEATHERPROOF LINE MATCHING TRANSFORMER



T-11  
T-12

Specifically designed for high efficiency and ease of installation, these new transformers enable the matching of the popular Atlas "TP" and "HU" paging and talk-back speakers to either constant voltage (70-volt line) or constant impedance systems. The transformer taps eliminate the need for complex computations. Protective housings are heavy steel. Double rubber grommets and gaskets protect cable connections entering the housing. Convenient transformer bracket is easily integrated with speaker mounting bracket—no extra fastenings needed. Frequency response assures efficiency over entire range required, with a minimum insertion loss. Power-handling capacity of both models is 12 watts. Finish is in durable gray enamel.

**Model T-11**—Primary: 500, 1000, 1500, 2000 ohms. Secondary: 4 and 8 ohms.

List Price \$8.50

**Model T-12**—Primary: 45 ohms. Secondary: 4 and 8 ohms, for matching 40-60 ohm intercom line to 8 ohm speaker.

List Price \$8.00

## TWO UNIT TO ONE PROJECTOR



H-2U

When it is necessary to obtain the greatest possible power output from a single projector, the H-2U is recommended. It permits the use of 2 driver units with any type of projector. Cast aluminum construction. Threads 1⅜"-18.

List \$11.00

## TWO-WAY ENCLOSURE for 8" Cone Speaker



TW-8

Speaker's front and back wave are used for good coverage in long corridors and central locations. Adjustable wall or ceiling mounting brackets and speaker mounting screws supplied. Outside diam. 10", depth 5".

Model TW-8

List Price \$9.00

## PIPE STANCHION FITTING



PS-1

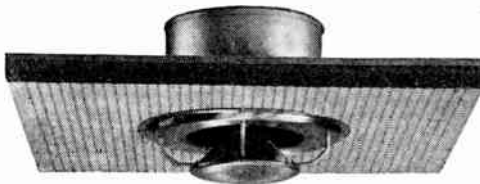
"DR" reentrant or "RC" radial "U" brackets adapted to ¾" pipe fittings. This steel adapter has holes properly located to match holes in "U" bracket. All mounting bolts supplied. Female ¾" pipe thread. List \$1.50

*"Heard Everywhere"*

# BACK COVER SPEAKER CAN and Plaster Ring Assembly



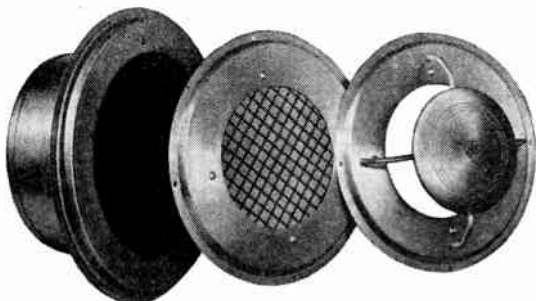
Back Cover Speaker Can  
and Plaster Ring  
Assembly



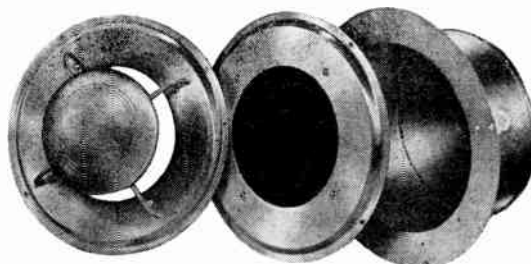
Sectional View of Completed Assembly



Back Cover Speaker Can  
and Plaster Ring  
Assembly



Side View of Models as Mounted to Assembly



Side View of Models as Mounted to Assembly

## FOR NEW CONSTRUCTION ONLY

Model No.	List Price
CP6	\$ 6.85 for use with Model AL6 and RS6
CP8	8.50 for use with Model AL8 and RS8
CP8TL	9.50 for use with Model ATL and RGL
CP1012	11.50 for use with Model AL10, AL12, and RS12

### FEATURES

- Reduces installation time.
- Furnished with 3/4" knock-outs on all sides.
- All mounting hardware including speed nuts furnished.
- Prevents dust and mortar from damaging speaker cone.

### USES

This steel back cover speaker can and plaster ring assembly is used for recessed speakers in new construction or remodeling for complete protection of speaker. It provides a quick and time saving installation, since all mounting hardware to baffle is furnished. Evenly spaced 3/4" knock-outs, so that speaker leads can be brought into assembly at any location.

### DIMENSIONS OF MODELS

CP6	7"	I.D. x 4"	deep x 12"	O.D.
CP8	8 1/2"	I.D. x 4 1/4"	deep x 12 3/4"	O.D.
CP8TL	8 1/2"	I.D. x 4 1/4"	deep x 16"	O.D.
CP1012	12 1/2"	I.D. x 7"	deep x 17 3/8"	O.D.

### DESCRIPTION

The steel back speaker can is made of 22 gauge steel. Knock-outs of 3/4" diameter are evenly spaced for convenience in installation work. A 22 gauge steel plaster ring is spot welded to can, and has 90° spaced speaker baffle mounting holes. Plastic roughing compound applied throughout inside of speaker can assembly to prevent metallic resonance. Assembly has also sufficient mounting holes to wall or ceiling.

## FOR EXISTING CONSTRUCTION AND REMODELING

Model No.	List Price
CP6X	\$ 6.00 for use with Model AL6 and RS6
CP8X	7.50 for use with Model AL8, CE8L and RS8
CP8TLX	8.00 for use with Model ATL and RGL
CP1012X	10.00 for use with Model AL10, AL12, RS10 and RS12

### FEATURES

- Self aligning screw clips and positive screw locking.
- Reduces installation time.
- Furnished with 3/4 in. knock-outs on all sides.
- All mounting hardware including speed nuts furnished.
- Prevents dust and mortar from damaging speaker cone.

### USES

This steel back cover speaker can and plaster ring assembly is used for recessed speakers in new construction or remodeling for complete protection of speaker. It provides a quick and cost saving installation since all mounting hardware to baffle is furnished. Evenly spaced 3/4" knock-outs, so that speaker leads can be brought into assembly at any location.

### DIMENSIONS OF MODELS

CP6X	7"	in diameter x 4"	deep
CP8X	8 1/2"	in diameter x 4 1/4"	deep
CP8TLX	15"	in diameter x 4 1/4"	deep
CP1012X	16 1/2"	in diameter x 7"	deep

### DESCRIPTION

The steel back speaker can is made of 22 gauge steel. Knock-outs of 3/4" diameter are evenly spaced for convenience in installation work. A 22 gauge steel plaster ring is spot welded to can, and has 90° spaced speaker baffle mounting holes. Plastic roughing compound applied throughout inside of speaker can assembly to prevent metallic resonance. Assembly has also sufficient mounting holes to wall or ceiling.



## STEEL PLASTER RINGS

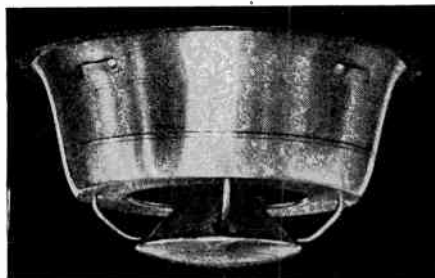
Model No.	List Price	Model No.	List Price
PR6	\$2.00	PR8	\$2.65

**LOWELL MANUFACTURING CO. ST. LOUIS 17, MO. U.S.A.**

*"Heard Everywhere"*

# LOWELL FLUSH MOUNTING CEILING Baffles

with "floating conical action"



**Model Nos.**

**BL6-A  
BL8-A  
BL12-A**

PATENTED  
IN THE U.S.A.  
AND CANADA

**DESCRIPTION OF Baffle**

The flush mounting ceiling baffle is designed to mount flush to the ceiling quickly by inserting 4 toggle bolts, completely sealing back of housing to the ceiling. This baffle is recommended for normal ceilings. Uniform sound reproduction at 360° giving CONTROLLED SOUND evenly in all directions. Baffle is made of spun metal, of 18 gauge aluminum. Heavy 3/4" jute lines interior with louvres on sides for proper pressure relief.

**ARCHITECTS' SPECIFICATIONS**

This speaker baffle housing contains a half inch flange at top with 4 holes evenly placed for proper mounting to the ceiling. The lower metal cone is mounted to the housing by 4 one-quarter inch formed metal rods having 4 hard rubber grommets preventing metallic resonance. The upper part of the rods are threaded and mount through speaker housing. All hardware furnished complete with each baffle.

**DIMENSIONS OF VARIOUS MODEL Baffles**

6" models — 9 3/4" at top x 4 1/4" deep.  
8" models — 13 1/2" at top x 4 7/8" deep.  
12" models — 18 3/8" at top x 8" deep.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	List Price
BL6 - A	Flush Mounting	6"	Aluminum	Satin	\$13.00
BL8 - A	Flush Mounting	8"	Aluminum	Satin	22.00
BL12-A	Flush Mounting	12"	Aluminum	Satin	27.00

**recessed wall type directional speaker baffles**



**Model Nos.**

**RS6-A  
RS8-A  
RS12-A**

**FEATURES**

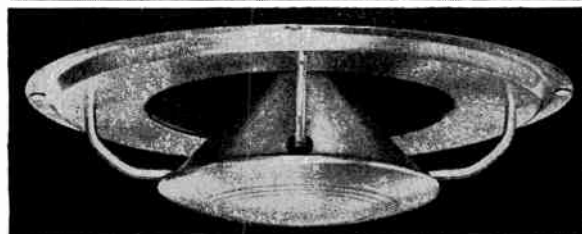
Concealment of speakers. Easily installed.  
Finished to match surroundings.

**DESCRIPTION**

This speaker trim ring is made of spun metal, 18 gauge aluminum. Flocked metal color grille cloth protects speaker cone — 4 round head screws mounts through housing for mounting speaker. Housing has a depth of 1/2" and a half inch flange for mounting housing to wall.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	List Price
RS6 - A	Recessed Wall	6"	Aluminum	Satin	\$5.00
RS8 - A	Recessed Wall	8"	Aluminum	Satin	5.55
RS12-A	Recessed Wall	12"	Aluminum	Satin	7.60

**for low ceilings**



**Model Nos: AL6-A AL8-A AL12-A**

**DIMENSIONS OF VARIOUS MODEL Baffles**

The overall diameter at top of housing flange:  
6" model — 9 5/8" in diameter, depth 1/2"  
8" model — 11 3/4" in diameter, depth 1/2"  
12" model — 16 1/2" in diameter, depth 1"

**DESCRIPTION**

The false ceiling speaker housing is made of 18 gauge aluminum. Housing is spun metal, having a depth of 1/2" and a half inch flange for mounting housing to ceiling. The lower metal cone is mounted to the housing by 4 one-quarter inch formed metal rods having 4 hard rubber grommets preventing metallic resonance. The upper part of the rods are threaded and mount through speaker housing. All hardware furnished complete with each baffle. The sound coverage of this baffle is approximately 360°.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	Price
AL6 - A	False Ceiling	6"	Aluminum	Satin	\$7.50
AL8 - A	False Ceiling	8"	Aluminum	Satin	12.15
AL12-A	False Ceiling	12"	Aluminum	Satin	15.30

WRITE FOR FURTHER DETAILS ON VARIOUS COLORED LACQUERS AVAILABLE

**LOWELL MANUFACTURING CO. ST. LOUIS 17, MO. U.S.A.**





# Speaker Systems for Theatre and Home

## 500-D DIRECT DRIVE AMPLIFIER

**FINEST AMPLIFIER BUILT — REQUIRES NO TRANSFORMER**

500 D AMPLIFIER



List Price \$184.00

- Frequency response  $\pm 1/4$  db 20-70,000 c.p.s.
- Distortion is less than  $1/2$  of one per cent
- Phase shift—less than  $15^\circ$  at 20 c.p.s.
- Full 20 watts of audio

(Above figures are a true picture at full output of 20 watts.)

Here's the first amplifier to successfully eliminate the output transformer. All distortion introduced by transformers is eliminated. Great clarity of tone is noticeable at once. Hum and noise are at a minimum. Frequency response is  $\pm 1/4$  db 20-70,000 c.p.s., achieved with far less phase shift than can be obtained with a transformer . . . especially on the low end. Matching Stephens Tru Sonic speakers with 500 ohm v.c. impedance designed as companion units for the 500 D Amplifier are shown on adjoining page.

### CHARACTERISTICS — ELECTRICAL

**POWER SUPPLY:** 117 V. AC 50-60 c.p.s. 1.2 amps. 140 va full output.  
**INPUT:** 0.1 megohm. One side ground.  
**VOLTAGE GAIN:** 47 db  
**OUTPUT:**

5 ohms at 1000 c.p.s. (apparent)  
 100 ohms at 20 c.p.s. (apparent).  
 Level: 100 V. rms across 500 ohms, 20 watts.

(All figures quoted are a true picture at full output of 20 watts.)

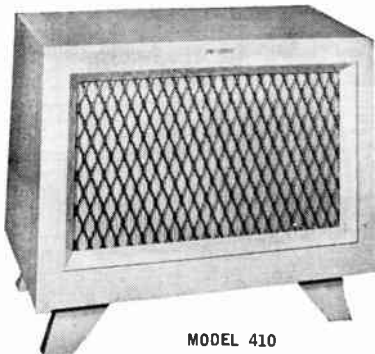
### CHARACTERISTICS — PHYSICAL

**DIMENSIONS:** 7  $3/4$ " wide by 15  $1/4$ " long by 7" high.  
**WEIGHT:** 27 lbs.  
**INPUT:** XL3-14 3-pin Cannon Connector #1 Pin Ground.

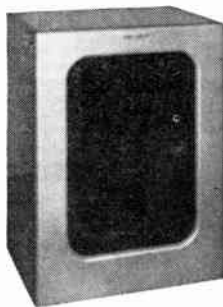
**OUTPUT:** XL-3-13 Cannon Connector #1 Pin Ground.

**POWER:** Permanently attached 6-foot cord.

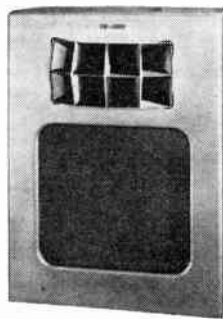
## CABINETS & SYSTEMS



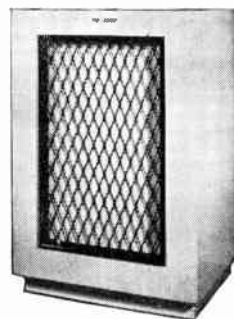
MODEL 410



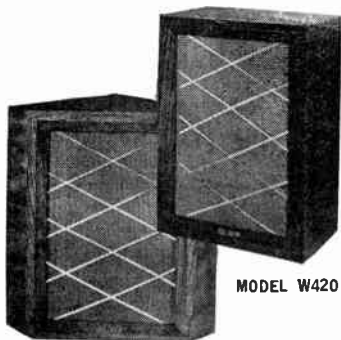
MODEL 52



MODEL 411

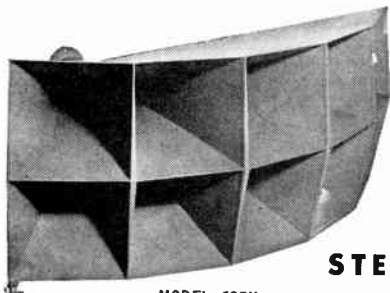


MODEL 412



MODEL W420

MODEL C422



MODEL 625H

**MODEL 410 800 CYCLE TWO-WAY SYSTEM.** Model 814H 1x4 horn. Model 800X-2 high pass filter network, Model P-52LX low-frequency driver, and Model 108A high-frequency driver, mounted in low-boy blonde or mahogany cabinet. 20" deep x 36" wide x 30" high .....List Price, \$372.00  
**MODEL 411 800 CYCLE TWO-WAY SYSTEM.** Model 824H 2x4 horn. Model 800X crossover, Model P-52LX low-frequency driver and Model 108A high-frequency driver. Silver hammettone finish or unfinished hardwood cabinet. 16  $3/4$ " deep x 26" wide x 36" high.....List Price, \$342.00  
**MODEL 417** Same as Model 411, except with Model 103LX low-frequency driver. List Price, \$361.00  
**MODEL 412 800 CYCLE TWO-WAY SYSTEM.** Contains Model 409 System as described on adjoining page. Blonde or mahogany cabinet. 17" deep x 24" wide x 34  $1/2$ " high.....List Price, \$346.00  
**MODEL W420 12" FULL RANGE SYSTEM.** Contains Model 112FR speaker. 8 to 16 ohms. Blonde or mahogany wall cabinet. 14" deep x 21" wide x 29  $1/2$ " high. Weight: 58 lbs.....List Price, \$146.00  
**MODEL C422 12" FULL RANGE SYSTEM.** Contains Model 112FR speaker. 8 to 16 ohms. Blonde or mahogany corner cabinet. 18" deep x 27  $1/2$ " wide x 29  $1/2$ " high. Weight: 64 lbs.....List Price, \$146.00  
**MODEL 52 CABINET**—Silver hammettone finish or unfinished with wine floaked grille.  $3/4$ " hardwood plywood cabinet. 16  $1/2$ " deep x 23  $3/4$ " wide x 32" high. Weight: 65 lbs. 6 cu. ft., 42 cycles, 15" baffle standard. (Please specify if 12" required.) .....List Price, \$79.00  
**MODEL 52P PORTABLE CABINET**—In black leatherette, with chromium hardware. Cabinet 12" deep x 18" wide x 24" high. Weight: 30 lbs. 15" baffle standard. (Please specify if 12" required.) .....List Price, \$69.00

## STANDARD HORNS

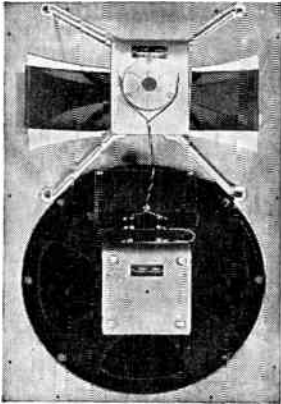
**MODEL 814H 1x4 HORN.** 800 c.p.s. cutoff. Takes Model 108A high frequency driver. List Price, \$28.00  
**MODEL 824H 2x4 HORN.** 800 c.p.s. cutoff. Takes Model 108A high frequency driver. List Price, \$49.00  
**MODEL 825H 2x5 HORN.** 800 c.p.s. cutoff. Takes Model 108A high frequency driver. List Price, \$62.00  
**MODEL 826H 2x6 HORN.** 800 c.p.s. cutoff. Takes Model 108A high-frequency driver. List Price, \$68.00  
**MODEL 625H 2x5 HORN.** 600 c.p.s. cutoff. Takes Model P-35 high-frequency driver. List Price, \$101.00  
**MODEL 425H 2x5 HORN.** 400 c.p.s. cutoff. Takes Model P-35 high-frequency driver. List Price, \$182.00  
**MODEL 436H 3x6 HORN.** 400 c.p.s. cutoff. Y throat to accommodate two Model P-35 high-frequency drivers .....List Price, \$308.00

**STEPHENS MANUFACTURING CORPORATION**  
 CULVER CITY, CALIFORNIA

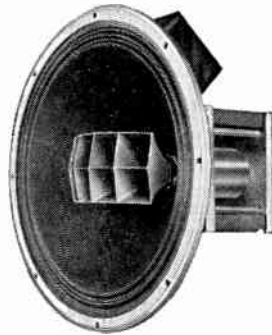


# Speaker Systems for Theatre and Home

## SPEAKERS



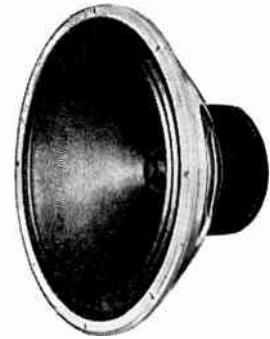
MODEL 409



MODEL 106AX



MODEL 112FR  
MODEL 102FR



MODEL 103LX

These and additional items in the STEPHENS TRU SONIC line are more completely illustrated and described in company catalog, free on request.

### HIGH FREQUENCY DRIVERS



MODEL 108A



MODEL P35

SPEAKERS										
16 OHM		500 OHM		VOICE COIL DIAMETER	*SPEAKER TYPE	MAGNET WEIGHT	OVERALL DIMEN.		NET WEIGHT	
TYPE	LIST PRICE	TYPE	LIST PRICE				DIAMETER	DEPTH		
112FR	42.00	5112FR	50.00	2"	FR	1 1/2 lbs.	12 1/4"	5 1/2"	8 lbs.	
120LX	42.00	5120LX	50.00	2"	LF	1 1/2 lbs.	12 1/4"	5 1/2"	8 lbs.	
102FR	94.00	5102FR	102.00	2"	FR	4 1/4 lbs.	15 1/4"	8 1/2"	29 lbs.	
103LX	90.00	5103LX	98.00	2"	LF	4 1/4 lbs.	15 1/4"	8 1/2"	29 lbs.	
P52LX	78.00	.....	.....	2"	LF	4 1/4 lbs.	15 1/4"	8 1/2"	26 lbs.	
108A	62.00	5108A	67.00	1 1/2"	HF	1 1/2 lbs.	5"	3 3/4"	10 lbs.	
P35	130.00	P535	138.00	2 1/2"	HF	4 1/4 lbs.	7"	4 5/8"	20 lbs.	
SYSTEMS										
106AX	166.00	5106AX	179.00	2" LF 1 1/2" HF	Coaxial	6 lbs.	15 1/4"	10"	29 lbs.	
107	56.00	High Frequency Horn, and 3500 c.p.s. High Pass Filter included.			1"	HF	14 oz.	6 1/8" x 3 1/4"	7 1/4"	9 lbs. complete
409	212.00	800 cycle Two-way System. Model 814H Horn, Model 800X-2 High Pass Filter, Model P52LX Low Frequency Driver and Model 108A High Frequency Driver mounted on flat board baffle.								
*SPEAKER TYPES: Full Range—FR; Low Frequency—LF; High Frequency—HF										

## CROSSOVER NETWORKS



MODEL 400X

	List Price
MODEL 800X CROSSOVER 800 c.p.s. 16 ohm input and output .....	\$40.00
MODEL 5800X CROSSOVER 800 c.p.s. 500 ohm input and output .....	40.00
MODEL 600X CROSSOVER 600 c.p.s. 16 ohm input and output .....	60.00
MODEL 5600X CROSSOVER 600 c.p.s. 500 ohm input and output .....	60.00
MODEL 400X CROSSOVER 400 c.p.s. 16 ohm input and output .....	84.00
MODEL 5400X CROSSOVER 400 c.p.s. 500 ohm input and output .....	84.00
MODEL 800X-2 HIGH PASS FILTER NETWORK, 800 c.p.s. 16 ohm input and output .....	28.00

**STEPHENS MANUFACTURING CORPORATION**  
CULVER CITY, CALIFORNIA

# Electro-Voice SPEAKERS

DRIVERS • HORNS • CROSSOVERS

## Research-Engineered Wide-Range RADAX COAXIAL SPEAKERS



Discovery of the E-V RADAX Principle provides an economical and super-efficient method of utilizing two disparate coaxially mounted cones to divide the audio spectrum... while both operate from only a single voice coil.

**Model SP8-B. Radax Super-Eight.** 8-inch coaxial speaker. 15-20 watts. Response 35-13,000 c.p.s.  $\pm 6$  db. 8 ohms impedance. Crossover, 6000 c.p.s. 1 lb. Alnico V magnet.  $8\frac{1}{2}$ " diam., 7" baffle opening,  $5\frac{1}{2}$ " depth behind mtg. panel. Shpg. wt.  $8\frac{1}{2}$  lbs.

List Price.....\$42.50

**Model SP12-B. Radax Twelve.** 12-inch coaxial speaker. 15-20 watts. Response 30-13,000 c.p.s.  $\pm 6$  db. 8 ohms impedance. Crossover, 4500 c.p.s. 1 lb. Alnico V magnet. 12 $\frac{1}{2}$ " diam., 11" baffle opening,  $6\frac{3}{4}$ " depth behind mtg. panel. Shpg. wt. 9 $\frac{1}{2}$  lbs.

List Price.....\$45.00

frequency cone to the high-frequency propagator ("Whizzer") permits design of each cone for optimum response. This provides a true coaxial two-way speaker system that assures clean, sparkling wide-range reproduction. Frames are extra sturdy. Both speaker cones are moisture inhibited.

**Model SP12. Radax Super-Twelve.** 12-inch coaxial speaker. 25 watts. Response 30-13,000 c.p.s.  $\pm 5$  db. 16 ohms impedance. Crossover, 4000 c.p.s. 3 lb. Alnico V magnet. 12 $\frac{1}{2}$ " diam., 11" baffle opening,  $7\frac{1}{2}$ " depth behind mtg. panel. Shpg. wt. 26 lbs.

List Price.....\$90.00

**Model SP15. Radax Super-Fifteen.** 15-inch coaxial speaker. 30 watts. Response 30-13,000 c.p.s.  $\pm 5$  db. 16 ohms impedance. Crossover, 3000 c.p.s. 5 $\frac{1}{2}$  lb. Alnico V magnet. 15 $\frac{1}{2}$ " diam., 13 $\frac{1}{2}$ " baffle opening,  $8\frac{3}{4}$ " depth behind mtg. panel. Shpg. wt. 44 lbs.

List Price.....\$120.00

New, modern concepts in 2, 3 and 4-way high fidelity speaker systems bring true *Dynamic Realism* within reach of all! Unique new E-V RADAX principle of high-frequency propagation and dispersion... heavier "pound rated" magnets for more driving power and generous distortion damping factors... separate 2, 3 and 4-way reproducing systems for the home... acoustically-correct Klipsch licensed\* folded corner horn speaker enclosures with authentic furniture styling... these and other E-V exclusives create a totally new experience in the enjoyment of sound reproduction!

## LOW FREQUENCY DRIVERS



**Model 12W-1.** 12-inch L. F. Driver. Resonance 57 c.p.s. 3 lb. Alnico V magnet. 15-20 watts. 16 ohms impedance. 12 $\frac{1}{2}$ " diam., 11" max. baffle opening, 7" depth behind mounting panel. Shpg. wt. 26 lbs.

List Price.....\$90.00

**Model 12W-2.** Same as 12W-1 but with 8 ohms impedance.

**Model 12WK.** 3.2 ohms DC (for Klipsch "K" type baffles). 16 ohms nominal impedance.

**Model 12BW-1.** 12-inch L. F. Driver. 1 lb. Alnico V magnet. 15-20 watts. 16 ohms impedance. 12 $\frac{1}{2}$ " diam., 11" baffle opening,  $6\frac{3}{4}$ " depth behind mtg. panel. Shpg. wt. 9 $\frac{1}{2}$  lbs.

List Price.....\$45.00

**Model 15W-1.** 15-inch L. F. Driver. Resonance 37 c.p.s. 5 $\frac{1}{2}$  lb. Alnico V magnet. 20-30 watts. 16 ohms impedance. 15 $\frac{1}{2}$ " diam., 13 $\frac{1}{2}$ " max. baffle opening, 9" depth behind mounting panel. Shpg. wt. 44 lbs.

List Price.....\$120.00

**Model 15W-2.** Same as 15W-1 but with 8 ohms impedance.

**Model 15WK.** 3.2 ohms DC, 32 c.p.s. resonance (for Klipsch "K" type baffles). 16 ohms nominal impedance.

**Model 18W-1.** 18-inch L. F. Driver. Resonance 27-30 c.p.s. 5 $\frac{1}{2}$  lb. Alnico V magnet. 20-30 watts. 16 ohms impedance. 18 $\frac{1}{2}$ " diam., 16 $\frac{1}{2}$ " max. baffle opening, 10" depth behind mtg. panel. Shpg. wt. 45 lbs.

List Price.....\$135.00

**Model 18W-2.** Same as 18W-1 but with 8 ohms impedance.

**Model 18WK.** 3.2 ohms DC, 22-24 c.p.s. resonance (for Klipsch "K" type baffles). 16 ohms nominal impedance.

## CROSSOVERS



All E-V Crossovers use high Q air cored coils. Insertion loss less than  $\frac{1}{2}$  db, phase rotation 270° (135° in X-35-1 and X-825-1). Non-metallic containers eliminate distortion with varying load and frequency. Attenuation 12 db per octave.

**Model X-35-1. Crossover.** Full M-Derived  $\frac{1}{4}$  section. 3 db loss point, 3500 c.p.s. Impedances: 16 ohms. 5" x 7" x 2". Shpg. wt. 2 $\frac{1}{2}$  lbs.

List Price.....\$20.00

**X-15-1. Crossover.** Full M-derived  $\frac{1}{2}$  section. 3 db loss point, 1500 c.p.s. Impedances: 16 ohms. 5" x 7" x 2". Shpg. wt. 4 lbs.

List Price.....\$35.00

**X-825-1. Crossover.** Full M-derived  $\frac{1}{4}$  section. 3 db loss point, 800 c.p.s. Impedances: 16 ohms. 5" x 7" x 2". Shpg. wt. 3 lbs.

List Price.....\$30.00

**Model X-8-1. Crossover.** Full  $\frac{1}{2}$  section, M-derived. 3 db loss point, 800 c.p.s. Impedances: 16 ohms. 8" x 3 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ ". Shpg. wt. 6 lbs.

List Price.....\$50.00

**X-8-2. Crossover.** Same as X-8-1 but 32 ohms.

List Price.....\$50.00

**Model X-6-1. Crossover.** Full M-derived  $\frac{1}{2}$  section. 3 db loss point, 600 c.p.s. Impedances: 16 ohms. 9" x 6" x 5". Shpg. wt. 7 lbs.

List Price.....\$60.00

**X-6-2. Crossover.** Same as X-6-1 but 32 ohms.

List Price.....\$60.00

**Model X-4-1. Crossover.** Full M-derived  $\frac{1}{2}$  section. 3 db loss point, 400 c.p.s. Impedances: 16 ohms. 9 $\frac{1}{2}$ " x 8" x 6". Shpg. wt. 10 $\frac{1}{2}$  lbs.

List Price.....\$75.00

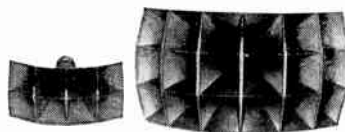
**X-4-2. Crossover.** Same as X-4-1 but 32 ohms.

List Price.....\$75.00

**Model X-2635-1. 4-Way Crossover.** Full M-derived half sections. 3 db loss points, 200, 600 and 3500 c.p.s. Impedances: 16 ohms, 11 $\frac{1}{2}$ " x 8" x 7 $\frac{1}{2}$ ". Shpg. wt. 11 lbs.

List Price.....\$110.00

## H. F. HORNS



Each cell of E-V horns is truly exponential permitting full range spherical wave shape. Individual cell intercepts solid angle of 20°. Horns operate one full octave below recommended crossover point without serious unloading.

**Model 15-2x3 Horn.** 1500 cycle. 40° x 60°. 4" h, 6" w, 4 $\frac{1}{2}$ " d. Shpg. wt. 2 $\frac{1}{2}$  lbs.

Takes T-10 or T-25 driver. List Price..\$15.00

**Model 8-1x4 Horn.** 800 cycle. 20° x 80°. 4" h, 15" w, 12 $\frac{1}{2}$ " d. Shpg. wt. 8 $\frac{1}{2}$  lbs. Takes T-10 or T-25 driver. List Price.....\$40.00

**Model 8-2x4 Horn.** 800 cycle. 40° x 80°. 8" h, 15" w, 12 $\frac{1}{2}$ " d. Shpg. wt. 13 lbs. Takes T-10 or T-25 driver. List Price.....\$55.00

**Model 8-2x6 Horn.** 800 cycle. 40° x 120°. 8" h, 18" w, 12 $\frac{1}{2}$ " d. Shpg. wt. 17 lbs. Takes T-10 or T-25 driver. List Price.....\$75.00

**Model 6-2x5 Horn.** 600 cycle. 40° x 100°. 11" h, 21" w, 15" d. Shpg. wt. 28 lbs. Takes T-25 or T-40 driver. List Price.....\$120.00

**Model 4-2x5-1 Horn.** 400 cycle. 40° x 100°. 18" h, 38" w, 31" d. Single throat. Shpg. wt. 160 lbs. Takes T-25 or T-40 driver.

List Price.....\$180.00

**Model 4-2x5-2 Horn.** Same as 4-2x5-1 but double throat. List Price.....\$180.00

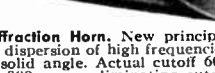
**Model 4-3x6-1 Horn.** 400 cycle. 60° x 120°. 28" h, 43" w, 34" d. Shpg. wt. 244 lbs. Single throat. Takes T-25 or T-40 driver.

List Price.....\$300.00

**Model 4-3x6-2 Horn.** Same as 4-3x6-1 but double throat. List Price.....\$300.00

List Price.....\$300.00

**H. F. DIFFRACTION HORN**



**Model 8-HD Diffraction Horn.** New principle provides perfect dispersion of high frequencies through a 180° solid angle. Actual cutoff 600 c.p.s., crossover 800 c.p.s., eliminating cutoff disturbances. Made of Fiberglass. For T-10 or T-25 driver. 3 $\frac{1}{4}$ " h, 14 $\frac{1}{2}$ " w, 7 $\frac{1}{4}$ " d. Shpg. wt. 2 lbs. List Price.....\$15.00

## HIGH FREQUENCY DRIVERS



**Model SP8-BT. Super Tweeter.** 15-20 watts. Frequency range  $\pm 6$  db. to 17,000 c.p.s. 8 ohms impedance. 1 lb. Alnico V magnet. 8 $\frac{1}{4}$ " diam., 7" baffle opening,  $5\frac{1}{2}$ " behind mtg. panel. Shpg. wt. 8 $\frac{1}{2}$  lbs.

List Price.....\$42.50

**Model T-10.** H-F Driver. 20 watts. Response,  $\pm 5$  db. 800-13,000 c.p.s. Impedance 16 ohms. 1 lb. Alnico V magnet. 4 $\frac{1}{2}$ " diam., 3 $\frac{3}{4}$ " deep. Throat diam. 1". Shpg. wt. 13 lbs.

List Price, without Horn.....\$60.00

**Model T-10H.** T-10 H. F. Driver with 15-2 x 3 Horn.

List Price.....\$75.00

**Model T-25.** H-F Driver. 20-30 watts. Response  $\pm 5$  db. 400-13,000 c.p.s. Impedance 16 ohms. 1 $\frac{1}{2}$  lb. Alnico V magnet. 5" diam., 6" deep. Throat diam. 1". Shpg. wt. 15 $\frac{1}{2}$  lbs.

List Price.....\$90.00

**Model T-40.** H-F Driver. 40 w. max. Response  $\pm 5$  db. 200-10,000 c.p.s. 16 ohms impedance. 3 lb. Alnico V magnet. 7" deep, 8" diam. Throat diam. 1 $\frac{1}{4}$ ". Shpg. wt. 32 $\frac{1}{2}$  lbs.

List Price.....\$180.00

\*Klipsch licensed Pat. No. 2310243 and No. 2373692.

NO FINER CHOICE THAN

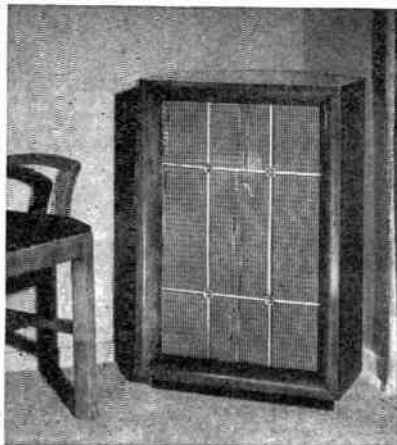
**Electro-Voice**

HI-FI FOLDED CORNER HORN

**ENCLOSURES**  
AND SPEAKER SYSTEMS



THE BARONET



THE ARISTOCRAT



THE ROYAL

**KLIPSCH-LICENSED FOLDED-HORN CORNER ENCLOSURES**

New Concepts in Compact Corner Cabinets Provide Extended Bass Range with Remarkable Purity and Efficiency!

Utilizing the Klipsch principle, E-V design extends the lows, enhances the highs. Employs the walls of the room as an extension of the exponential horn air load—assures at least one full octave of added bass range with unprecedented efficiency—no boominess. Provides direct front radiation of added frequencies. Gives smoother, cleaner over-all musical balance. Increases power handling capacity of any speaker. Authentically styled in fine veneers with lustrous hand-rubbed finish. Fits beautifully in any room.

**The BARONET.** Designed for E-V or other 8" speaker. Response down to 35 cps. Conservatively modern, with graceful sloping front. Hand-rubbed hardwood veneer. Attractive Lumite grille. 23 1/2" high, 15 1/2" wide, 10 1/2" deep at top, 16" deep at bottom. Easily portable—can be used anywhere. Shpg. wt. 22 lbs.

**Mahogany.** Cabinet only. List Price.....\$59.50  
**Blonde.** Cabinet only. List Price.....\$63.00

**The ARISTOCRAT.** Designed for E-V or any 12" full range speaker or E-V 800 cps separate 2-way systems, without modification. Unusually smooth reproduction down to 35 cps. Selected mahogany veneers. Grille in brushed brass finish. 29 1/2" high, 19" wide, 16 1/2" deep. Shpg. wt. 43 lbs.

**Mahogany.** Cabinet only. List Price.....\$99.50  
**Blonde.** Cabinet only. List Price.....\$106.00

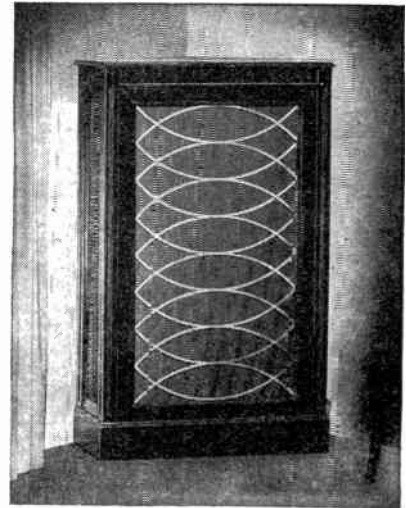
**The ROYAL.** For E-V or other 15" coaxial speaker or E-V 800 cps separate 2-way and 3-way systems without modification. Laboratory flatness ±5 db down to 30 cps. Selected mahogany veneers. Grille in brushed brass finish. 37" high, 20 1/2" deep, 23 1/2" wide. Shpg. wt. 76 lbs.

**Mahogany.** Cabinet only. List Price.....\$180.00  
**Blonde.** Cabinet only. List Price.....\$190.00

**4-WAY SPEAKER SYSTEM**

**The PATRICIAN.** Complete 4-way speaker system in custom-crafted corner cabinet... for the very finest reproduction. The 4-way system divides the reproduced spectrum between disparate drivers... each specifically designed to reproduce its own band with optimum, distortion-free fidelity. The crossover frequencies are 200, 600 and 3500 cycles. Elegant cabinet design of selected woods, and beautiful inlays, with Heirloom Finish in exquisite hand-rubbed mahogany. Includes E-V model 18WK 18" L-F driver, 12W-1 12" L-F driver, SP8-BT 8" super tweeter, T-10 H-F driver, 15-2X3 H-F horn, T-25 H-F driver, 6-2X5 H-F horn, and X-2635-1 four-way crossover, completely wired and installed in cabinet. Size: 60" high x 41" wide x 30" deep. Shpg. wt. 500 lbs.

List Price.....\$1212.50



THE PATRICIAN

**COMPACT 800 CPS SEPARATE 2-WAY SPEAKER SYSTEMS**

(CROSSOVER)  
Super-Efficient Bass Combined with New Principle of High Frequency Sound Dispersion\*  
MOUNTED IN CABINET

**ARISTOCRAT I.** Includes E-V Model 108 Standard 800 cps Separate 2-Way Speaker System, completely wired and installed in ARISTOCRAT folded-horn corner cabinet enclosure. 29 1/2" high, 19" wide, 16 1/2" deep. Shpg. wt. 61 lbs.

Complete, in Mahogany. List.....\$265.00  
Complete, in Blonde. List.....\$271.50

**ARISTOCRAT II.** Includes E-V Model 111 Deluxe 800 cps Separate 2-Way Speaker System, completely wired and installed in ARISTOCRAT folded-horn corner cabinet enclosure. 29 1/2" high, 19" wide, 16 1/2" deep. Shpg. wt. 80 lbs.

Complete, in Mahogany. List.....\$359.50  
Complete, in Blonde. List.....\$366.00

**ROYAL II.** Includes E-V Model 114 Super 800 cps Separate 2-Way Speaker System completely wired and installed in ROYAL folded-horn corner cabinet enclosure. 37" high, 23 1/2" wide, 20 1/2" deep. Shpg. wt. 127 lbs.

Complete, in Mahogany. List.....\$465.00  
Complete, in Blonde. List.....\$475.00

\*Combines superb bass response, new principle of high frequency sound dispersion and a low crossover point. New E-V 8-HD Diffraction Horn provides perfect dispersion of high frequencies through a 180° solid angle.

UNMOUNTED SYSTEMS

**Model 108 Standard 800 cps Separate 2-Way Speaker System.** It consists of 12BW-1 L-F Driver, T-10 H-F Driver, 8-HD Diffraction Horn, X-825-1 Crossover Network, flat baffle board and AK-1 Accessory Kit of mounting hardware. 27" high, 18" wide, 12 1/2" deep. Shpg. wt. 72 lbs.

List Price, less cabinet.....\$160.00

**Model 111 Deluxe 800 cps Separate 2-Way Speaker System.** Consists of 12W-1 L-F Driver, T-25 H-F Driver, 8-HD Diffraction Horn, X-8-1 Crossover Network, flat baffle board and AK-1 Accessory Kit of mounting hardware. 27" high, 18" wide, 13 1/2" deep. Shpg. wt. 94 lbs.

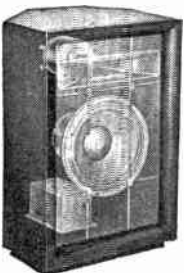
List Price, less cabinet.....\$255.00

**Model 114 Super 800 cps Separate 2-Way Speaker System.** Consists of 15-W-1 L-F Driver, T-25 H-F Driver, 8-HD Diffraction Horn, X-8-1 Crossover Network, AK-1 Accessory Kit of mounting hardware, and flat baffle board. 33 1/2" high, 22 1/2" wide, 13 1/2" deep. Shpg. wt. 115 lbs.

List Price, less cabinet.....\$285.00

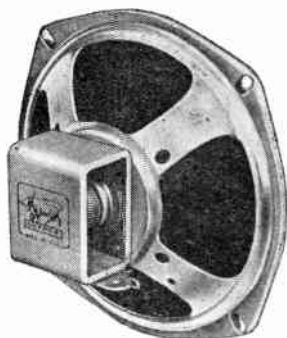
**Model AK-1 Accessory Mounting Kit.** Includes two brackets and necessary hardware for installing Driver and 8-HD Horn in E-V cabinets.

List Price.....\$5.00

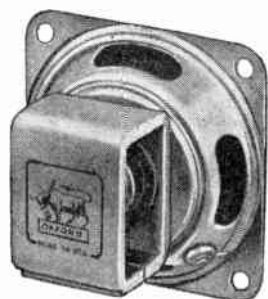


# OXFORD Speakers —

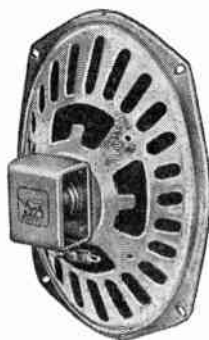
## Permanent Magnet Speakers — Standard Replacement Line



For Radio & Television



For Portables



For Auto Radios

SIZE	MODEL NO.	MAG. WT.	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
2"	2AMS	.68 oz.	3/16"	3.2 Ohm	1-2	36	1/2 lbs.	\$ 3.75
2"	2CMS	1.47	3/16"	3.2	1-2	36	1/2	4.35
3"	3AMS	.68	3/16"	3.2	2-3	36	1/2	3.75
3"	3CMS	1.47	3/16"	3.2	2-3	36	1/2	4.35
4"	4AMS	.68	3/16"	3.2	2-3	24	3/4	4.00
4"	4BMS	1.00	3/16"	3.2	2-3	24	3/4	4.25
4"	4CMS	1.47	3/16"	3.2	2-3	24	3/4	4.60
5"	5AMS	.68	3/16"	3.2	2-4	24	1	4.25
5"	5BMS	1.00	3/16"	3.2	2-4	24	1	4.50
5"	5CMS	1.47	3/16"	3.2	2-4	24	1	4.85
5"	5ECS	2.15	3/16"	3.2	2-4	24	1 1/4	5.35
5 1/4"	52AMS	.68	3/16"	3.2	2-4	24	1	4.35
5 1/4"	52BMS	1.00	3/16"	3.2	2-4	24	1	4.60
5 1/4"	52CMS	1.47	3/16"	3.2	2-4	24	1	5.00
6"	6AMS	.68	3/16"	3.2	3-5	20	1	4.85
6"	6BMS	1.00	3/16"	3.2	3-5	20	1	5.10
6"	6CMS	1.47	3/16"	3.2	3-5	20	1	5.50
6"	6EVS	2.15	3/8"	3.2	4-6	20	1 1/4	6.00
6"	6FOS	3.16	3/8"	3.2	4-6	20	1 1/2	6.85
8"	8CMS	1.47	3/8"	3.2	3-5	20	1 1/2	6.85
8"	8EVS	2.15	3/4"	3.2	4-6	20	1 3/4	7.35
8"	8FOS	3.16	3/4"	3.2	4-6	20	2 1/4	8.50
8"	8HBS	4.64	1"	3.2	6-8	20	2 1/2	10.00
8"	8JBS	6.80	1"	3.2	6-8	20	3	12.00
10"	10EVS	2.15	3/4"	3.2	4-6	8	2 1/4	9.50
10"	10FOS	3.16	3/4"	3.2	4-6	8	2 1/2	10.50
10"	10HBS	4.64	1"	3.2	8-10	8	3 1/4	12.00
10"	10JBS	6.80	1"	3.2	8-10	8	3 3/4	13.50
12"	12EVS	2.15	3/4"	3.2	4-6	6	3	10.50
12"	12FOS	3.16	3/4"	3.2	4-6	6	3 1/2	11.50
12"	12HBS	4.64	1"	3.2	8-10	6	4 1/4	13.00
12"	12JBS	6.80	1"	3.2	8-10	6	4 3/4	14.50
12"	12XMS	22.50	1 1/2"	3.2	20-30	4	10	37.50
15"	15XMS	22.50	1 1/2"	3.2	20-30	1	13	45.00
4" x 6"	46AMS	.68	3/16"	3.2	2-4	24	3/4	4.50
4" x 6"	46BMS	1.00	3/16"	3.2	2-4	24	1	4.75
4" x 6"	46CMS	1.47	3/16"	3.2	2-4	24	1	5.25
5" x 7"	57CMS	1.47	3/16"	3.2	3-5	24	1	5.75
5" x 7"	57EVS	2.15	3/8"	3.2	4-6	24	1 1/4	6.50
5" x 7"	57FOS	3.16	3/4"	3.2	4-6	24	1 1/2	7.85
6" x 9"	69CVS	1.47	3/4"	3.2	4-6	24	1 1/4	7.10
6" x 9"	69EVS	2.15	3/4"	3.2	4-6	24	1 1/2	7.85
6" x 9"	69FOS	3.16	1"	3.2	6-8	24	1 3/4	9.25

## Electro Dynamic Speakers — Standard Replacement Line

SIZE	MODEL NO.	FIELD	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
4"	4V45S	450 Ohm	3/16"	3.2 Ohm	2-4	24	1 lbs.	\$ 4.75
5"	5V45S	450	3/16"	3.2	2-4	24	1 1/4	5.00
5"	5V100S	1000	3/16"	3.2	2-4	24	1 1/4	5.00
5"	5V180S	1800	3/16"	3.2	2-4	24	1 1/4	5.00
6"	60A100S	1000	3/8"	3.2	4-6	20	1 3/4	6.00
6"	60A180S	1800	3/8"	3.2	4-6	20	1 3/4	6.00
6"	60A250S	2500	3/8"	3.2	4-6	20	1 3/4	6.00
8"	80A100S	1000	3/4"	3.2	4-6	20	2 1/4	7.50
8"	80A180S	1800	3/4"	3.2	4-6	20	2 1/4	7.50
8"	80A250S	2500	3/4"	3.2	4-6	20	2 1/4	7.50
10"	10E100S	1000	1"	3.2	8-10	8	4 1/4	11.00
10"	10E250S	2500	1"	3.2	8-10	8	4 1/4	11.00
12"	12E100S	1000	1"	3.2	8-10	6	5 1/2	13.50
12"	12E250S	2500	1"	3.2	8-10	6	5 1/2	13.50
4" x 6"	46V45S	450	3/16"	3.2	2-4	24	1 1/2	5.50

OXFORD SPEAKERS, backed by over twenty-six years of experience and research, are precision-made to the most exacting specifications.

There is an OXFORD SPEAKER for every need . . . TV, FM, AM, Auto, Public Address, High Fidelity, and Outdoor Applications . . . from 2" to 15" units.



**OXFORD**

**ELECTRIC CORPORATION**

Chicago 15, Illinois

EXPORT: ROBURN AGENCIES, NEW YORK CITY

There is an OXFORD Speaker to meet each requirement.

# OXFORD Speakers —

## High-Fidelity Speakers

SIZE	MODEL NO.	MAG. WT.	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
8"	HF8JB	6.8 oz.	1"	8 Ohm	10	4	3 1/4 Lbs.	\$15.00
10"	HF10JB	6.8 oz.	1"	8	10	4	4	17.50
12"	HF12JB	6.8 oz.	1"	8	10	4	5	20.00
12"	HF12LN	14.0 oz.	1 1/4"	8	25	4	9 1/2	35.00
12"	CO12JB	6.8 oz.	1"	8	12	4	5	35.00

## TV Replacement Speakers

SIZE	MODEL NO.	FIELD	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
5"	5V85	85	5/16"	3.2 Ohm	2-4	24	1 1/4 Lbs.	\$ 5.00
6"	6OA85	85	3/4"	3.2	4-6	20	1 3/4	6.00
8"	8OA85	85	3/4"	3.2	4-6	20	2 1/4	7.50
4" x 6"	46V85	85	5/16"	3.2	2-4	24	1 1/2	5.50

## Auto Replacement Speakers

SIZE	MODEL NO.	MAG. WT. or FIELD	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
5"	5CMS	1.47 oz.	5/16"	3.2 Ohm	2-4	24	1 Lbs.	\$ 4.85
5 1/4"	52CMS	1.47 oz.	5/16"	3.2	2-4	24	1	5.00
6"	6EVS	2.15 oz.	3/4"	3.2	4-6	20	1 1/4	6.00
7"	7EVS	2.15 oz.	3/4"	3.2	4-6	20	1 1/2	7.10
7"	7FOS	3.16 oz.	3/4"	3.2	4-6	20	2	8.00
8"	82EVS	2.15 oz.	3/4"	3.2	4-6	20	1 3/4	7.50
6" x 9"	69EVS	2.15 oz.	3/4"	3.2	4-6	24	1 1/2	7.85
6" x 9"	69FOS	3.16 oz.	1"	3.2	6-8	24	1 3/4	9.25
5"	5VO4S	4 Ohm	5/16"	3.2	2-4	24	1 1/4	5.00
5 1/4"	52VO4S	4 Ohm	5/16"	3.2	2-4	24	1 1/2	5.25
6"	6AO4S	4 Ohm	3/4"	3.2	4-6	20	1 1/4	6.00
7"	7AO4S	4 Ohm	3/4"	3.2	4-6	20	2	7.25
6" x 9"	69AO4S	4 Ohm	3/4"	3.2	4-6	24	2 1/4	8.00

## Public Address Speakers

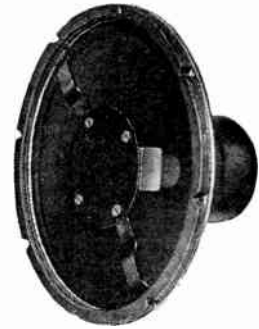
SIZE	MODEL NO.	MAG. WT.	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
8"	8JB5-7	6.80 oz.	1"	6-8 Ohm	6-8	12	3 Lbs.	\$12.50
10"	10JB5-7	6.80	1"	6-8	8-10	6	3 3/4	14.00
12"	12JB5-7	6.80	1"	6-8	8-10	4	4 3/4	15.00
12"	12XMS-7	22.50	1 1/2"	6-8	20-30	4	10	37.50
15"	15XMS-7	22.50	1 1/2"	6-8	20-30	1	13	45.00

## Intercom Speakers

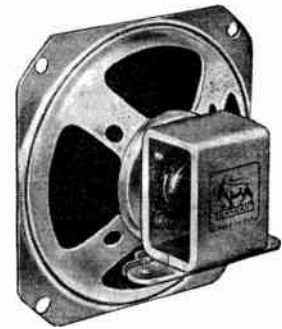
SIZE	MODEL NO.	MAG. WT.	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
3"	3BMXS	1.00 oz.	5/16"	45 Ohm	2-3	36	1/2 Lbs.	\$ 4.75
4"	4BMXS	1.00	5/16"	45	2-3	24	3/4	5.00
5"	5BMXS	1.00	5/16"	45	2-4	24	1	5.25

## Weatherproof Speakers

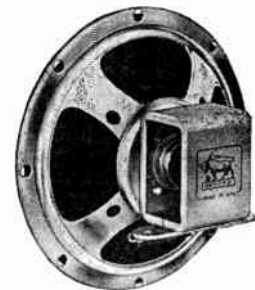
SIZE	MODEL NO.	MAG. WT.	V. C. SIZE	V. C. IMP.	WATTS	STANDARD PACK	SHIPPING WT. EACH	LIST PRICE
3"	3CMWS	1.47 oz.	5/16"	3.2 Ohm	2-3	36	1/2 Lbs.	\$ 4.85
4"	4CMWS	1.47	5/16"	3.2	2-4	24	3/4	5.25
5"	5CMWS	1.47	5/16"	3.2	2-4	24	1	5.50
6"	6CMWS	1.47	5/16"	3.2	3-5	20	1	6.15



Coaxial for Hi-Fidelity



For Intercoms



For Outdoor Applications

Our products are nationally advertised.  
All speakers are fully dustproofed.  
Rustproof cadmium plating used thru-out.  
R.T.M.A. standard dimensions on all models.  
All Electro-Dynamic speakers equipped with hum neutralizing coils.

All small speakers 2" to 6" will have transformer mounting brackets. All large speakers over 6" will have transformer mounting facilities on basket. All 4", 5", 6", and 4" x 6" P.M. speakers will have holes drilled in pot for easy mounting and will be supplied with Universal mounting brackets and self tapping screws.

Preferred for  
Original Equipment

Proven for  
Replacement!



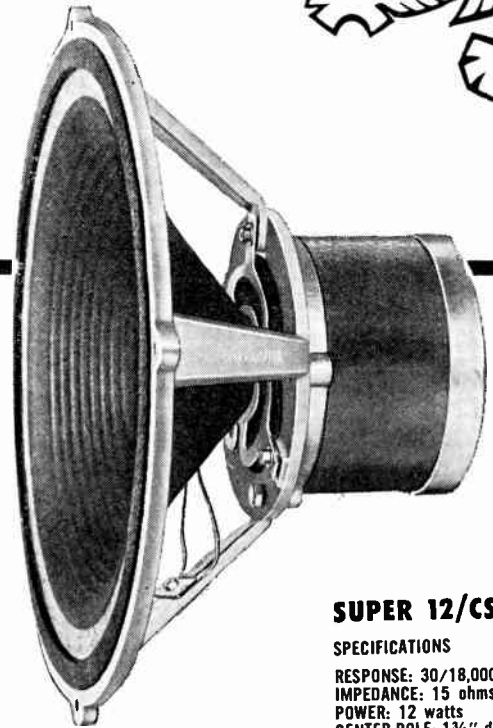
**OXFORD ELECTRIC CORPORATION**  
Chicago 15, Illinois  
EXPORT: ROBURN AGENCIES, NEW YORK CITY

# Britain's Finest Loudspeakers

# Wharfedale



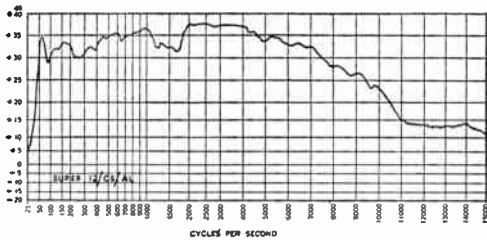
Despite their modest price, all Wharfedale Speakers are fitted with cast chassis resulting in greater rigidity, less resonance and better air loading. All models except the 8" Bronze have cloth suspension cones which improve transient response by adding dissipation to the edge of the cone, with reduced reflection of the flexural waves. This type of cone suspension also reduces the bass resonances of the speaker unit, resulting in a more level impedance curve and improves the transient or decay element. Such refined quality of reproduction is only available with Wharfedale cloth suspension.



Warmly received by quality enthusiasts, the Super 12/CS/AL has a remarkably level response between 30 and 18,000 cycles when adequately baffled. Cloth suspension and low cone resonance reduces transient distortion to an absolute minimum and eliminates irritating "boom" associated with stiffly suspended cones. Critical listeners will hear the true bass which is so seldom heard. Wharfedale's exclusive cone and carefully wound aluminum voice coil achieve amazingly clean highs, without introducing peaks in the upper middle register.

The high quality of this speaker is uniformly maintained in production since it does not rely on subsidiary diaphragm resonances, which can cause intermodulation distortion. The Super 12/CS/AL has proved superior to many more expensive combinations in general listening quality and pleasing sound.

**SUPER 12/CS/AL RESPONSE CURVE**



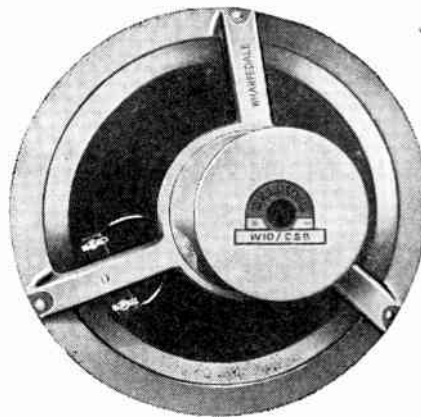
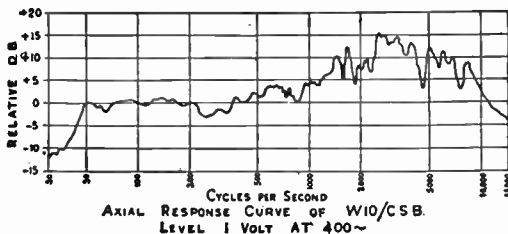
## SUPER 12/CS/AL

### SPECIFICATIONS

RESPONSE: 30/18,000 c.p.s.  
 IMPEDANCE: 15 ohms  
 POWER: 12 watts  
 CENTER POLE: 1 3/4" dia.  
 CONE RESONANCE: 35/45 c.p.s.  
 WEIGHT: 18 1/2 lbs.  
 FLUX DENSITY: 17,000 lines  
 TOTAL FLUX: 190,000 lines

This speaker has been designed specially for the average sized room where loud volume is often irritating. It requires little power to give the refined quality of which it is capable. The cloth suspended cone of the W10/CSB has truly remarkable ability to reach maximum quality at low levels. This speaker also makes an excellent tweeter in a two-way speaker system and maintains highs that are clean and brilliant without being penetrating.

**W10/CSB RESPONSE CURVE**



## W10/CSB

### SPECIFICATIONS

RESPONSE: 30/18,000 c.p.s.  
 IMPEDANCE: 15 ohms  
 POWER: 8 watts  
 CONE RESONANCE: 50/60 c.p.s.  
 WEIGHT: 9 lbs.  
 FLUX DENSITY: 14,000 lines  
 TOTAL FLUX: 74,000 lines

**BRITISH INDUSTRIES CORPORATION**

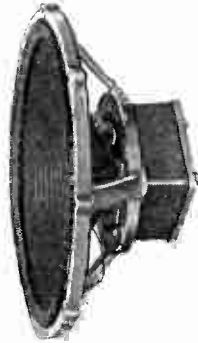
**NEW YORK 13, N. Y.**



# Wharfedale

Built by Wharfedale Wireless Works under the direction of G. A. Briggs, world-renowned sound engineer.

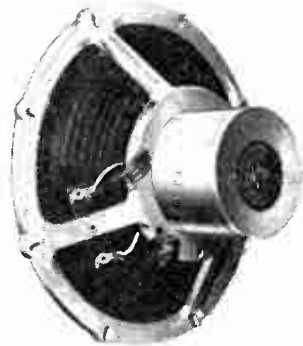
## 8" BRONZE



**SPECIFICATIONS**  
IMPEDANCE: 15 ohms  
POWER: 5 watts  
WEIGHT: 3¼ lbs.  
FLUX DENSITY: 10,000 lines  
TOTAL FLUX: 39,500 lines

This is the finest 8" speaker available in its price range and good enough for use in acoustic chambers. High quality performance is due to the high flux and open, die cast chassis.

## SUPER 8/CS/AL



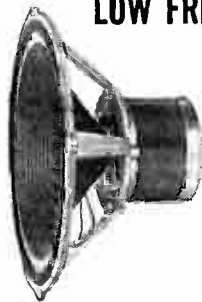
**SPECIFICATIONS**  
RESPONSE:  
50/15,000 c.p.s.  
IMPEDANCE: 15 ohms  
POWER: 5 watts  
CONE RESONANCE:  
60/65 c.p.s.  
FLUX DENSITY: 13,000 lines  
TOTAL FLUX: 54,000 lines

Suitable for bass reflex cabinets, or for use as a treble unit in a two-way speaker system. This cloth suspended cone has a bakelized apex for wide response and achieves a refined quality that would not normally be associated with a speaker of this size.

## LOW FREQUENCY DRIVERS

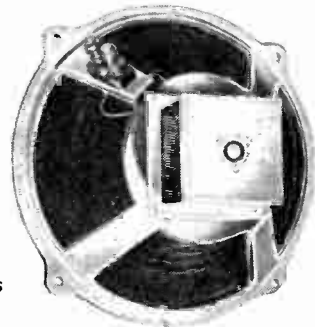
### W12/CS

**SPECIFICATIONS**  
IMPEDANCE: 15 ohms  
POWER: 10 watts  
WEIGHT: 12 lbs.  
CONE RESONANCE: 40/50 c.p.s.  
FLUX DENSITY: 13,000 lines  
TOTAL FLUX: 145,000 lines



### W15/CS

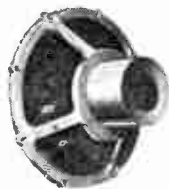
**SPECIFICATIONS**  
IMPEDANCE: 15 ohms  
POWER: 20 watts  
WEIGHT: 17 lbs.  
CONE RESONANCE:  
30/35 c.p.s.  
FLUX DENSITY: 13,500 lines  
TOTAL FLUX: 180,000



These units give clean bass down to 25/35 cycles without frequency doubling, with reasonable air loading. Ideal speakers for two-way systems. Again, low transient distortion and smooth response are made possible only by exclusive Wharfedale cloth suspension.

## New!

### G. A. BRIGGS' LATEST ACHIEVEMENT: THE SUPER 5 TREBLE SPEAKER



This efficient tweeter features a small, bakelized cone for wide diffusion; and a high flux magnet for high frequency reproduction. Flux density, 13,000 lines. Aluminum voice coil, 10 ohms, suitable for use with a 15 ohm bass unit and a 3,000 cycle crossover network. Die cast chassis. Cloth suspension. Effective range 3,000 to 20,000 c.p.s. The chassis is supplied with plywood mounting board 8" x 8" with the correct 3½" diameter, aperture, which is the effective cone diameter.

May be used with an existing two-speaker system with 1,000 cycle crossover network by connecting in parallel with the existing treble unit, with 0.5 mfd. condenser in series with the voice coil of the Super 5 Treble Speaker.

## 1000 CYCLE CROSSOVER

**SPECIFICATIONS**  
SIZE: 8" x 5" x 4"  
CROSSOVER AT 1000 c.p.s.  
WEIGHT: 3¼ lbs.  
MAXIMUM INPUT: 30 watts  
IMPEDANCE: 15 ohms  
ATTENUATION:  
6 to 9 db per octave



Used to divide the bass and treble between two loudspeakers at low impedance and thus eliminate distortion of the treble by modulation from the bass.

3,000 Cycle Crossover for use with 5" tweeter, also available.

**BRITISH INDUSTRIES CORPORATION**

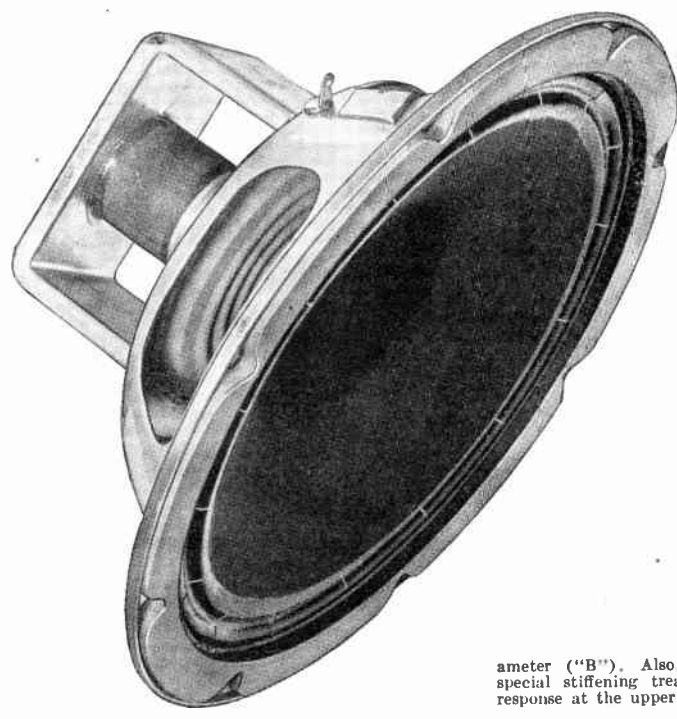
**NEW YORK 13, N. Y.**



# Permoflux

## ROYAL High-Fidelity Speakers

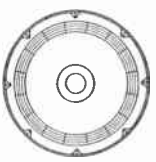
"SOUND IN DESIGN"



### THE SPEAKERS WITH THE "ROYAL BLUE" CONE

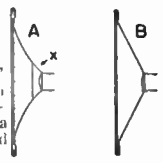
New engineering advances in cone design are among the important reasons the Permoflux ROYAL BLUE CONE SPEAKERS compare in acoustical performance with the finest speakers — regardless of size or price. Laboratory tests prove that Permoflux Royal Speakers produce a smooth, faultless flow of tone over an unusually large band of frequencies — 12,000 cycles in width. It's the new improved cone that provides this outstanding performance.

Slots on the edge of the cone (an exclusive Permoflux development) and an extra large spider provide super-soft suspension of cone. This greatly increases the low-frequency response. Slotted edge of cone is treated to give it additional strength.



### EXTRA HIGH-FREQUENCY RESPONSE

The cone of the "Royal Eight" (See "A" at right) is curvilinear and deeper than the regular speaker cone of the same diameter ("B"). Also, the throat of the cone (X) is given a special stiffening treatment. The result is a highly increased response at the upper end of the audio frequency scale.



SIZE	MODEL	APPROX. MAGNET WEIGHT	VOICE COIL		SHIPPING WT. EA., LBS.	LIST PRICE
			IMP.—OHMS	WATTS		
<b>ROYAL LINE—With Royal Blue Cones (Treated, Slotted Cone Edge)</b>						
6"	6K-1	1.5 oz.	3.2	5	1.50	\$10.00
8"	8T-8-1	4.7 oz.	8.	8	3.00	22.50
12"	12T-8-1	4.7 oz.	8.	10	4.25	27.50
<b>DELUXE ROYAL LINE—With Royal Blue Cone (Treated, Slotted Cone Edge) With Pot Covers</b>						
8"	8UP-8-1	6.8 oz.	8.	10	4.00	\$30.00
12"	12UP-8-1	6.8 oz.	8.	12	5.25	35.00
15"	15WP-8-1	6.8 oz.	8.	15	7.3	49.50

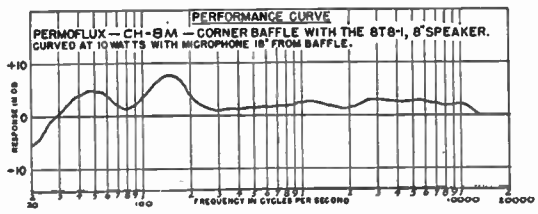
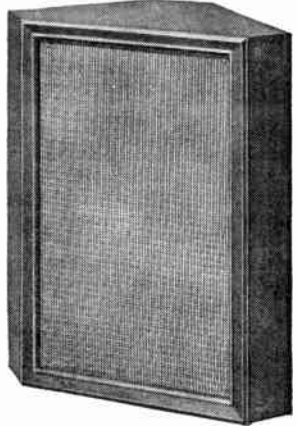
### PERMOFLUX CORNER HORN ENCLOSURE FOR ROYAL 8" SPEAKER

#### Special Features Include:

- Produces true low frequency response — rather than "one note" bass.
- Decreased distortion.
- Corner placement — long recognized by experts as best.
- High efficiency.
- Size: 25" high by 20" wide, by 11" deep.
- Available in Blonde or Mahogany finish.
- Shipping weight 20 lbs. (less speaker).

This new design is the optimum size corner horn enclosure intended to most nearly satisfy performance and economy considerations for proper baffling of an eight-inch speaker.

MODEL CH-8M (Mahg.) \$76.45 LIST  
MODEL CH-8B (Blonde) \$84.50 LIST



PERMOFLUX CORPORATION CHICAGO 39, U.S.A.  
GLENDALE 5, CALIF.

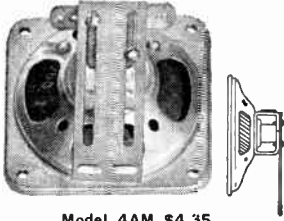
Radio's Master — 17th Edition

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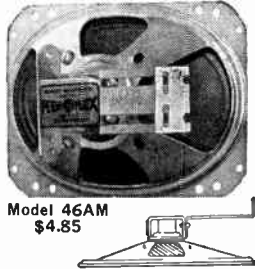
# Permoflux

# CHAMPION SPEAKERS

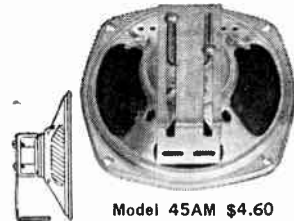
"SOUND IN DESIGN"



Model 4AM \$4.35



Model 46AM  
\$4.85



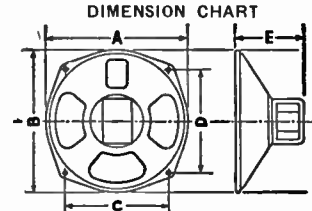
Model 45AM \$4.60

The Permoflux "CHAMPION" Line of permanent magnet type loudspeakers is the most compact line of replacement speakers on the market today. The Champion line is designed to provide a speaker for every replacement need without the necessity of stocking a great number of sizes and models. The universal mounting bracket (above) provides the utmost in versatility.

Following are some of the outstanding features that make these speakers a typical high quality Permoflux product.

- (1) Magnets are wedge mounted and cemented to yoke assembly thereby eliminating possibility of molecular change in magnet metal such as may be occasioned when magnet is spot welded. Result is higher efficiency.
- (2) Unique voice coil construction maintains constant air gap, reducing possibility of rubbing.
- (3) Impregnation of non-metal parts to insure resistance to high humidity conditions.

Highest quality magnetic material and optimum design for flux path used in yoke and pole stem assembly, thereby providing low reluctance flux path, permitting higher efficiency with a smaller magnet.



## PERMOFLUX "CHAMPION LINE" Permanent Magnet Speakers

Size	Model No.	Approx. Magnet Wt.	Watts Input	Dimensions					Shipping Wt. Each	Standard Package	List Price
				A	B	C	D	E			
2 1/2" Square	25AM	.68 oz.	1-2	2 1/2"	2 1/2"	2 1/2"	2 1/2"	1 1/2"	7 oz.	12*	\$ 4.35
3" Square	3AM	.68 oz.	2-4	3 1/8"	3 1/8"	2 3/8"	2 3/8"	1 3/8"	7 oz.	12*	4.35
4" Square	4AM	.68 oz.	2-4	4 3/8"	4 3/8"	3 1/8"	3 1/8"	1 3/8"	8 oz.	12*	4.35
4" Square	4CM	1.0 oz.	2-4	4 3/8"	4 3/8"	3 1/8"	3 1/8"	1 1/2"	8.5 oz.	12*	4.65
4x6" Ellip.	46AM	.68 oz.	2-4	6 1/8"	4 3/8"	4 1/8"	3 1/8"	1 1/8"	9 oz.	8*	4.85
5" Round	45ARM	.68 oz.	2-4	5 3/8"	5 3/8"	4 1/8"	4 1/8"	1 1/8"	9 oz.	8*	4.60
5" P. C.	45AM	.68 oz.	2-4	4 3/8"	4 3/8"	3 1/8"	3 1/8"	1 1/8"	9 oz.	12*	4.60
5" P. C.	45CM	1.0 oz.	4-6	4 3/8"	4 3/8"	3 1/8"	3 1/8"	2 1/8"	10 oz.	12*	4.85
5x7" Ellip.	57J	1.0 oz.	4-6	7 1/4"	5"	4 3/8"	4 3/8"	2 3/8"	17 oz.	6*	5.90
6" P. C.	6AM	.68 oz.	4-6	6 3/8"	6 3/8"	4 3/8"	4 3/8"	2 3/8"	14 oz.	8*	5.25
6" Auto	6J	1.00 oz.	4-6	6 3/8"	6 3/8"	4 3/8"	4 3/8"	2 3/8"	15 oz.	8*	5.75
6x9" Auto	69K	1.47 oz.	5-7	9 3/8"	6 3/8"	6 3/8"	4 3/8"	3 3/8"	27 oz.	6*	8.25
7" Auto	7K	1.47 oz.	6-8	7 1/4"	7 1/4"	5 1/4"	4 1/4"	3 1/8"	21 oz.	6	7.95
8" P. C.	75K	1.47 oz.	6-8	7 1/4"	7 1/4"	5 1/4"	5 1/4"	3 3/8"	23 oz.	6*	7.90
10" Round	10K	1.47 oz.	8-10	10 3/8"	10 3/8"	6 3/8"	6 3/8"	4	44 oz.	4*	10.35
12" Round	12R	2.15 oz.	9-12	12 3/8"	12 3/8"	8 3/8"	8 3/8"	4	56 oz.	3*	11.65
** 12" Round	12R8	2.15 oz.	9-12	12 3/8"	12 3/8"	8 3/8"	8 3/8"	4	56 oz.	3*	12.60
4x6" Ellip.	RS46A		Universal Rear Seat Auto Extension Speaker						40 oz.	1*	13.50
6x9" Ellip.	RS69J		Universal Rear Seat Auto Extension Speaker						48 oz.	1*	17.50

NOTE: Letter "M" designates speaker equipped with universal mounting bracket and tapped yoke. All Permoflux speakers have R.T.M.A. standard mounting holes, and transformer mountings.

\*Ordering in standard package quantities will expedite handling.

\*\*Speaker has 8 ohm voice coil. All others, 3.2 ohm.



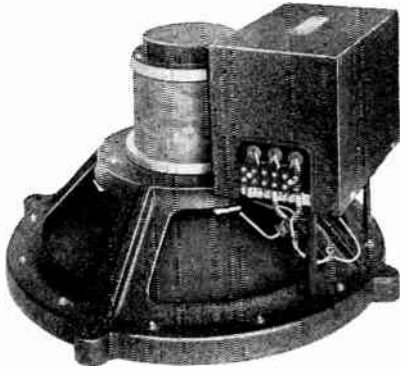
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Write for More Complete Information

PERMOFLUX CORPORATION CHICAGO 39, U.S.A.  
GLENDALE 5, CALIF.

# TANNOY AUDIO THRU BEAM INSTRUMENTS

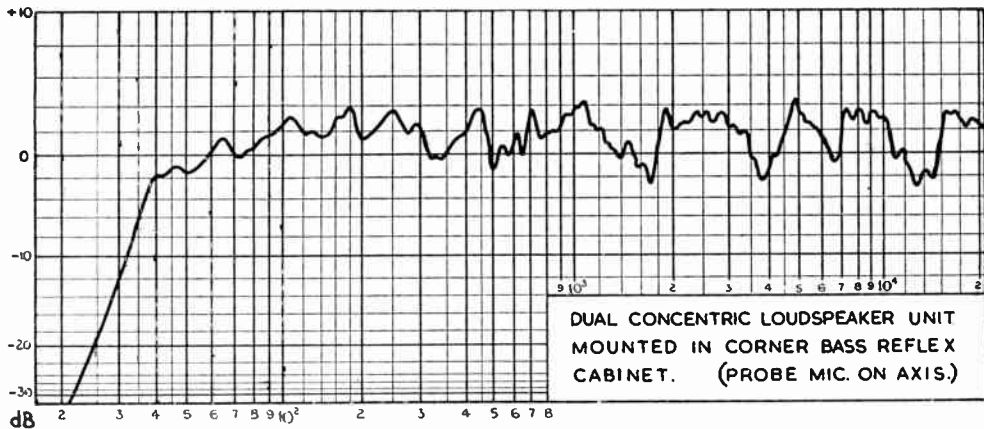
## TANNOY DUAL CONCENTRIC LOUDSPEAKER SYSTEM



This twin Loudspeaker system consists of a direct radiator low frequency unit mounted concentrically with a horn-loaded high frequency unit. The voice coils of both Loudspeaker systems are fed through a specially designed crossover network. The frequency response of both units is intrinsically level and the wide frequency response is not obtained by trick effects, such as cone break-up or diaphragm resonance. The design of the low frequency cone, which forms the final section of the high frequency horn, is such that even distribution of high frequencies is obtained over a wide angle and in order that the low frequency diaphragm shall move as a true piston, the body thickness has been increased and the surround is specially treated to prevent the setting up of subsidiary resonances. In the design of this Loudspeaker, great care has been taken to ensure that the entire system is truly aperiodic which, together with its wide frequency range result in really outstanding reproduction.

This Loudspeaker unit is available in two forms — a 15" version, capable of handling up to 25 watts which is particularly useful for use with high quality Sound Reinforcement systems and a 12" version capable of handling up to 15 watts, which finds its main application in high quality Phonograph and Radio reproducing systems. A suitable Cabinet design for these applications is the corner mounting Bass Reflex type of Cabinet.

There is no doubt that where the input source is of sufficiently high quality, the "TANNOY" Dual Concentric Loudspeaker system is well in advance of any type of Loudspeaker hitherto commercially available.



The above response curve relates to a 15" dual concentric, the response of a 12" unit is substantially the same in all respects.

### TECHNICAL SPECIFICATION

#### 12" Dual Concentric Loudspeaker

H.F. Voice coil diameter	2"
L.F. " " " "	2"
H.F. " " impedance	14 ohms. at 3000 c.p.s.
L.F. " " " "	18 ohms. at 400 c.p.s.
Flux density L.F. Gap	10,000 gauss, B <sub>2</sub> L <sub>2</sub> 6.3 x 10 <sub>11</sub>
" " H.F. Gap	15,000 gauss, B <sub>2</sub> L <sub>2</sub> 1.1 x 10 <sub>11</sub>
Power handling capacity	15 watts.
Impedance via crossover network	18 ohms.
Polar distribution—	3dB at 10,000 c.p.s. for 60° inc. angle
Intermodulation produces	less than 2 per cent.
Bass resonance	35 c.p.s.
Crossover frequency	1,700 c.p.s.
Overall Diameter of Frame	12 3/8"
Overall Depth	7 1/2"
Fixing Hofes p.c.d.	11 3/4"
Weight	10 lbs. (Crossover network on separate chassis.)
Finish	Black Anodised and Cadmium plate.

#### 15" Dual Concentric Loudspeaker

H.F. Voice coil diameter	2"
L.F. " " " "	2"
H.F. " " impedance	12 ohms. at 2000 c.p.s.
L.F. " " " "	12 ohms. at 400 c.p.s.
Flux density L.F. Gap	12,000 gauss, B <sub>2</sub> L <sub>2</sub> 7.7 x 10 <sub>11</sub>
" " H.F. Gap	18,000 gauss, B <sub>2</sub> L <sub>2</sub> 1.39 x 10 <sub>11</sub>
Power handling capacity	25 watts peak
Impedance via crossover network	15 ohms
Polar distribution—	4dB at 10,000 c.p.s. for 60° inc. angle
Intermodulation produces	less than 2 per cent
Bass resonance	40 c.p.s.
Crossover frequency	1000 c.p.s.
Overall Diameter of Frame	15 1/4"
Overall Depth	11"
Fixing Hofes p.c.d.	15 1/2"
Weight	30 lbs.
Finish	Cadmium plate and Stove Enamel.

Send for full descriptive literature to:

## BEAM INSTRUMENTS CORPORATION

350 Fifth Avenue, New York 1, N. Y.

# Utah

## THE SPEAKER THAT SPEAKS FOR ITSELF

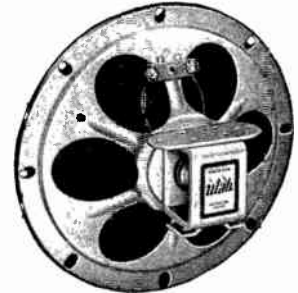
### RADIO PRODUCTS CO., INC.

HUNTINGTON, INDIANA

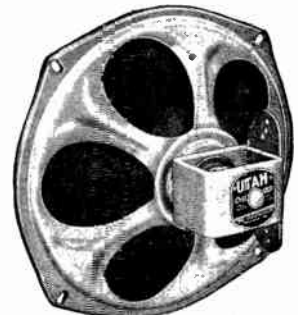
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#### CHARACTERISTICS — STANDARD PM GROUP

Group Size	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	Standard Pack	List Price
2"	SP2A	3-4	9/16	1-2	.68	3/4	12	\$4.20
	SP3A	3-4	9/16	2-4	.68	3/4	12	4.25
	SP3B	3-4	9/16	2-4	1.00	3/4	12	4.30
	SP3C	3-4	9/16	2-4	1.47	3/4	12	4.85
4"	SP4A	3-4	9/16	2-4	.68	3/4	12	4.30
	SP4B	3-4	9/16	2-4	1.00	3/4	12	4.60
	SP4C	3-4	9/16	2-4	1.47	1	12	4.95
5"	SP5A	3-4	9/16	2-4	.68	3/4	12	4.60
	SP5B	3-4	9/16	2-4	1.00	3/4	12	4.95
	SP5C	3-4	9/16	2-4	1.47	1	12	5.30
6"	SP6B	3-4	9/16	2-4	1.00	1 1/2	8	5.40
	SP6C	3-4	9/16	2-4	1.47	1 1/8	8	6.05
	SP6D	3-4	3/8	4-9	1.47	1 1/2	8	6.25
	SP6E	3-4	3/8	4-9	2.15	1 1/2	8	6.85
	SP6F	3-4	3/8	4-9	3.16	1 1/2	8	7.65
	7 1/2"	SP8D	3-4	3/8	4-9	1.47	1 3/4	6
SP8E		3-4	3/8	4-9	2.15	1 3/4	6	8.10
SP8F		3-4	3/8	4-9	3.16	2	6	9.80
SP8G		3-4	1	6-12	3.16	2 1/2	6	10.00
SP8H		3-4	1	6-12	4.64	2 1/2	6	11.45
SP8J		3-4	1	6-12	6.80	2 3/4	6	14.65
SP8K		8	1 1/4	12-20	6.80	3 1/4	6	16.20
SP8L		8	1 1/4	12-20	10.00	4	6	18.75
10"	SP10D	3-4	3/4	4-9	1.47	3 3/4	1	9.00
	SP10F	3-4	3/4	4-9	3.16	3 3/4	1	11.00
	SP10G	3-4	1	6-12	3.16	4	1	11.55
	SP10H	3-4	1	6-12	4.64	4	1	12.50
	SP10J	3-4	1	6-12	6.80	4 1/4	1	17.00
	SP10K	8	1 1/4	12-20	6.80	5 1/4	1	20.05
	SP10L	8	1 1/4	12-20	10.00	5 1/4	1	20.05
12"	SP12G	3-4	1	6-12	3.16	4 3/4	1	13.00
	SP12H	3-4	1	6-12	4.64	4 3/4	1	14.25
	SP12J	3-4	1	6-12	6.80	4 3/4	1	18.00
	SP12K	8	1 1/4	12-20	6.80	5 1/2	1	19.25
	SP12L	8	1 1/4	12-20	10.00	6	1	23.25



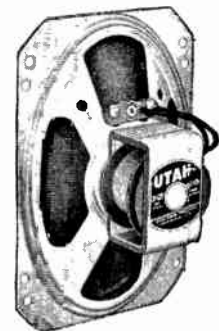
SP6B



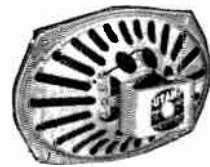
SP8E

#### CHARACTERISTICS — OVAL GROUP

Group Size	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	Standard Pack	List Price
4" x 6"	SP46B	3-4	9/16	2-4	1.00	1 1/4	8	\$5.20
	SP46C	3-4	9/16	2-4	1.47	1 1/4	8	6.25
5" x 7"	SP57C	3-4	9/16	2-4	1.47	1 1/4	6	6.75
	SP57E	3-4	3/8	4-9	2.15	1 1/2	6	8.15
	SP57F	3-4	3/8	4-9	3.16	1 1/2	6	9.35
6" x 9"	SP69D	3-4	3/8	4-9	1.47	1 3/4	6	8.65
	SP69E	3-4	3/8	4-9	2.15	1 3/4	6	9.25
	SP69F	3-4	3/8	4-9	3.16	2	6	10.90
	SP69H	3-4	1	6-12	4.64	2	6	12.65
4" x 6"	SE4645	3-4	9/16	2-4	450	1 1/2	8	\$6.25
	SE4610	3-4	9/16	2-4	1000	1 1/2	8	6.30
	SE4618	3-4	9/16	2-4	1800	1 1/2	8	6.35
	SE4625	3-4	9/16	2-4	2500	1 1/2	8	6.40
5" x 7"	SE5745	3-4	3/8	4-9	450	2	6	7.20
	SE5710	3-4	3/8	4-9	1000	2	6	7.50
	SE5718	3-4	3/8	4-9	1800	2	6	7.50
	SE5725	3-4	3/8	4-9	2500	2	6	7.60
	6" x 9"	SE6945	3-4	3/8	4-9	450	2	6
SE6910		3-4	3/8	4-9	1000	2	6	8.50
SE6918		3-4	3/8	4-9	1800	2	6	8.65
SE6925		3-4	3/8	4-9	2500	2	6	8.65



SE4645



SE6945



THE SPEAKER THAT SPEAKS FOR ITSELF

**RADIO PRODUCTS CO., INC.**  
HUNTINGTON, INDIANA

A WHOLLY OWNED SUBSIDIARY OF NEWPORT STEEL CORPORATION

**CHARACTERISTICS — STANDARD EM GROUP**

Group Size	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	Shipping Weight Pounds	Standard Pack	List Price
3"	SE345	3-4	9/16	2-4	450	1	12	\$5.40
3"	SE310	3-4	9/16	2-4	1000	1	12	5.45
3"	SE318	3-4	9/16	2-4	1800 #	1	12	5.45
3"	SE325	3-4	9/16	2-4	2500	1	12	5.45
4"	SE445	3-4	9/16	2-4	450	1	12	5.60
4"	SE410	3-4	9/16	2-4	1000	1	12	5.65
4"	SE418	3-4	9/16	2-4	1800 #	1	12	5.65
4"	SE425	3-4	9/16	2-4	2500	1	12	5.70
5"	SE545	3-4	9/16	2-4	450	1 1/4	12	5.65
5"	SE510	3-4	9/16	2-4	1000	1 1/4	12	5.75
5"	SE518	3-4	9/16	2-4	1800 #	1 1/4	12	5.80
5"	SE525	3-4	9/16	2-4	2500	1 1/4	12	5.85
6"	SE645	3-4	3/4	4-9	450	2	8	6.75
6"	SE610	3-4	3/4	4-9	1000	2	8	6.90
6"	SE618	3-4	3/4	4-9	1800 #	2	8	6.90
6"	SE625	3-4	3/4	4-9	2500	2	8	6.90
7 1/2"	SE810	3-4	3/4	4-9	1000	2 1/4	6	8.40
7 1/2"	SE818	3-4	3/4	4-9	1800 #	2 1/4	6	8.65
7 1/2"	SE825	3-4	3/4	4-9	2500	2 1/4	6	8.70
10"	SE1010	3-4	1	6-12	1000	4 1/2	1	13.80
10"	SE1015	3-4	1	6-12	1500	4 1/2	1	14.10
10"	SE1025	3-4	1	6-12	2500	4 1/2	1	14.20
12"	SE1210	3-4	1	6-12	1000	6	1	16.10
12"	SE1215	3-4	1	6-12	1500	6	1	16.35
12"	SE1225	3-4	1	6-12	2500	6	1	17.00
15"	SE1510	8	1 1/2	20-30	1000	15 3/4	1	32.00
15"	SE1515	8	1 1/2	20-30	1500	15 3/4	1	32.25
15"	SE1525	8	1 1/2	20-30	2500	15 3/4	1	32.50

Note: # tapped at 300 ohms.

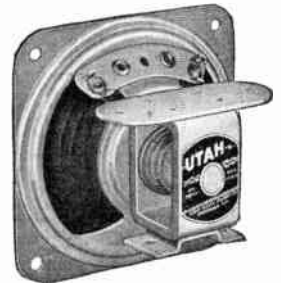
**CHARACTERISTICS — TELEVISION GROUP**

Group Size Inches	Utah Catalog Number	VOICE COIL			FIELD COIL		Shipping Weight Lbs.	Standard Pack	List Price
		Impedance	Dia.	Watts	Impedance	Watts			
5	SE5T6*	3.2	9/16	2-4	62 ohms	8	1 1/4	12	\$5.60
5	SE5T10*	3.2	9/16	2-4	100 ohms	8	1 1/4	12	5.60
6	SE6T6	3.2	3/4	5-7	62 ohms	8	2	8	7.35
6	SE6T10	3.2	3/4	5-7	100 ohms	8	2	8	7.50
4 x 6	SE46T6	3.2	9/16	2-4	62 ohms	8	1 1/4	8	6.65
4 x 6	SE46T10	3.2	9/16	2-4	100 ohms	8	1 1/4	8	6.65

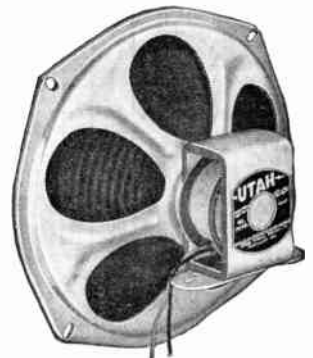
\*SE5T6 and SE5T10 available in Round or Pin Cushion housing, specify.

1. Write for catalog.
2. Utah member R.T.M.A.
3. All Utah speakers manufactured within limits of the R.T.M.A. code.
4. Each speaker completely dustproofed.
5. Each speaker cadmium plated.
6. Outdoor speakers cadmium plated AND finished in Royal Blue Enamel.
7. Wide range, public address, and co-axial models cadmium plated AND finished in gold hammered lacquer.
8. Pot covers standard on all FM, PA, WR and co-axial models.
9. Immediate delivery on all models.
10. International distribution (Rocke). Jobbers in each major city.
11. 2", 3", 4", 5", and 6" speakers equipped with universal mounting brackets.
12. Each EM speaker complete with hum-bucking coil.

Nationally advertised—all speakers have transformer mounting facilities.



SE345



SE810



SE625



SE46T6

THE SPEAKER THAT SPEAKS FOR ITSELF

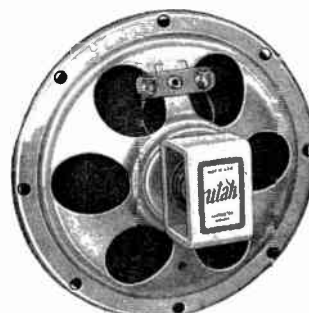
**RADIO PRODUCTS CO., INC.**

HUNTINGTON, INDIANA

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**CHARACTERISTICS — OUTDOOR GROUP**

Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	Standard Pack	List Price
4	SP4CO	3-4	9/16	2-4	1.47	1	12	\$5.75
5	SP5CO	3-4	9/16	2-4	1.47	1	12	6.10
6	SP6EO	3-4	1	4-9	2.15	1 3/4	8	8.95



SP5A1

**CHARACTERISTICS — AUTO SPEAKERS**

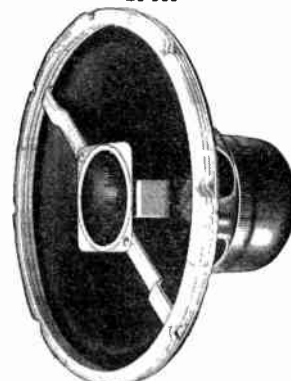
Group Size Inches	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diam. Inches	Optimum Audio Watts	Field Resistance Ohms	Alnico V Weight Ounces	Ship. Wt. Lbs.	Standard Pack	List Price
5	SE5Y6	3-4	9/16	2-4	4		1 1/4	12	\$5.85
5 1/4	SE5S6	3-4	3/4	2-4	4		2	12	6.25
6 1/4	SE6S6	3-4	3/4	4-9	4		2	8	6.95
7	SE7Y6	3-4	3/4	4-9	4		2	6	8.55
7	SE7Y6A**	3-4	3/4	4-9	4		2	6	8.55
7 1/2	SE7Z6	3-4	3/4	4-9	4		2	6	8.90
6 x 9	SE69Y6	3-4	3/4	4-9	4		2 1/2	6	9.15
6 x 9	SP69D	3-4	3/4	4-9		1.47	1 3/4	6	8.65
5 1/4	SP5DA	3-4	3/4	2-4		1.47	1 1/2	12	6.20
6 1/4	SP6EA	3-4	3/4	4-9		2.15	1 3/4	8	7.60
7	SP7EA*	3-4	3/4	4-9		2.15	1 3/4	6	8.95



SP15P

**CHARACTERISTICS — WIDE RANGE AND PA GROUP**

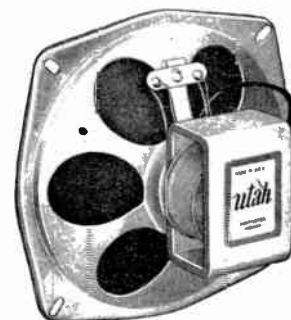
Group Size	Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	Shipping Weight Pounds	Standard Pack	List Price
8"	SP8JW	8	1	6-12	6.80	3	6	\$16.60
12"	SP12JW	8	1	6-12	6.8003	6	1	20.50
12"	SP12LW	8	1 1/4	12-20	10.00	6 1/4	1	27.50
12"	SP12M	8	1 1/4	15-25	14.70	7	1	32.45
12"	SP12P	8	1 1/2	20-30	21.50	7 1/2	1	40.00
15"	SP15P	8	1 1/2	20-30	21.50	10	1	50.00
15"	SP15R	8	2	30-40	31.80	10 1/2	1	72.00



SP12J3

**CHARACTERISTICS — CO-AXIALS**

Group Size Inches	Utah Catalog Number	Input Impedance	Optimum Audio Watts	Alnico V (Woofer)	Shipping Weight Lbs.	Standard Pack	List Price
12	SP12J-3	8 ohms	10	6.80 oz.	10	1	\$35.00
15	SP15P-5	8 ohms	15	21.5 oz.	15	1	55.00



SE6S6

EXPORT DEPT. ROCKE INTERNATIONAL CORPORATION, N. Y. C.

# Cinaudagraph Speakers

CINAUDAGRAPH CO., 7334 N. CLARK ST., CHICAGO 26, ILL.

## FIELD COIL MODELS

A complete line of high quality speakers for every use requiring a field coil unit. Each model listed is dustproof, of all-welded construction, and equipped with hum bucking coils or slugs. Suitable for both professional and amateur use, these Cinaudagraph speakers have splendid tone and long-life characteristics.

Matching transformers listed below. New Cinaudagraph Universal Mounting Bracket supplied at no charge with each speaker 6" and under, permits easy installation in all receivers.

### REPLACEMENT SPEAKERS

SIZE	MODEL	FIELD COIL		VOICE COIL	
		Resist. Watts	Imped.	Dia.	Watts
3½"	F3B2	450	3	3.2	1.5
4"	F4B2	450	3	3.2	2.
	F4B3	1,000	3	3.2	2.
	F4B4	1,800†	3	3.2	2.
	F4B6	2,750	3	3.2	2.
	F4B60	60	3	3.2	2.
4" x 6"	F46B2	450	3	3.2	2.5
	F46B60	60	3	3.2	2.5
	F46B100	100	3	3.2	2.5
	F46B3	1,000	3	3.2	2.5
	F46B24	1,800	3	3.2	2.5
5" Round	F5B1	6-volt	3	3.2	2.5
	F5B2	450	3	3.2	2.5
	F5B3	1,000	3	3.2	2.5
	F5B6	2,750	3	3.2	2.5
	F5B60	60	3	3.2	2.5
5" Pin Cush.	F51B1	6-volt	3	3.2	2.5
	F51B2	450	3	3.2	2.5
	F51B3	1,000	3	3.2	2.5
	F51B24	1,800	3	3.2	2.5
	F51B6	2,750	3	3.2	2.5
	F51B6	2,750	3	3.2	2.5
5¼" Pin Cush.	F53B1	6-volt	3	3.2	3.
5" x 7"	F57D2	450	4	3.2	5.
	F57D3	1,000	4	3.2	5.
	F57D4	1,800†	4	3.2	5.
	F57D4	1,800†	4	3.2	5.

\*Pot rotated 90 degrees. †T300.

### TV REPLACEMENT SPEAKERS

SIZE	MODEL	FIELD COIL		VOICE COIL	
		Resist. Watts	Imped.	Dia.	Watts
4"	F4B60 TV	60	3	3.2	2.
4" x 6"	F46B60 TV	60	3	3.2	2.5
	F46B100 TV	100	3	3.2	2.5
5"	F5B60 TV	60	3	3.2	2.5

SIZE	MODEL	FIELD COIL		VOICE COIL	
		Resist. Watts	Imped.	Diam.	Watts
6"	F6B1	6-volt	3	3.2	3.
	F6B2	450	3	3.2	3.
	F6B3	1,000	3	3.2	3.
	F6B24	1,800	3	3.2	3.
	F6B6	2,750	3	3.2	3.
6" x 9"	F69D11	6-volt	4	3.2	6.
	F69D2	450	4	3.2	6.
	F69D3	1,000	4	3.2	6.
	F69D4	1,800†	4	3.2	6.
7"	F7D11	6-volt	4	3.2	6.
	*F7D11A	6-volt	4	3.2	6.
7½"	F75D1	6-volt	4	3.2	6.
8"	F8D3	1,000	4	3.2	6.
	F8D4	1,800†	4	3.2	6.
	F8D5	2,500	4	3.2	6.
	F8H8	600	8	8.	8.
	F8H3	1,000	8	8.	8.
	F8H24	1,800	8	8.	8.
	F8H5	2,500	8	8.	8.
10"	F10H8	600	8	8.	9.
	F10H3	1,000	8	8.	9.
	F10H24	1,800	8	8.	9.
	F10H5	2,500	8	8.	9.
12"	F12H8	600	8	8.	10.
	F12H3	1,000	8	8.	10.
	F12H24	1,800	8	8.	10.
	F12H5	2,500	8	8.	10.
	F12H5	2,500	8	8.	10.

### AUTO REPLACEMENT SPEAKERS

SIZE	MODEL	FIELD COIL		VOICE COIL	
		Resist. Watts	Imped.	Dia.	Watts
5" Round	F5B1	6-volt	3	3.2	2.5
5" Pin Cush.	F51B1	6-volt	3	3.2	2.5
5¼" Pin Cush.	F53B1	6-volt	3	3.2	3.
6" Pin Cush.	F6B1	6-volt	3	3.2	3.
6" x 9"	F69D11	6-volt	4	3.2	6.
	F7D11	6-volt	4	3.2	6.
7" Pin Cush.	*F7D11A	6-volt	4	3.2	6.
	F75D1	6-volt	4	3.2	6.
7½" Pin Cush.	F75D1	6-volt	4	3.2	6.

## TRANSFORMERS

These transformers are conservatively rated, efficient, and match tubes most commonly used.

Transformers are not included in the list price of Cinaudagraph speakers, and must be ordered separately.

### ADJUSTABLE IMPEDANCE

½" x ½"	12A3UL	***Line to 3.2 ohm V.C.
	12A3U	*Plate to 3.2 ohm V.C.
5/8" x 5/8"	58A3U	*Plate to 3.2 ohm V.C.
¾" x ¾"	34A8U	**Plate to 8. ohm V.C.
	34A8UL	***Line to 8. ohm V.C.
7/8" x 7/8"	78A8UL	***Line to 8. ohm V.C.

\*Plate impedances of 2000, 4500, 7000 and 10,000 ohms (No C.T.).

\*\*Plate impedances of 3000, 5000, 6600, 7000, 10,000 ohms (All C.T.).

\*\*\*Line impedances of 2000, 1500, 1000 and 500 ohms (No C.T.).

graph speakers, and must be ordered separately. All Cinaudagraph speakers, however, have provision for easy transformer installation.

### FIXED IMPEDANCE

½" x ½"	12A73	7000 ohms to 3.2 ohm V.C.
	12A43	4000 ohms to 3.2 ohm V.C.
	12A23	2000 ohms to 3.2 ohm V.C.
	12A53L	500 ohms to 3.2 ohm V.C.
5/8" x 5/8"	58A83	8000 ohms to 3.2 ohm V.C.
¾" x ¾"	34C53C	5000 ohms C.T. to 3.2 ohm V.C.
	34A53	5000 ohms to 3.2 ohm V.C.



# Cinaudagraph Speakers

CINAUDAGRAPH CO., 7334 N. CLARK



ST., CHICAGO 26, ILL.

## PERMANENT MAGNET MODELS

Use Alnico 5 magnets for greatly improved performance without size or weight increase. Magnets soldered in place for long, trouble-free service. Speakers dust-proof and of all-welded construction; voice coil forms are not affected by moisture or tem-

perature variation. Matching transformers listed on next page. Universal Mounting Bracket supplied with each speaker 6" and under.

SIZE	MODEL	Magnet	VOICE COIL		
		Alnico 5	Imped.	Diam.	Watts
2"	P2A1	.68 oz.	3.2	$\frac{9}{16}$ "	1.
	P2C1	1.47	3.2	$\frac{15}{16}$ "	1.5
3½"	P3A1	.68	3.2	$\frac{9}{16}$ "	2.
	P3C2	1.47	3.2	$\frac{9}{16}$ "	2.5
4"	P4A1	.68	3.2	$\frac{9}{16}$ "	3.
	P4C1	1.47	3.2	$\frac{9}{16}$ "	3.5
4" x 6"	P46A1	.68	3.2	$\frac{9}{16}$ "	3.5
	P46C1	1.47	3.2	$\frac{9}{16}$ "	4.
5"	P5A1	.68	3.2	$\frac{9}{16}$ "	3.5
	*P51A1	.68	3.2	$\frac{9}{16}$ "	3.5
	P5C1	1.47	3.2	$\frac{9}{16}$ "	4.
	*P51C1	1.47	3.2	$\frac{9}{16}$ "	4.
5¼"	P52F1	3.16	3.2	$\frac{9}{16}$ "	5.
	P53A1	.68	3.2	$\frac{9}{16}$ "	4.
5" x 7"	P53C1	1.47	3.2	$\frac{9}{16}$ "	4.5
	P57C1	1.47	3.2	$\frac{9}{16}$ "	5.
6"	P57F1	3.16	3.2	$\frac{3}{4}$ "	6.
	P6A1	.68	3.2	$\frac{9}{16}$ "	4.
	P6C1	1.47	3.2	$\frac{9}{16}$ "	4.5
	P6F1	3.16	3.2	$\frac{3}{4}$ "	5.

### REPLACEMENT SPEAKERS

SIZE	MODEL	Magnet	VOICE COIL		
		Alnico 5	Imped.	Diam.	Watts
6" x 9"	P69F2	3.16	3.2	$\frac{3}{4}$ "	8.
	P69H2	4.64	3.2	1"	9.
7"	P7E2	2.15	3.2	$\frac{3}{4}$ "	6.
	**P7E2A	2.15	3.2	$\frac{3}{4}$ "	6.
	P7G2	3.16	3.2	1"	8.
7½"	P7H2	4.64	3.2	1"	9.
	P75F1	3.16	3.2	$\frac{3}{4}$ "	7.
8"	P75H1	4.64	3.2	1"	9.
	P8D1	1.47	3.2	$\frac{3}{4}$ "	7.
	P8G1	3.16	8.	1"	8.
	P8G2	3.16	3.2	1"	8.
10"	P8H1	4.64	8.	1"	10.
	P10G1	3.16	8.	1"	9.
	P10H1	4.64	8.	1"	10.
12"	P10J1	6.8	8.	1"	12.
	P12G1	3.16	8.	1"	10.
	P12H1	4.64	8.	1"	12.
	P12J1	6.8	8.	1"	14.

\*Pincushion basket.  
\*\*Pot rotated 90 degrees.

### PUBLIC ADDRESS SPEAKERS

6"	P6F1	3.16	3.2	$\frac{3}{4}$ "	5-8
	P6H1	4.64	3.2	1"	6-9
	P6J1	6.8	8.	1"	8-10
8"	P8H1	4.64	8.	1"	8-11
	P8J1	6.8	8.	1"	9-12
	*P8L1	10.	8.	1½"	10-14
10"	P10H1	4.64	8.	1"	9-11
	P10J1	6.8	8.	1"	10-12
	P10L1	10.	8.	1½"	12-18
12"	P12L1	10.	8.	1½"	14-20
	P12P1	21.5	8.	1½"	20-30
	P12R1	35.	8.	2"	25-35
15"	P15L1	10.	8.	1½"	16-20
	P15P1	21.5	8.	1½"	20-30
	P15R1	35.	8.	2"	25-35

\*Waterproofed cone and voice coil.

### AUTO REPLACEMENT SPEAKERS

5" Round	P5C1	1.47	3.2	$\frac{9}{16}$ "	3.5
	P52F1	3.16	3.2	$\frac{3}{4}$ "	5.
5¼" Pin Cush.	P53C1	1.47	3.2	$\frac{9}{16}$ "	4.
6½" Pin Cush.	P6F1	3.16	3.2	$\frac{3}{4}$ "	5.
6" x 9"	P69F2	3.16	3.2	$\frac{3}{4}$ "	6.
7" Pin Cush.	P7E2	2.15	3.2	$\frac{3}{4}$ "	5.
	*P7E2A	2.15	3.2	$\frac{3}{4}$ "	5.
7½" Pin Cush.	P75F1	3.16	3.2	$\frac{3}{4}$ "	6.

\*Pot rotated 90 degrees.

### INTERCOMMUNICATION SPEAKERS

3½" Square	P3A21	.68	45.	$\frac{1}{16}$ "	1.5
4" Square	P4A21	.68	45.	$\frac{1}{16}$ "	2.
5" Pin Cush.	P51A21	.68	45.	$\frac{1}{16}$ "	3.

### CINAXIAL SPEAKERS

12"	CIN-12A	4.64	8.	1"	10.
15"	CIN-15B	10.	8.	1½"	15.
	CIN-15C	21.5	8.	1½"	18.
3"	*TW3C1	1.47	8.	$\frac{3}{8}$ "	2.
5"	†TW52F1	3.16	16.	$\frac{3}{4}$ "	5.

\*High frequency speaker only, as used in CIN-12A (requires 2 mfd. paper condenser in series with voice coil).

†High frequency speaker only, as used in CIN-15B and CIN-15C (requires 2 mfd. paper condenser in series with voice coil).

### ALL-WEATHER SPEAKERS

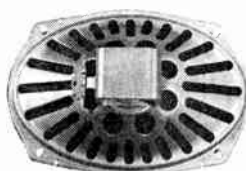
4"	P4CO	1.47	3.2	$\frac{9}{16}$ "	2.5
5"	P5CO	1.47	3.2	$\frac{9}{16}$ "	3.5

### TV REPLACEMENT SPEAKERS

5" x 7"	P57FTV	3.16	3.2	$\frac{3}{4}$ "	6.
6" x 9"	P69FTV	3.16	3.2	$\frac{3}{4}$ "	6.

### EXTENDED RANGE SPEAKERS

8"	P8JHF1	6.8 oz.	8.	1"	7.
12"	P12JHF1	6.8	8.	1"	10.





*Smith-*  
**BALDWIN**  
*Nathaniel*

# SPEAKERS

Smith-Baldwin speakers are critically engineered. They are built of the finest and best material that is humanly possible to procure. They are individually

packaged in colorful and attractive cartons and together with their high quality will spell bigger speaker-dollar sales for you.

## PERMANENT MAGNET MODELS

This series will be found to be suited for replacements for home-constructors and inter-communication

systems where costs and trouble-free operation are a serious consideration.

Size	Model	Magnet Alnico V	Imped.	Voice Coil Diam.	Watts	Size	Model	Magnet Alnico V	Imped.	Voice Coil Diam.	Watts
<b>REPLACEMENT SPEAKERS</b>											
3"	P3AR1	.68 oz.	3-4	1/2"	1.5	6 1/2" Pin Cush.	P6CR5	2.15	3-4	3/8"	4.
3 1/2"	P3AR1	.68	3-4	1/2"	1.5	6 1/2" Pin Cush.	P6R6	3.16	3-4	3/8"	5.
3 1/2"	P3AS2	1.00	45	1/2"	1.5	6 1/2" Pin Cush.	P60X8	4.64	3-4	1"	6.
3 1/2"	P3AS3	1.47	3-4	1/8"	2.	6 1/2" Pin Cush.	P6Sun9	6.8	6-8	1"	8.
4"	P4AR1	.68	3-4	1/2"	1.5	8"	P8CR5	2.15	3-4	3/8"	6.
4"	P4AS2	1.00	45	1/2"	2.	8"	P8R6	3.16	3-4	3/8"	7.
4"	P4AS3	1.47	3-4	1/8"	2.5	8"	P80X8	4.64	6-8	1"	8.
5"	P5AR1	.68	3-4	1/2"	3.	8"	P8Sun9	6.8	6-8	1"	10.
5"	P5AS2	1.00	45	1/2"	3.	10"	P10R6	3.16	6-8	3/8"	8.
5"	P5AS3	1.47	3-4	1/8"	3.5	10"	P100X8	4.64	6-8	1"	9.
5 1/4" Pin Cush.	P5QAS3	1.47	3-4	1/8"	3.5	10"	P10Sun9	6.8	6-8	1"	10.
6 1/2" Pin Cush.	P6AR1	.68	3-4	1/2"	3.	12"	P12R6	3.16	6-8	3/8"	9.
6 1/2" Pin Cush.	P6AS2	1.00	3-4	1/8"	3.25	12"	P120X8	4.64	6-8	1"	10.
6 1/2" Pin Cush.	P6AS3	1.47	3-4	1/8"	3.5	12"	P12Sun9	6.8	6-8	1"	12.

<b>HIGH FIDELITY SPEAKERS</b>					
8"	P8Sun10	10 oz.	6-8	1"	9.
10"	P10Sun10	10	6-8	1"	10.
12"	P12Sun10	10	6-8	1"	12.
15"	P15Sun10	10	6-8	1"	15.
12"	P12RM15	15 oz.	6-8	1 1/4"	14.
15"	P15RM15	15	6-8	1 1/4"	16.
12"	P12RM26	26.6 oz.	6-8	1 1/2"	16.
15"	P15RM26	26.6	6-8	1 1/2"	18.

<b>O V A L S</b>					
4" x 6"	P46AS1	.68 oz.	3-4	1/2"	3.
4" x 6"	P46AS3	1.47	3-4	1/8"	3.5
5" x 7"	P57AS3	1.47	3-4	1/8"	4.
5" x 7"	P57CR5	2.15	3-4	3/8"	5.
6" x 9"	P69R5	2.15	3-4	3/8"	6.
6" x 9"	P690X6	3.16	3-4	3/8"	7.

<b>RING MAGNET ALNICO III</b>					
8"	P8-32	32 oz.	6-8	1"	8.
10"	P10-32	32	6-8	1"	10.
12"	P12-32	32	6-8	1"	12.

<b>COAXIAL SPEAKERS</b>					
12"	P12C08	4.64 oz.	8	1"	10.
12"	P12C09	10.	8	1"	12.
15"	P15C09	10.	8	1 1/2"	14.
15"	P15C0RM26	26.	8	1 1/2"	22.

<b>WEATHEROID SPEAKERS</b>					
4"	P4AS3W	1.47 oz.	3-4	3/8"	2.5
5"	P5AS3W	1.47	3-4	1/8"	2.5
6 1/2" Pin Cush.	P6CRJW	2.15	3-4	3/8"	4.
4" x 6"	P46AS3W	1.47	3-4	1/8"	3.5

## FIELD COIL MODELS

ALL SPEAKERS ARE DUST-PROOFED

ALL FIELD COIL MODELS ARE EQUIPPED WITH BUCKING COILS OR "HUM SLUGS"

### REPLACEMENT SPEAKERS

Size	Model	Field Coil Re-		Voice Coil			Size	Model	Re-Field Coil		Voice Coil		
		sistance	Watts	Imped.	Diam.	Watts			sistance	Watts	Imped.	Diam.	Watts
3 1/2"	E3NT45	450	4.	3-4	1/8"	2.	6" pin	E6NT18	1800	4.	3-4	1/8"	3.
4"	E4NT45	450	4.	3-4	1/8"	2.	6" pin	E6NT27	2750	4.	3-4	1/8"	3.
4"	E4NT10	1000	4.	3-4	1/8"	2.	6" x 9"	E69V6CR	6 Volt	4.5	3-4	3/8"	6.
4"	E4NT18	1800	4.	3-4	1/8"	2.	6" x 9"	E69CR18	1800	4.5	3-4	3/8"	6.
4"	E4NT27	2750	4.	3-4	1/8"	2.	8"	E8RP10	1000	4.5	3-4	3/8"	6.
4" x 6"	E46NT45	450	4.	3-4	1/8"	2.5	8"	E8RP18	1800	4.5	3-4	3/8"	6.
4" x 6"	E46NT10	1000	4.	3-4	1/8"	2.5	8"	E8RP25	2500	4.5	3-4	3/8"	6.
4" x 6"	E46NT18	1800	4.	3-4	1/8"	2.5	8"	E80X10	1000	8.5	6-8	1"	8.
5"	E5V6NT	6 Volt	4.	3-4	1/8"	2.5	8"	E80X25	2500	8.5	6-8	1"	8.
5"	E5NT45	450	4.	3-4	1/8"	2.5	10"	E100X75	750	8.5	6-8	1"	9.
5"	E5NT10	1000	4.	3-4	1/8"	2.5	10"	E100X18	1800	8.5	6-8	1"	9.
5"	E5NT18	1800	4.	3-4	1/8"	2.5	10"	E100X25	2500	8.5	6-8	1"	9.
5"	E5NT27	2750	4.	3-4	1/8"	2.5	12"	E120X10	1000	8.5	6-8	1"	10.
6" pin	E6V6NT	6 Volt	4.	3-4	1/8"	3.	12"	E120X18	1800	8.5	6-8	1"	10.
6" pin	E6NT45	450	4.	3-4	1/8"	3.	12"	E120X25	2500	8.5	6-8	1"	10.
6" pin	E6NT10	1000	4.	3-4	1/8"	3.							

**CONSOLIDATED RADIO PRODUCTS CO.**  
CHICAGO 10, ILLINOIS

# microphones



9356 Santa Monica Blvd.  
Beverly Hills, Calif.

161 Sixth Avenue  
New York 13, N.Y.

## 21B MICROPHONE



The 21B Microphone provides a new standard for frequency response and dynamic range in quality microphones. The 21B is a condenser microphone and, in addition to its miniature size and superb quality, is omnidirectional, shock proof, blast proof, and free from angular discrimination. Frequency response: 20 through 15,000 cps. Output level: —48 db re 1 milliwatt for a sound field of 10 dynes/cm<sup>2</sup>.

### 21B and 150A BASE

The 21B is used on the 150A Base as a stand, suspension, or hand microphone. Small size makes it ideal for stage, TV, and motion pictures.

Customer Net Price: \$83.00

### 152A CABLE SET

This cable set is designed for stand mounting of the 21B and 150A Base. It is equipped with 8 pin Cannon connectors. Connector at 150A Base has 5/8"-27 thread. Length with connectors: 25 ft.

Customer Net Price: \$25.00

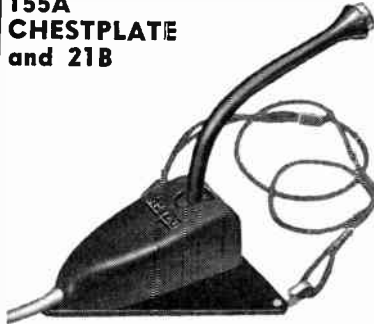


## P-518A POWER SUPPLY

The P-518A Power Supply provides the necessary voltage for the 21B microphone and the impedance matching tube in the 150A Base, or the 155A Chestplate. This power supply is necessary to operate the microphone into an amplifier not specifically designed to receive it. The P-518A is a portable unit. Output impedance: 30, 250, 500 ohms. Power requirements: 117 V, 60 cycles A.C. Dimensions: 7 1/2" x 8 3/4" x 6".

Customer Net Price: \$90.00

## 155A CHESTPLATE and 21B



The 21B on the 155A Chestplate is the ideal instrument for the active lecturer or announcer. It hangs around the neck and places the microphone near the lips, leaving the hands free. 25 feet of cable is permanently attached to the 155A Chestplate.

Customer Net Price: \$108.00



## CARDIOID MICROPHONE\* 639A and 639B

Ideal for broadcast or public address, these cardioid microphones with ribbon and dynamic elements provide the best possible pick-up under varying, difficult conditions. High quality three-way (639A) and six-way (639B) directivity patterns are quickly selected by turning a screw. Each embodies a dynamic moving coil type pressure element. Impedance average 40 ohms. Power output level: —76 dbm. Frequency response: 40-10,000 cps.

### LIST PRICE

639A .....	\$158.70
639B .....	\$169.95

\*Distributed by Graybar Electric Co.



## DYNAMIC MICROPHONE\* 632C

An exceptional, close-talking microphone for announcing and public address systems. Rugged, quiet-operating, unaffected by temperature, humidity or breath condensation.

Frequency response: 150 to 5000 cps.  
Impedance: 30 ohms.  
Power output level: —80 db.

List Price \$70.95

\*Distributed by Graybar Electric Co.



## DYNAMIC MICROPHONE\* 633A and 633C

This rugged, dependable high-quality microphone for public address, sound distribution system, or broadcasting, affords both non-directional and semi-directional performance.

Frequency response: 40-15,000 cps.  
(633A) Impedance: 30 ohms.  
(633C) Impedance: 30, 150-250 ohms.  
Power output level: —79 dbm.

### LIST PRICE

633A .....	\$83.10
633C .....	\$91.50

\*Distributed by Graybar Electric Co.

## Microphone Accessories\*

Items	List Price
8B Attachment .....	\$10.65
9A Attachment .....	6.45
11A Attachment .....	18.15
22C Floor Stand .....	20.70
23A Desk Stand .....	6.90
24A Desk Stand .....	7.65
311A Plug .....	11.55
422A Jack .....	8.70
712A Adapter .....	3.30
713A Adapter .....	2.85
10994 Adapter .....	4.50

\*Distributed by Graybar Electric Co.

**ASTATIC**

# TV BOOSTERS and MICROPHONES

Astatic

KNOWN THE WORLD OVER CONNEAUT, OHIO

## TELEVISION BOOSTERS

### MODELS AT-1 and AT-1B

● A superior type of television booster. Ability to improve reception more effectively than ordinary boosters starts with the principle of "more tubes, stronger signal." A variable gain control knob permits reduction of signal strength to prevent picture distortion when the signal input is greater than that required. The failing of many boosters—showing a "peak" on some channels and "fall-off" on others—has been eliminated. These units provide extremely high gain, and do it throughout the television spectrum. Dual tuning controls allow separate tuning for picture and sound. Available in handsome furniture-finish mahogany or blond cabinets. The letter "B" in model number designates blond cabinet.



Model	Code	List Price
AT-1	ASAMI	\$54.50
AT-1B	ASAMH	56.50

### "SCANAFAR" MODEL CT-1

● Newest booster development on the market that matches the notable improvements in new receiver front-ends. Results are a new minimum noise figure with maximum gain. Band width (over 7 megacycles on all channels) and picture definition characteristics are excellent. The new Scanafar employs a balanced, cascaded circuit with a neutralized 6J6 tube driving a 6BQ7, the highly touted "quiet tube." Both tubes are used over the entire TV frequency range. Test this new Astatic unit where other boosters cause picture deterioration and/or fail to improve reception. By your own comparison, you will see the vast difference and superiority of advanced booster design.



Model	Code	List Price
CT-1	ASAMC	\$32.50



### CARBON MODEL 10M5

● For mobile applications, ship-to-shore communication, multitude of other uses. Unparalleled high sensitivity among carbon mikes, designed for greater ruggedness and convenience in use. Ideal response for speech clarity: 100 to 4500 c.p.s. range. Double-pole, single-throw switch, with relay and microphone circuits normally open (press-to-talk), adapts easily to wide variety of circuits. Four-conductor, self-coiling cable; retracted length, 12 inches; extended length, five feet. Coiled spring cable protector. Surface mounting wall, panel or dash hang-up bracket. Grey Hammerlin finish, die-cast housing.

Model	Code	List Price
10M5	ANUNM	\$29.50

### CRYSTAL MODEL D-104

● For close talking applications, such as radio amateur communications and similar uses. With high output level approximately —45 db, it possesses definitely reduced R.F. feed-back tendencies. Yoke-driven, bridge-mounted Graphoil crystal element with METALSEAL protection against moisture or dryness, shock-proof mounting and barometric compensation. Speech range frequency response from 30 to 7,500, rising 500 to 4,000 c.p.s. Chrome finish. Standard equipment includes interchangeable plug and connector, spring cable protector, 5' shielded cable.

	List Price
D-104—Code ASUPA .....	\$24.60
G-D-104—Code ASVAX, with G-Stand.....	37.65
D-104-S—Code ASUPB, with S-Switch.....	27.35

### CERAMIC MODEL D-104-C

● Duplicate of Crystal Model except for employment of ceramic element, which is immune to extremes of temperature and humidity. Performance comparable except for slightly lower output of approximately —58 db.

	List Price
D-104-C —Code ASUPC .....	\$24.60
G-D-104-C—Code ASVAW .....	37.65
D-104-C-S—Code ASUQZ, with S-Switch.....	27.35



### "SYNABAR" UNIDIRECTIONAL CARDIOID CRYSTAL

● Altogether professional in performance . . . performance to please the most exacting speakers and entertainers. Newly perfected unit employing special sintered metal which cancels out 15 db front to back, making it, for practical purposes, dead to sound from rear. Has truly excellent frequency range for its type and price class, 50 to 10,000 c.p.s., PLUS a Response Selector switch to provide choice of ideal pick-up characteristics for either crisp voice or general voice and music. Crystal element has special METALSEAL protection against moisture or dryness. Output level is —54 db, high impedance. Satin chrome finish. 18' single conductor shielded cable, with or without off-on switch. Recommended, without reservation, for highest quality reproduction and elimination of extraneous noise, in the widest variety of modern applications.

Model	Code	List Price
DR-10	ASVFL	\$37.25
DR-10-S*	ASVFK	39.95

\*With off-on switch.



*Astatic Crystal Devices manufactured under Brush Development Co. patents.*

**NOTE: All microphone output ratings based on a reference level of one volt per microbar.**



**ASTATIC**

# MICROPHONES

## CRYSTAL MODEL DK-1

• New non-directional unit for studio and public address, featuring reduced size and design established primarily to allow unobstructed, least detracting view of performer. Brushed chrome finish contributes to this purpose by reducing distracting light reflections and glare. Excellent frequency range, with rising characteristics between 2,000 and 5,000 c.p.s. Output level is approximately —55 db. Crystal element has moisture-proof coating. Includes 10 ft. rubber covered, shielded single conductor cable. Available with off-on switch (SC-11) at \$2.70 extra.



List Price  
DK-1—Code ASURV .....\$22.00

## The WR-SERIES

• The WR-Series, Multi-Unit Microphones, are highly recommended for studio, public address and high quality recording purposes. Substantially flat frequency response up to 10,000 cycles. Due to their special interior assembly design, the WR-Series Microphones are practically transparent to sound waves and cannot be acoustically overloaded. Model WR-20 may be used on cable up to 100 ft. with negligible loss of output and Model WR-40 is more than able to handle cable twice this length. Output level —56 db. Finish, bright chrome with satin chrome grille. Cable length, 15 ft. Add \$2.70 for models with off-on switch, as shown.



List Price  
WR-20—Code ASVGZ .....\$32.30  
WR-40—Code ASVAL ..... 43.25  
(Available with Off-On Switch or G-Stand)

## "CARDINAL" CRYSTAL

• A sparkling gold finish, low-cost beauty with performance comparable to high-priced units. All-purpose microphone (see accessory list). Lifts from its streamlined, dark brown plastic desk stand for hand use. Wide range response, adaptable to standard AC or DC circuits, with 10' cable. Output level approximately —52 db.



List Price  
CX —Substantially flat—(Microphone only)  
Code ASAOA .....\$9.75  
CX-1—Rising characteristics—  
Code ASAPZ ..... 9.75

## "CARDINAL" DYNAMIC

• Duplicate of Model CX in appearance, but equipped with dynamic unit.

List Price  
(Microphone only)  
CDH—(High Impedance)  
Code ASAOF .....\$24.50

## "CARDINAL" CERAMIC

• Duplicate of Model CX in appearance, but employing ceramic element, which is immune to extremes of temperature and humidity. Equipped with 5' cable. Output approximately —62 db. List Price

(Microphone only)  
CC —Substantially flat—Code ASAPU .....\$8.95  
CC-1—Rising characteristics—Code ASAPT ..... 8.95

## "CARDINAL" ACCESSORIES

• "Cardinal" plastic desk base, \$1.00; any model available with off-on switch, \$1.50 extra; hang-up hook, \$0.25; stand adapter, \$0.35.

## "VELVET VOICE" CRYSTAL

• Here is a convertible type Crystal Microphone, providing ultra-smooth, velvety soft, wide range response, that may be used as desk, hand or floor stand microphone, to meet practically every microphone need. Beautiful gold finish housing and handle; bright chrome grille; brown baked enamel, detachable base; 10' shielded cable. Output level approximately —52 db. Two models: Model 200 with smooth, even frequency response characteristics from 30 to 10,000 c.p.s.; Model 241, with similar range but rising characteristics between 1500 and 5500 c.p.s. for added brilliance in speech range.



(Without Switch) List Price  
200—Code ASUVA .....\$13.95  
241—Code ASUVC ..... 13.95  
(With Off-On Switch)  
200-S—Code ASUVB ..... 15.00  
241-S—Code ASUVD ..... 15.00

## "VELVET VOICE" DYNAMIC

• This microphone is identical with Model 200, in appearance, but is equipped with a dynamic unit. Semi-directional. Exceptionally high output level of High Impedance Model, approximately —50 db. Frequency response, 30 to 10,000 c.p.s.

(Without Switch) List Price  
VDL —(50 ohms)—Code ASANA .....\$19.95  
VDH\*—(High Impedance)—Code ASAND ..... 27.50  
\*High impedance model only available with ON-OFF switch, \$1.40 extra.

## "VELVET VOICE" CERAMIC

• Also identical in appearance with Model 200, but employing the amazing, new piezoelectric ceramic element. Recommended where high temperatures and humidity are service factors. Equipped with 5' cable. Output level approximately —62 db. Frequency response 30 to 10,000 c.p.s.

List Price  
VC —(5 Meg.)—Substantially flat—Code ASAQR .....\$13.15  
VC1—(5 Meg.)—Rising characteristics—Code ASAQP ..... 13.15

Available with On-Off switch at \$1.05 extra

## The DYNAMIC

• Three models—50 ohm impedance, high impedance or multi-impedance, the latter having a multi-impedance transformer and impedance selector switch to provide choice of 50, 200 and 500 ohms or high impedances. A semi-directional, all purpose dynamic microphone incorporating a unitary moving coil system, and carefully proportioned acoustic circuit to highly damp the natural resonance of the moving system and provide a response characteristic substantially flat from 50 to 7,000 cycles. Output level DN-HZ approximately —55 db. The "DN" design employs all features necessary for wide applicability, including Astatic's tilting-head, swivel mount, permitting semi- or non-directional positions. Opalescent gray and bright chrome finish. High- or multi-impedance models only are available with Type SC-11 Off-On Switch (as illustrated) at \$2.75 extra. 10-ft. shielded cable.



List Price  
DN-50 —(50 ohms)—Code ASVNJ .....\$21.90  
DN-HZ—(High impedance)—Code ASVNG ..... 29.50  
DN-MZ—(Multi-impedance)—Code ASVNL ..... 39.75

(All models available with G-Stand at \$13.00 extra.)

Astatic Crystal Devices manufactured under Brush Development Co. patents.

# ASTATIC

## MICROPHONES AND STANDS

### The JT-SERIES CRYSTAL & CERAMIC



• Because of their wide range of usefulness, excellent performance and low price, Astatic JT-Series Microphones are used extensively for amateur, public address and home recording. JT-Series Microphones are available in both wide and voice range models and, in addition to standard equipment, are furnished complete with concentric cable connector, convenient wood handle, interlocking metal base. Crystal model has 10' cable; ceramic, 5'. Wood handle may be removed and microphone used on floor stand. Crystal models' output level, —52 db, provides ample reserve for use with high gain amplifiers. Ceramic models' output approximately —62 db. Opalescent gray with bright chrome grille.

- |                                 |            |
|---------------------------------|------------|
|                                 | List Price |
| JT-30 —Substantially flat—      |            |
| Code ASVLG .....                | \$16.95    |
| JT-40 —Rising characteristics   |            |
| Code ASVLD .....                | 16.95      |
| *JT-30-C—Substantially flat—    |            |
| Code ASVLF .....                | 16.15      |
| *JT-40-C—Rising characteristics |            |
| Code ASVLC .....                | 16.15      |
| *Ceramic Models.                |            |

### CRYSTAL MODEL T-3

• Definitely established by long and continued popularity, Model T-3 Crystal Microphone is highly practical for many and varied applications. Its use is suggested for studio set-ups, with amateur rigs, intercommunicating systems, public address installations and for high-class recording purposes. Crystal element has special METALSEAL protection against moisture or dryness. Microphone head may be tilted with ease on unique swivel mounting and pickup pattern made semi- or non-directional, as desired. Output level —52 db. Frequency response substantially uniform from 30 to 10,000 cycles. Equipped with interchangeable plug and socket connector and 15 ft. cable. All chrome finish.



- |                                 |            |
|---------------------------------|------------|
|                                 | List Price |
| T-3 —Code ASVCX .....           | \$27.35    |
| T-3-S—Code ASVCW, with S-Switch | 30.10      |
| GT-3—Code ASUZD, with G-Stand   | 40.40      |

### CERAMIC MODEL T-3-C

• Duplicate of Model T-3 except for employment of heat and moisture-immune ceramic element. Output level —62 db with 5' cable.

- |   |            |
|---|------------|
|   | List Price |
| T-3-C —Code ASVCU .....                 | \$25.55    |
| T-3-C-S—Code ASVCT, with S Switch ..... | 28.30      |

### LAPTEL TYPE MODEL L-1

• This very small dual-diaphragm crystal microphone was developed to meet especially difficult pickup conditions. Equipment includes lapel-type spring clip and over-shoulder cord to permit wide latitude of movement. Output level —62 db. Frequency response uniform from 30 to 10,000 c.p.s. Finish, black, oxidized. Furnished with 15' cable.



- |                            |            |
|----------------------------|------------|
|                            | List Price |
| Model L-1—Code ASUSN ..... | \$27.35    |

### MODEL K-2

• Because of its smooth, undistorted reproduction and the fact that it cannot be acoustically overloaded, Astatic Model K-2 Crystal Microphone is favored and extensively used. In this model, Astatic provides a small size, dual-diaphragm type crystal microphone for studio use, recording, dance bands, public address installations and general applications where quality performance is required. With dual crystal unit design, Model K-2 has twice the capacitance of the usual crystal microphone and correspondingly longer cable lengths may be used. Standard equipment includes plug and socket connector and 15' cable. Output level —62 db. Bright chrome finish.



- |                       |            |
|-----------------------|------------|
|                       | List Price |
| K-2 —Code ASURX ..... | \$30.10    |
| K-2-S—Code ASURW,     |            |
| with S-Switch .....   | 32.85      |
| GK-2—Code ASUZA,      |            |
| with G-Stand .....    | 43.10      |

### MICROPHONE STANDS, SWITCH CONNECTORS AND ADAPTERS



MODEL	FINISH	HEIGHT	LIST PRICE
A-10—Floor	Chrome & Gray	2' to 6'	\$10.00
G—(Grip-to-Talk)	Chrome & Gray	8 1/4"	18.50
F—Desk	Chrome & Gray	8 1/4"	10.00
E-1—Desk	Chrome & Gray	5 1/2"	5.40
E-5B—Desk	Chrome & Brown	8"	5.40
E-5G—Desk	Chrome & Gray	8"	5.40
F-11—Adapter	Chrome		4.75
SC-11—Switch Connector	Chrome		6.00
E-2—Desk Stand	Chrome & Gray	2 5/8"	7.00

Astatic Crystal Devices manufactured under Brush Development Co. patents.



# ASTATIC PICKUPS

## FOR SLOW SPEED AND STANDARD 78 RPM RECORDS

### MODEL 6-D CRYSTAL TURNOVER PICKUP



● Switches from 33½ or 45 RPM records to standard 78 with turnover knob at front. Plays both types of records at only eight-gram needle pressure, thus has no extra mechanism to change pressure when knob is turned, eliminating a potential source of trouble and varying reproduction quality. Employs LQD-1 Double-Needle Cartridge. Mounts seven inches from turn-table center, die-cast curved arm finished in dark brown Hammerlin.

### MODEL 7 CRYSTAL TURNOVER PICKUPS



● Model 7-CAC-D employs revolutionary new Astatic "Twin CAC" turnover cartridge, two complete cartridge assemblies back to back on a common plate. See cartridge description, following page, for sensational performance qualities. Pickup model 7-D employs Astatic's popular "smooth response cartridge," the tiny ACD turnover. Cast aluminum arm design affords minimum tracking error and balanced groove sidewall pressure, resulting in reduced tracking distortion and longer record and needle life. Cartridge rotates in improved snap-action turnover mechanism. Light brown Hammerlin finish.

### 400 SERIES TURNOVER PICKUPS



● Transcription pickups adapted from famous Astatic Studio Master "400." Notable tracking excellence, low needle talk. Gracefully curved, cast aluminum arm in light brown Hammerlin finish. Model 400-CAC-D employs revolutionary new Astatic "Twin CAC" turnover cartridge, two complete cartridge assemblies back to back on a common plate. Model 400-D employs Astatic's popular "smooth response cartridge," the tiny ACD turnover.

### MODEL 507-L-29 PICKUP



● Bedrock price, with full professional performance standards retained. The new L-29 Crystal Cartridge employed is notable for high output, which affords excellent results in use with standard phonograph amplifiers, where other lower output cartridges are not satisfactory. Has universal, screw-type needle chuck to receive standard needles. Plays 33½, 45 or 78 RPM records simply by using proper needle. Pickup is furnished without needle. Die-cast arm finished in opalescent grey Hammerlin. New, anti-friction swivel base.

**FOR COMPLETE SPECIFICATIONS SEE CHART ON PAGE D-7**

### 510 SERIES—CRYSTAL, MAGNETIC AND CERAMIC PICKUPS



● Add Astatic's new anti-resonance swivel base, and newly developed crystal, ceramic and magnetic cartridges with special one mil or All-Groove tip, precious metal or jeweled stylus, to the popular Astatic Model 510 Pickup—and you have these new slow-speed models, the finest performers in their price class. Permanently adjusted to low needle pressures, short mounting centers make them ideal for a host of long-playing applications. Outstanding characteristics are high uniform output and low needle point impedance. Die-cast arm, finished in Hammerlin opalescent grey. Specify Model 510-CAC for unit employing tiny new CAC-J Crystal Cartridge, the closest thing to perfection for the most discriminating lover of serious music. Model 510-AC has the newest miniature Astatic crystal cartridge, the sensationallly smooth response AC Cartridge with type "A" Needle for slow speed records. For quality reproduction altogether out of proportion to low cost in a crystal unit, specify Model 510-LT-4AG, employing LT Cartridge with special All-Groove stylus tip for all record types. Model 510-MI-2-33 offers on slow speed records highest quality reproduction to please the most discriminating—troublefree and stable through continuous service—thanks to its improved type magnetic cartridge. Model 510-GC has Astatic's GC Ceramic Cartridge, immune to extremes of temperature and humidity, and provides truly splendid quality of reproduction on slow speed records with its one-mil replaceable needle.

### MODELS 400-CAC AND 400-MI-2-33 TRANSCRIPTION PICKUPS



● The famous Astatic Studio Master "400" conventional transcription arm, adapted for slow-speed transcriptions. Incorporates the improved base mounting assembly that eliminates arm resonances and assures perfect tracking, and the CAC-J Crystal Cartridge with sapphire stylus of one mil tip-radius. Impartial experts have singled out the CAC-J as the ultimate for long-playing transcription performance. Cast aluminum arm, permanently adjusted at six-gram needle pressure. Light brown Hammerlin finish. Specify Model 400-MI-2-33 for the same arm, except for employment of Astatic's Magnetic Cartridge.

### FOR SPECIAL APPLICATIONS CAC-W-J & CAC-78W-J CRYSTAL CARTRIDGES

● The CAC-W-J is the same cartridge as the CAC-J, except furnished with special terminals and fittings for quick installation in record changer tone arms with plug-in heads. The CAC-78W-J offers the same quality of reproduction installed in plug-in heads for standard 78 RPM records. Available with diamond as well as sapphire stylus tip.

#### REFER TO CARTRIDGE TABLES FOR:

ASTATIC CARTRIDGE	APPLICATION
MD Series	—Markel Record Changers (Slow speed and standard 78 RPM)
401-A	—RCA Replacement (Standard 78 RPM)
L-78	—Seeburg Record Changers (Standard 78 RPM)
PT	—Replaces Philco parts 35-2671, 35-2671-1
402-M	—Replaces Admiral 78 RPM Snap-in Cartridge—Part No. A1372
403-J	—Replaces RCA Part 70338, and 70339 and 72551 silent sapphire cartridges

### PICKUPS FOR SPECIAL APPLICATIONS

#### MODEL 9-D—TURNOVER ASSEMBLY AND "TWIN CAC" CARTRIDGE, MOUNTED IN V-M STYLE TONE ARM



● Replaces the entire tone arm—easily, quickly, with only a screwdriver—for thrilling perfection in quality of reproduction on all record types. Simple instructions with each unit. Sapphire needle on slow-speed side, osmium on 78 RPM side. For V-M Models 920, 950, 955, 970, 971, 975, 980, 985.

#### MODEL 8-D—TURNOVER ASSEMBLY AND DOUBLE-NEEDLE CARTRIDGE, MOUNTED IN WEBSTER-CHICAGO TONE-ARM



● Offers improved quality of reproduction for all record types. Installation is the easiest and speediest job of its type . . . you replace entire tone arm. No alterations to record changer . . . all you need is a screwdriver. Simple instructions with each unit. FOR WEBSTER-CHICAGO CHANGER MODELS: 246, 256, 255, 262, 264, 346, 356, 355, 362, 357, 364.

Astatic Crystal Devices manufactured under Brush Development Co. patents.

# ASTATIC CARTRIDGES FOR SLOW SPEED AND STANDARD 78 RPM RECORDS

# Astatic

KNOWN THE WORLD OVER CONNEAUT, OHIO

FOR COMPLETE SPECIFICATIONS SEE CHART ON PAGE D-7

## AC SERIES CRYSTAL AND CERAMIC CARTRIDGES



● New mechanical drive system affords new low in inertia, for extraordinary smooth response, new tracking excellence, low needle talk. Miniature size belies BIG full-throated performance. Weighs approximately five grams. Has easily replaceable Type "A" Needle with one-mil sapphire tip for slow speed records or special All-Groove tip for all record types. Models available with ceramic elements, immune to severe climates, as well as crystal. Model AC-J has correct mounting brackets to fit RCA and similar 45 RPM changers as well as other slow-speed units. AC-RJ has special brackets to fit special RCA 45 RPM changer (replaces RCA 76257 Cartridge).

## THE CAC SERIES CRYSTAL CARTRIDGES



● The tiny new unit which has won the praise of experts as the "ultimate" for slow speed records. Internally equalized to follow Columbia Records Inc. ideal frequency response for the recording characteristics of LP records. Aluminum housing with standard 1/2" mounting holes to fit most tone arms, has adapter plate to mount in RCA and similar 45 RPM changers. Uses Q-33 needle, easily replaceable without tools, and with one-mil sapphire or diamond tipped needle for slow speed records, or special All-Groove sapphire tip for all record types.

## THE GC CERAMIC CARTRIDGE



● First major stride in cartridges employing ceramic elements since Astatic pioneered in this type unit. The first with replaceable needle. Takes "Type G" needle—with either one-mil sapphire tip radius or special All-Groove tip for all record types—which slips from its rubber chuck with a quarter turn sideways. Resistance to high temperatures and humidity is not the only additional advantage. Output has been increased over that of any ceramic cartridge available. Light weight and low needle pressure make it ideal for a great variety of modern applications. Fits standard 1/2" mounting and RCA 45 RPM record changers.

## THE U-J CRYSTAL CARTRIDGE



● The record player owner slips out this cartridge in a second and slips in the U-78-J (below) when he wants to change from 33 1/2 or 45 to 78 RPM records. Replaces Philco part 45-1609, fits Columbia Model 101 player, and Astatic PL Series pickups. Gives stellar performance. Secures itself in the pickup on slip-in principle, the same as barrel and cap of some modern fountain pens. No changing of needle pressure, nothing else to be done. Five-gram needle pressure. Replaceable sapphire stylus with one-mil tip radius. The U-J replaces, and is interchangeable with, the discontinued Astatic LP-33.

## THE U-78-J CRYSTAL CARTRIDGE

● Interchangeable with U-J Cartridge (above), to play 78 RPM records. Five gram needle pressure. Has three-mil tip radius replaceable sapphire needle. The U-78-J replaces the discontinued Astatic LP-78.

## THE LT-5-AG CRYSTAL CARTRIDGE

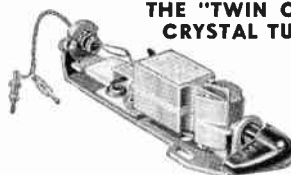
● New high compliance in a low-cost cartridge. The greatly improved tracking ability allows reduced needle pressure and subsequent extension of both record and needle life. Employs D-AG Osmium Tipped All-Groove Needle for all record types. Stamped aluminum housing.



## L-29 CRYSTAL CARTRIDGE

● High performance quality in a new, low-cost unit. Notably high output permits use with standard phonograph amplifiers, where other cartridges prove unsatisfactory. Universal screw type needle chuck receives any standard needle for microgroove or standard groove records. Stylus not furnished.

## THE "TWIN CAC" MODEL CAC-D-J CRYSTAL TURNOVER CARTRIDGE



● The first major advancement in turnover cartridges. Unlimited in reproduction clarity, fidelity and brilliance of tone. It is equal to the finest in single-needle types, the Astatic CAC-J, and surpasses all others. Revolutionary new design principle combines two complete CAC cartridge assemblies, back to back, on a common plate. Output and response characteristics of each side established independently of the other and, thus, for the first time, ideal for each side: 0.8 volt at 1 kc. on Audiotone 78-1 test record and 0.7 volt on RCA 12-5-31-V test record. Frequency range, 30 to 11,000 cycles. Needles independent of each other, free of interaction. Needle pressure, 10 grams. Unique but simple switching device in turnover mechanism connects only the cartridge or side being used to amplifier phonograph input. Furnished complete with turnover bracket and knob assembly, with standard 1/2" mounting holes. Wiring terminating in pin connectors, graduated for two dimensions now standard on lead wire connectors. Easily installed without soldering. Equipped with Type Q (3-mil) and Type Q-33 (1-mil) sapphire tipped needles.

## THE ACD-J DOUBLE-NEEDLE CRYSTAL AND CERAMIC CARTRIDGES



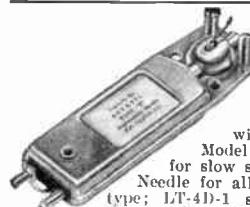
● Newest Astatic double-needle, turnover cartridge — featuring smooth response, tiny size and light weight. Extraordinary performance made possible by a mechanical drive system with a new low in inertia. Total weight approximately 5 grams. Easily replaceable Type "A" Needles. Model ACD-1J replacement cartridge for ACD-2J assembly. Model ACD-2J complete with turnover assembly and knob, as illustrated. All are available with ceramic instead of crystal elements, for immunity to extremes of climate. (See table for details.)

## THE LQD DOUBLE-NEEDLE CRYSTAL CARTRIDGE



● The LQD Cartridge — for 45, 33 1/2 and 78 RPM Records — quickly became the first choice of many of the nation's largest users, on the basis of comparative listening tests, and is, today, the PROVIDED TOP PERFORMER for turnover type pickups. Outstanding for excellence of frequency response, particularly at low frequencies. A gentle pry with pen-knife removes ONE "Q" needle for replacement... without disturbing the other needle, without removing cartridge from tone arm. Gentle pressure snaps new needle into place. Stamped aluminum housing. Model LQD-1J, illustrated, complete with needle guards and spindle for turnover knob. Model LQD-1JB complete with entire turnover assembly and knob.

## THE LT-4 DOUBLE AND SINGLE-NEEDLE CRYSTAL CARTRIDGES



● New high output, low-cost cartridge with Type "D" precious metal needles. Model LT-4M, illustrated, with single needle for slow speed records; LT-4-AG with All-Groove Needle for all records; LT-4D double-needle turnover type; LT-4D-1 same as LT-4D except equipped with needle guards and spindle for turnover knob. Stamped aluminum housing.

## MI-2J-33 MAGNETIC CARTRIDGE



● Peak fidelity of reproduction that LASTS, even under the most consistent service or adverse climatic conditions. Troublesome, costly armature balancing problems eliminated. Mumetal housing provides increased shielding effect for maximum reduction of hum. Fixed needle with one-mil sapphire stylus tip.



**ASTATIC**

**SLOW SPEED PICKUPS  
AND CARTRIDGES  
SPECIFICATIONS**

**PICKUPS FOR SLOW-SPEED AND STANDARD 78 RPM RECORDS**

Model	List Price	Finish	Cartridge Used*	Element Type	Stylus	For Record		Cable Length**	Shipping Weight	Code
						Size	Speed			
6-D	\$15.90	Dark Brown Hammerlin	LQD-1	Crystal	Precious Metal† Sapphire†	7-10-12"	All	13"	2 lbs.	ASXHU
7-CAC-D	16.40	Light Brown Hammerlin	CAC-D-J	Crystal	Precious Metal† Sapphire†	7-10-12"		13"	2 lbs.	ASXHT
7-D	15.90	Dark Brown Hammerlin	ACD	Crystal	Precious Metal† Sapphire†	7-10-12"	All	13"	12 ozs.	ASXHV
8-D	11.50	Brown Plastic	(Special for Webster-Chicago Record Changers)			7-10-12"		2"	12 ozs.	ASXHW
9-D	11.50	Brown Plastic	CAC-D-J	(Special for V.M Record Changers)		7-10-12"	2"	12 ozs.	ASXHX	
400-CAC-D	25.50		CAC-D-J	Crystal	Precious Metal† Sapphire†	10-12-16"	All	24"	1 lb. 8 ozs.	ASBCU
400-D	25.00	Light Brown Hammerlin	ACD-2	Crystal	Precious Metal† Sapphire†	10-12-16"		24"	1 lb. 8 ozs.	ASDCN
510-CAC	10.75	Opalescent Grey Hammerlin	CAC-J	Crystal	Sapphire	7-10-12"	Slow	13"	1 lb. 2 ozs.	ASAXD
510-MI-2-33	9.35		MI-2J-33	Magnetic	Sapphire			13"	1 lb. 2 ozs.	ASAYQ
510-GC	8.75		GC-J	Ceramic	Sapphire			13"	1 lb. 2 ozs.	ASAYR
510-AC	10.75		AC-J	Crystal	Sapphire			13"	1 lb. 2 ozs.	ASAYS
510-LT-4AG	8.35	Dark Brown Hammerlin	LT-4AG	Crystal	Precious Metal	7-10-12"	All	13"	1 lb. 2 ozs.	ASWTW
507-L-29	8.00	Opalescent Grey Hammerlin	L-29	Crystal	Not included	7-10-12"	All	13"	1 lb. 2 ozs.	ASWTT
400-CAC	25.00	Opalescent Grey Hammerlin	CAC-J	Crystal	Sapphire	10-12-16"	Slow	24"	1 lb. 8 ozs.	ASBCT
400-MI-2-33	23.60		MI-2J-33	Magnetic	Sapphire			24"	1 lb. 8 ozs.	ASBCM

†Precious metal stylus tip on 3-mil 78 RPM side. Sapphire stylus tip on 1-mil 45 and 33-1/3 RPM side.

\*FOR PERFORMANCE DATA SEE CARTRIDGE CHART

\*\*Super-Flexible, Single Conductor, Shielded

**CARTRIDGES FOR SLOW-SPEED AND STANDARD 78 RPM RECORDS**

Model	Element Type	List Price	Minimum Needle Pressure	Output Voltage 1000 c.p.s. 1.0 Meg. Load	Frequency Range c.p.s.	Needle Type*	For Record	Approx. Net Wt. in Grams	Code		
CAC-J	Crystal	\$7.50**	6 gr.	1.0†	30-11,000	Q-33 (J)	33-1/3 and 45 RPM	5	ASWZZ		
CAC-W-J	Crystal	7.50**	(Same as CAC-J except equipped with special terminals and fittings for easy installation in record changer tone arms with plug-in heads.)							5	ASWYB
CAC-AG-J	Crystal	7.50	10 gr.	1.35†	30-11,000	Q-AG (J)**	33-1/3, 45 and 78 RPM	5	ASWZX		
AC-J	Crystal	8.90	5 gr.	1.0†	50-10,000	A-1 (J)	33-1/3 and 45 RPM	5	ASWYJ		
AC-R-J	Crystal	8.90	(Same as AC-J except equipped with special mounting bracket with .456" mounting hole centers.) Replacement for RCA Part 76257.							5	ASWYO
AC-C-J	Ceramic	8.90	5 gr.	0.4†	50-6,000	A-1 (J)	33-1/3 and 45 RPM	5	ASWTN		
AC-AG-J	Crystal	8.90	6 gr.	1.0†	50-10,000	A-AG (J)**	33-1/3, 45 and 78 RPM	5	ASWYH		
AC-C-AG-J	Ceramic	8.90	6 gr.	0.4†	50-6,000	A-AG (J)**	33-1/3, 45 and 78 RPM	5	ASWTL		
U-J	Crystal	8.90	5 gr.	0.5†	30-10,000	U (J)	33-1/3 and 45 RPM	4	ASXAT		
GC-J	Ceramic	7.40	6 gr.	0.55†	50-10,000	G (J)	33-1/3 and 45 RPM	5	ASWZK		
GC-AG-J	Ceramic	7.40	8 gr.	0.7†	50-10,000	G-AG (J)**	33-1/3, 45 and 78 RPM	5	ASWZM		
MI-2J-33	Magnetic	7.50	6 gr.	0.028†	50-12,000	Fixed (J)	33-1/3 and 45 RPM	22	ASALW		
LT-4AG	Crystal	7.00	8 gr.	2.0†	50-5,000	D-AG (M)**	33-1/3, 45 and 78 RPM	8	ASXBX		
LT-4M	Crystal	7.00	6 gr.	1.9†	50-5,000	D-33 (M)	33-1/3 and 45 RPM	8	ASXKB		
LT-5-AG	Crystal	7.40	8 gr.	1.4†	50-4,500	D-AG (M)	33-1/3, 45 and 78 RPM	8	ASXDD		
L-29	Crystal	6.00	10 gr.	3.0†	50-5,000	Not included	33-1/3, 45 and 78 RPM	8	ASWTS		
<b>DOUBLE NEEDLE TURN-OVER MODELS:</b> 1 mil tip needle for LP 33-1/3 and 45 RPM records. 3 mil tip needle for standard 78 RPM records.											
ACD-J	Crystal	9.50	6 gr.	1.0† 1.0††	50-6,000	A-1 (J) A-3 (J)	(Dual Needle) 33-1/3, 45 and 78 RPM	5	ASWYL		
ACD-C-J	Ceramic	9.50	6 gr.	0.4† 0.4††	50-5,000	A-1 (J) A-3 (J)	(Dual Needle) 33-1/3, 45 and 78 RPM	5	ASWTK		
ACD-IJ	Crystal	9.50	(Same as ACD-J except equipped with spindle for turnover knob. Replacement cartridge for ACD-2J assembly.)							7	ASWYF
ACD-C-IJ	Ceramic	9.50	(Same as ACD-C-J except equipped with spindle for turnover knob. Replacement cartridge for ACD-C-2J assembly.)							7	ASWTJ
ACD-2J	Crystal	10.00	(Same as ACD-J except equipped with turnover bracket and knob.)							16	ASWYE
ACD-C-2J	Ceramic	10.00	(Same as ACD-C-J except equipped with complete assembly turnover and knob.)							16	ASWTI
CAC-D-J	Crystal	10.50	10 gr.	0.7† 0.8††	30-11,000	Q-33 (J) Q (J)	33-1/3, 45 and 78 RPM	28	ASXDJ		
LQD-J	Crystal	9.50	8 gr.	1.0† 1.0††	50-7000 Roll-off at 3,500	Q-33 (J) Q (J)	(Dual Needle) 33-1/3, 45 and 78 RPM	8	ASXAL		
LQD-IJ	Crystal	9.50	(Same as LQD-J except equipped with needle guards and spindle for turnover knob.)							9	ASXAM
LQD-IJB	Crystal	10.00	(Same as LQD-J except equipped with complete turnover assembly and knob.)							22	ASWYR
LT-4D	Crystal	8.50	8 gr.	2.0† 2.0††	50-7,000	D (M) D-33 (M)	(Dual Needle) 33-1/3, 45 and 78 RPM	10	ASXAJ		
LT4D-1	Crystal	8.50	(Same as LT-4D except equipped with spindle for turnover knob.)							11	ASWZW

\*\*J" stands for Sapphire Tip, "M" for Precious Metal Tip.

\*\*ALL-GROOVE needle tip of special design and size to play 33-1/3, 45 and 78 RPM Records.

\*\*\*With Diamond Stylus at \$31.00.

†RCA 12-5-31-V Test Record or Equivalent.

††Audio-tone 78-1 Test Record.

**NOTE: ALL ASTATIC CARTRIDGES ARE NOW SHIPPED IN RUGGED, TRANSPARENT PLASTIC BOXES.**



**ASTATIC**

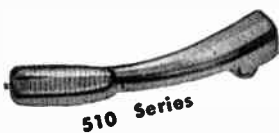
**STANDARD 78 RPM PICKUPS  
AND ACCESSORIES,  
RECORDING HEADS**

*Astatic*

KNOWN THE WORLD OVER CONNEAUT, OHIO

**NOTICE**

Pickup Models 510-MI-2 and 400-MI-2 are magnetic type units employing Astatic's revolutionary Magnetic Cartridge. Two Equalizer-Amplifier Models, for use in conjunction with these pickups, are shown below.



510 Series



400 Series



507

**PICKUPS FOR STANDARD 78 RPM RECORDS**

Model	List Price	Finish	Cartridge Used*	Element Type	Stylus	For Record		Cable Length**	Shipping Weight	Code	
						Size	Speed				
510-QT	9.75	Smooth	QT3-J	Crystal	Sapphire	10 · 12"	78 RPM	13"	1 lb. 2 oz.	ASAYL	
510-L-72	7.50	Light Brown	L-72-A	Crystal	Optional	10 · 12"		13"		1 lb. 2 oz.	ASAYK
510-MI-2	8.35	Enamel	MI-2J	Magnetic	Sapphire	10 · 12"		13"		1 lb. 2 oz.	ASALH
507-L-82	6.50	Smooth Light	L-82-A	Crystal	Optional	10 · 12"	78 RPM	13"	1 lb. 2 oz.	ASAYG	
507-L-40	5.50	Brown Enamel	L-40-A	Crystal	Optional	10 · 12"	78 RPM	13"	1 lb. 2 oz.	ASAYH	
400-QT	25.00	Light Brown Hammerlin	QT3-J	Crystal	Sapphire	All Lateral Transcriptions	78 RPM	24"	1 lb. 8 oz.	ASBCH	
400-QT-M	24.50		QT3-M	Crystal	Precious Metal			24"	1 lb. 8 oz.	ASBCI	
400-LT-M	23.10		LT1-M	Crystal	Precious Metal			24"	1 lb. 8 oz.	ASBCJ	
400-MI-2	23.60		MI-2J	Magnetic	Sapphire			24"	1 lb. 8 oz.	ASALF	

\*FOR PERFORMANCE DATA SEE CARTRIDGE CHART.

\*\*Super-flexible, Single Conductor, Shielded.

**EA-1 AND EA-2  
EQUALIZER  
AMPLIFIERS**



EA-1



EA-2

• The Model EA-1 is a compact unit designed for installation in radio sets and audio amplifiers, and provides the necessary equalization and preamplification to adapt the MI-2J-33 and MI-2 Cartridges to standard phonograph input circuits. Provides "bass-boost." The Model EA-2, self-powered, provides adjustable "bass-boost," adjustable treble "roll-off," and selection of "turn-over frequency."

	Code	List Price
EA-1	ASAMP	\$ 9.90
EA-2	ASAMO	39.50

**E4P TONE EQUALIZER**



• Model E4P is an adjustable tone compensation network for use between crystal pickup and amplifier. Recommended for use with all crystal pickups. Complete instructions supplied.

E4P—Code ASVHD.....List Price \$3.30

**RECORDING HEADS**



MODELS X-26 and X-29A

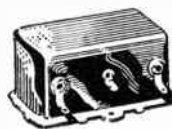
MODEL M-41

Model	Type	Maximum Recording Voltage	Useful Upper Limit	Finish	Dimensions	Net Weight	Code	List Price
X-26	Crystal	150 V. RMS	6,000 c.p.s.	Dark Brown Enamel	1 3/4" x 3/4" x 3 1/4"	5 1/2 oz.	ASXMI	\$12.80
X-29A	Crystal	150 V. RMS	9,000 c.p.s.		1 3/4" x 3/4" x 3 1/4"	5 1/2 oz.	ASXMH	12.80
M-41B (5 Ohms)	Magnetic	3 V. RMS	7,000 c.p.s.	Enamel	1 3/4" x 1 1/4" x 3 3/4"	3 1/2 oz.	ASXMF	12.80
M-41-500 (500 ohms)	Magnetic	30 V. RMS	7,000 c.p.s.		1 3/4" x 1 1/4" x 3 3/4"	3 1/2 oz.	ASXME	12.80

**THE FT FILTER-TRANSFORMER**

• For broadcast station use with "FLC" and "FLT" Series Pickups, to filter and match high impedance output of pickup to low impedance mixer circuits. Has output impedances of 37.5, 150 and 250 ohms. Code ASXMR .....List Price \$28.50

**THE FL FILTER**



• For best performance with highest quality speakers, the FL Filter is recommended as an accessory unit with "FLC" and "FLT" Series Pickups. Controls high frequency response. Code ASXMS .....List Price \$6.90

Astatic Crystal Devices manufactured under Brush Development Co. patents.



## CARTRIDGES FOR 78 RPM RECORDS

Model No.	Element Type	List Price	Minimum Needle Pressure	Output Voltage 1000 c.p.s. 1.0 Meg. Load	Frequency Range c.p.s.	Needle Type*	Approx. Net Wt. in Grams	Code	
<b>TYPE "CAC"</b>									
CAC-78-J	Crystal	\$ 7.50***	10 gr.	1.35†	30 to 11,000	Q (J)	5	ASWZY	
CAC-78-W-J	Crystal	7.50***	(Same as CAC-78-J except equipped with special terminals and fittings for easy installation in record changer tone arms with plug-in heads.)						ASWYA
<b>TYPE "AC"</b>									
AC-78-J	Crystal	8.90	6 gr.	1.0†	50 to 10,000	A-3 (J)	5	ASWYN	
AC-C-78-J	Ceramic	8.90	6 gr.	0.4†	50 to 6000	A-3 (J)	5	ASWTM	
<b>TYPE "MI"</b>									
MI-2J	Magnetic	7.50	¾ oz.	0.1††	50 to 12,000	Fixed (J)	22	ASALX	
<b>TYPE "L" SERIES</b>									
L-26A	Crystal	4.45	2¾ oz.	1.4†	50 to 4500	Optional	30	ASWVZ	
L-40A	Crystal	4.45	1¼ oz.	0.6†	50 to 4500	Optional	30	ASWUA	
<b>TYPE "M"</b>									
M-22	Crystal	5.55	2¾ oz.	2.9†	50 to 6500	Optional	21	ASWJM	
<b>TYPE "B" SERIES</b>									
B-2	Crystal	5.55	2¾ oz.	2.5†	50 to 4000	Optional	26	ASWHJ	
B-4	Crystal	5.55	2¾ oz.	2.5†	50 to 4000	Optional	26	ASWHH	
<b>NEW TYPE "L" SERIES</b>									
L-12	Crystal	4.45	1 oz.	4.0†	50 to 5000	Optional	19	ASWSG	
L-12-U	Crystal	4.95	1 oz.	1.25† or 4.0	50 to 5000	Optional	19	ASWSF	
L-70A	Crystal	5.55	1¼ oz.	1.0†	50 to 4000	Optional	28	ASWVT	
L-71A	Crystal	6.65	1 oz.	1.0†	50 to 8000	Optional	28	ASWVP	
L-72A	Crystal	6.65	1¼ oz.	3.5†	50 to 4000	Optional	28	ASWVL	
L-82A	Crystal	5.55	1½ oz.	3.5†	50 to 5000	Optional	28	ASWSJ	
L-92A	Crystal	6.00	1 oz.	2.25†	50 to 7000	Optional	19	ASWTR	
<b>TYPE "LT" SERIES</b>									
LT1-M	Crystal	7.00	¾ oz.	1.0†	50 to 10,000**	T (M)	28	ASKAA	
LT2-M	Crystal	7.00	¾ oz.	1.0†	50 to 10,000**	T (M)	20	ASKAC	
LT3-M	Crystal	7.00	¾ oz.	1.0†	50 to 10,000**	T (M)	11	ASKAE	
LT4-78	Crystal	7.00	10 gr.	2.0†	50 to 5000	D (M)	8	ASWYW	
<b>TYPE "QT" ... NOTE:</b> Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 5,000 c.p.s.									
QT3-J	Crystal	8.90	1 oz.	0.85†	50 to 10,000	Q (J)	23	ASXBN	
QT3-M	Crystal	8.40	1 oz.	0.85†	50 to 10,000	Q (M)	23	ASXBL	
<b>TYPE "GC"</b>									
GC-78-J	Ceramic	7.40	12 gr.	0.7†	50 to 10,000	G-78 (J)	5	ASWZI	
<b>TYPE "U"</b>									
U-78-J	Crystal	8.90	5 gr.	0.5†	30 to 10,000	U-78 (J)	4	ASWZG	
<b>"P. N." TYPES</b>									
L-74A	PN Crystal	10.00	1½ oz.	1.4†	50 to 4000	Optional	28	ASWVD	
L-78	PN Crystal	11.15	(Special P.N. Crystal Cartridge for Seeburg Record Changers)						28 ASWVO

### SPECIAL PURPOSE TYPES

Model	Element Type	List Price	Minimum Needle Pressure	Output Voltage	Frequency Range c.p.s.	Needle Type	Application	Approx. Net Wt. in Grams	Code	
PT	Crystal	\$ 5.00	1 oz.	1.4†	50 to 10,000	Not Included	Replacement for Philco Parts—35-2671, 35-2671-1	27	ASWTB	
401-A	Crystal	4.45	2¾ oz.	1.4†	50 to 4500	Optional	Replacement for RCA	27	ASWTA	
402-M	Ceramic	6.90	12 gr.	0.7†	50-10,000	G-78 (M)	Replacement for Admiral 78 RPM Snap-in Cartridge—Part No. A1372.	8	ASWZN	
403-J	Crystal	7.50	Special replacement kit consisting of CAC-78-J Cartridge with necessary adapter plate and screws to replace RCA Part 70338, 70339 and 72551 silent sapphire cartridges.							ASWUZ
<b>DOUBLE-NEEDLE MODELS</b>										
MD-5J	Crystal	10.90				M-5 (J) Set	Special for Market Record Changer—for 33-1/3 and 45 RPM	15	ASWWA	
MD-6J	Crystal	10.90				M-6 (J) Set	Special for Market Record Changer for 78 RPM	21	ASWWG	

NOTE: Cartridge types B, QT and LT also available with PN Crystal upon request.

\*\*"J" stands for Sapphire Tip, "M" for Precious Metal Tip. †Columbia 10,004 Test Record. †Audio-tone 78-1 Test Record.  
 \*\*\*Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 4,000 c.p.s.  
 \*\*\*With Diamond Stylus at \$31.00.

## REPLACEMENT NEEDLES

Type	LIST PRICE		Tip Size	For Cartridge Types
	Sapphire (J)	Omium (M)		
A-1	\$1.50	\$1.00	1-mil	AC, ACD Series
A-3	1.50	1.00	3-mil	AC-78, ACD Series
A-AG	1.50	1.00	AC*	AC-AG
C-1	1.50	1.00	1-mil	MD-1
C-3	1.50	1.00	3-mil	MD-3
D	None	1.00	3-mil	LT-3D, LT-4D, MD
D-33	None	1.00	1-mil	LT-3D, LT-4, LT-4D
D-AG	None	1.00	AG*	LT-4-AG, LT-5-AG
C	1.50	1.00	3-mil	CC Series
G-78	1.50	1.00	3-mil	GC-78 Series, 402-M
G-AG	1.50	1.00	AG*	GC-AG

Type	LIST PRICE			Tip Size	For Cartridge Types
	Diamond (X)	Sapphire (J)	Omium (M)		
Nylon		1.50	1.00	3-mil	Nylon Series
Q	\$25.00	1.50	1.00	3-mil	CAC-78, CAC-D, LQD and QT Series
Q-33	25.00	1.50	1.00	1-mil	CAC, CAC-D, CQ, LQD and QT-33 Series
Q-AG		1.50	1.00	AG*	CQ-AG, CAC-AG
T		None	1.00	3-mil	LT1-M, LT2-M, LT3-M
T-33		None	1.00	1-mil	LT-33
U		1.50	1.00	1-mil	U Series
U-78		1.50	1.00	3-mil	U-78 Series
M5**		3.25	2.25	1-mil	MD-5
M6**		3.25	2.25	3-mil	MD-6

\*ALL-GROOVE Needle Tip of Special Design and Size to Play 33-1/3, 45 and 78 RPM Records.

\*\*Card of two matched needles, one with reversed rake angle for special Market Record Player requirements.

Astatic Crystal Devices manufactured under Brush Development Co. patents.

# SHURE

# CRYSTAL AND CARBON MICROPHONES

## "MONOPLEX" SUPER-CARDIOID CRYSTAL



MODEL 737A

A high-output, unidirectional microphone that ranks far above ordinary crystal microphones. The Super-Cardioid "Monoplex" is TWICE AS UNIDIRECTIONAL AS THE CARDIOID. It has a 14 to 1 front to rear pickup ratio and REDUCES PICKUP OF RANDOM SOUND BY 73%! The "Monoplex" employs the same type of acoustic phase-shifting network used in the

Shure Broadcast microphones. New moisture-proofed "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. The "Monoplex" is excellent for high-quality public address, communications, recording and similar applications. Operates under adverse conditions of background noise and reverberation where a conventional microphone would be practically useless. Built-in cable connector. Standard  $\frac{5}{8}$ "—27 thread. Height 4". Width  $3\frac{3}{8}$ ". Thickness  $1\frac{7}{8}$ ". Shipping weight  $2\frac{1}{4}$  lbs. Rich satin chrome finish.

MODEL	CABLE	OUTPUT	IMPED.	LIST PRICE
737A	15 ft.	54.0 db below 1 volt per microbar	High Impedance	\$39.75

Microbar=one dyne per sq. cm.

Code: RUMON

### 707A CRYSTAL



MODEL 707A

Good-quality performance at low cost. Has good response characteristics, is free from peaks, has typical semi-directional pickup. Uses moisture-proof Bimorph Crystal. Ideal for low-cost P. A. systems, call systems, amateur phone transmitters and similar applications.

Pearl Gray case with rich satin chrome finish on front grille. The case is a heavy die casting. Standard  $\frac{5}{8}$ "—27 thread. Diameter  $2\frac{3}{8}$ ". Shipping weight  $2\frac{1}{4}$  pounds. High impedance.

Code: 707A—RUDOF

### THE "REX"



710 SERIES

Its extremely low price makes this striking hand-held microphone a natural for fairs, low-cost public address systems, and as a replacement for home recording microphones. A rugged unit designed for high speech intelligibility. The "Rex" saves further costs, as it needs no desk stand! Has a broad base, sits firmly on a table top without tipping over. Frequency response 60 to 9000 c.p.s. 5' shielded cable. Beautiful Burgundy-red metallic finish. Die-cast case complete with stand adapter.  $2\frac{2}{8}$ " wide,  $3\frac{1}{4}$ " high,  $1\frac{1}{8}$ " thick. High impedance.

Code: 710A—RUDEL  
710S—RUDET

### STRATO-LINER



MODEL 708A

An expensive-looking microphone at moderate cost. Wide-range response (free from undesirable peaks) for good reproduction of either voice or music. Placed horizontally, the 708A is semi-directional; used vertically it becomes non-directional. Bimorph Crystal. A swivel permits 90° tilting of the microphone. Case dimensions: diameter  $2\frac{1}{2}$ ", length  $4\text{--}7\frac{1}{16}$ ". Standard thread  $\frac{5}{8}$ "—27. Shipping weight  $2\frac{1}{2}$  lbs. Frequency response is 60-8000 c.p.s. Pearl Gray finish. High impedance.

Code: 708A—RUDUM

MODEL	OUTPUT	CABLE	LIST PRICE
707A	51.0 db below 1 volt per microbar	7 ft.	\$15.50

Microbar = one dyne per sq. cm.

MODEL	OUTPUT LEVEL	SHPG. WT.	LIST PRICE
710A—5'	50 db below 1 volt per microbar	$1\frac{1}{4}$ lb.	\$10.95
710S—5' (with switch)	50 db below 1 volt per microbar	$1\frac{1}{2}$ lb.	\$12.95

Microbar = 1 dyne per sq. cm.

MODEL	OUTPUT LEVEL	CABLE	LIST PRICE
708-A	51.0 db below one volt per microbar	7 ft.	\$27.50

Microbar = one dyne per sq. cm.

## LAPEL MICROPHONE



MODEL 76B

Designed for Public Address, lecturing, portable transmitters, and all general uses for intelligible reproduction of speech. Pressure-actuated diaphragm-type crystal microphone. Graphoil Bimorph crystal, moisture-sealed. Microphone is inconspicuous, weighs only  $1\frac{1}{2}$  ounces. Response from 40 to 6,000 c.p.s. High frequency response accentuated for maximum intelligibility.  $1\frac{7}{8}$ " diameter. Gray finish. Lapel clip. 20-foot shielded single-conductor cable. Shipping weight 1 pound. Output level: 57 db below 1 volt per bar. Code RULOP. List Price \$27.00.

## MODEL "100" SERIES CARBON MICROPHONE

A high-quality, carbon microphone specially designed for mobile equipment. Rugged, dependable unit with clear, crisp voice response and high output. Fits snugly into palm of hand. Heavy duty switch for push-to-talk performance. Furnished with hook for suspension and bracket for wall mounting, plus coiled-cord cable. Adopted as standard microphone by leading manufacturers of police transmitters. Output level: 5 db below 1 volt for 100 microbar speech signal. Net weight 14 oz. Shipping weight  $1\frac{1}{4}$  pound. Case dimensions:  $3\frac{3}{4}$ " high,  $1\frac{3}{4}$ " deep,  $2\frac{3}{4}$ " wide. 70 to 80 ohms impedance.



MODEL	SWITCH ARRANGEMENT	CABLE	CODE	LIST PRICE
101C	Two Wire Relay Switch normally open (No microphone switch).	Coiled Cord 11' retracted 5' extended	RUCEG	\$27.50
102C	Relay normally open. Microphone switch normally open.	Coiled Cord 11' retracted 5' extended	RUCEM	\$27.50

Microbar = one dyne per sq. cm.

MODEL C15C Coiled Cord with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.

MODEL: C15C Code: RUCOR List Price. \$6.75

# MULTI-IMPEDANCE DYNAMIC MICROPHONES

**SHURE**

## NEW "SMALL UNIDYNES"



**MODEL "556S"**  
(For Broadcast)

The "Small Unidynes" are the only small sized uni-directional moving coil dynamic microphones. They are completely new microphones with improved performance, yet retaining all of the highly desirable features of the world famous original "Unidynes." The internal unit, based on the Shure-patented "Uniphase" principle, has been designed for high overall efficiency and extended peak-free frequency response. Rugged coil construction also provides greater immunity of the moving coil system to abnormal atmospheric conditions and mechanical shock.

Model "55S" and Model "556S" are considerably smaller than the original Model "55" and Model "556" and are ideal for installations where it is desirable to keep the microphone size to a minimum and still retain operating efficiency.

The "Small Unidynes" are "Perfect Performers"—ideal for high quality public address, theatre-stage sound systems, recording and remote broadcasting. Because of the unusual ruggedness and reliability, Model "55S" is also recommended for fixed station use in the Police, Fire and Transportation services. For studio broadcasting and television use and similar applications where the utmost in quality is desired, Model "556S" is recommended. "Small Unidynes" reduce reflection and reverberation, decrease random noise energy pickup by approximately 67%, allow performer to stand at a distance from the microphone 75% greater than is possible with non-directional (omnidirectional) microphones, have smooth response from 40-15,000 c.p.s. at front—dead at rear. Standard 5/8"—27 thread. Both are supplied with a 20 foot, high-quality cable and plug assembly. Model "556S" features a Cannon connector, and it also has a special newly designed shock isolation unit of live rubber construction.

Dimensions for both units: case 3 5/16" high; 2 3/16" wide, 3 3/16" deep.  
Shipping weight: "55S" 3 3/4 pounds; "556S" 4 1/4 pounds.



**MODEL "55S"**  
(For General Purpose)

Multi-Impedance Switch on Models  
"55S", "556S", "51"

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59.4 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60.1 db below 1 Milliwatt per 10 microbar signal
H—High	60.5 db below 1 volt per microbar



MODEL	CABLE	CODE	LIST PRICE
556S	20 ft.	RUDOV	\$100.00
55S	20 ft.	RUDOT	\$ 72.50

## "SONODYNE" HIGH-OUTPUT DYNAMIC



**MODEL "51"**

A rugged pressure-type dynamic microphone with wide range frequency response and semi-directional pickup characteristics. Features a multi-impedance switch for low, medium or high impedance. Operates on the principle of a moving coil element in a magnetic field. Has built-in receptacle and a two-conductor shielded cable with microphone plug attached.

The rich satin chrome case is functionally designed for improved acoustical performance and modern appearance. Frequency response 60-10,000 c.p.s. The "Sonodyne" is ideal for all general-purpose use including public address, wire and tape recording, communications and similar applications. Code: RUSON.

IMPEDANCE TABLE		OUTPUT LEVEL	
L—35-50 ohms		53.0 db below 1 Milliwatt for 10 Microbar signal	
M—150-250 ohms		52.5 db below 1 Milliwatt for 10 Microbar signal	
H—High Impedance		52.0 db below 1 volt per Microbar	
MODEL	CABLE	SHPG. WEIGHT	LIST PRICE
51	15 ft.	3 1/2 lbs.	\$45.00

Microbar=one dyne per sq. cm.

# CONTROLLED RELUCTANCE MICROPHONES

AND RECORDING HEADS

**SHURE**

## THE "HERCULES"



510 SERIES

The "Hercules" is a hand-held magnetic unit. Provides the ruggedness, clear reproduction, and high output long needed for Public Address, Communications, and Recording—AT AN AMAZINGLY LOW PRICE! Recommended for Announcing and Mobile Public Address Systems; Communications; Home Recording; high quality Inter-Communication. Ideal for general-purpose use in tropical countries and all coastal areas where humidity is a problem.

The output voltage is induced in a coil of wire by causing a sound wave to modulate the reluctance of the magnetic circuit. By the control of this reluctance the utmost in quality and stability is achieved. High impedance is obtained without the use of a transformer. The "Hercules" can be used either Indoors or Outdoors. Fits snugly in the hand, sits firmly on a desk. Frequency response is 100 to 7,000 c.p.s. Furnished with 5' shielded cable. Green metallic finish. Die-cast case. Complete with stand adapter. 2 3/8" wide, 3 1/4" high, 1 1/2" thick.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
510C	5 ft.	52.5 db below 1 volt per microbar	High	1 1/2 lb.	RUTUF	\$15.00
510S (with switch)	5 ft.	52.5 db below 1 volt per microbar	High	1 3/4 lb.	RUTUS	\$17.00

Microbar = one dyne per sq. cm.

## THE "GREEN BULLET"



MODEL 520

The "Green Bullet" is a magnetic unit, especially designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. The "Green Bullet" has a stability assured by unique control of the reluctance of the magnetic system. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7,000 c.p.s. Furnished with 7' single-conductor shielded cable.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
520	7 ft.	52.5 db below 1 volt per microbar	HIGH	1 1/2 lbs.	RUDAL	\$17.50

Microbar = 1 dyne per sq. cm.

## THE "DISPATCHER"



MODEL 520SL

This new Controlled Reluctance unit is designed to handle the most severe field requirements of paging and dispatching systems. The unit is supplied with 3-conductor shielded cable, and is wired to operate both microphone and relay circuits. The "Dispatcher" is ideal for police, taxi-cab, railroad, airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact. Firm downward pressure on grip-bar locks switch. NOTE: THE UNIT CAN BE PICKED UP WITHOUT ACTUATING THE MICROPHONE.

MODEL	OUTPUT	IMPED.	CODE	LIST PRICE
520SL-7'	52.5 db below 1 volt per microbar	HIGH	RUDAN	\$35.00

Microbar = 1 dyne per sq. cm.

## THE "RANGER"

The new Shure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, hams, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Furnished with 5' three-conductor shielded cable. Frequency response is 100 to 9,000 c.p.s.



505 SERIES

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
505B	5 ft.	47.0 db below 1 milliwatt per 10 microbar signal	150-250 ohms	1 1/4 lb.	RUDAY	\$27.50
505C	5 ft.	50.5 db below 1 volt per microbar	High	1 1/4 lb.	RUDAX	\$27.50

Microbar = 1 dyne per sq. cm.

## TAPE RECORDING HEAD

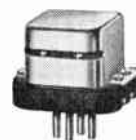
The Shure Tape Recording Head is a high quality, precision-engineered unit incorporating recording, reproducing, and erasing in one head. Suitable for all types of tape recording: professional, semi-professional, experimental, technical, and amateur use. Records on half width of tape—for double-track recording.



TAPE MODEL 815

Model: 815 Code: RUWAT List Price: \$15.00

## WIRE RECORDING HEAD



WIRE MODEL 812

The Shure magnetic Wire Recording Head is a high quality recording unit with recording, play-back, and signal erasure in one small unit. Has standard 4-prong adapter base. The Model "812" is a direct replacement unit for the improved Sears-Roebuck Wire Recorder.

Model: 812 Code: RUWIR List Price: \$15.00

## PHONOGRAPH PICKUPS

Like the popular Shure Cartridges, each Shure Phonograph Pickup has been designed to meet specific requirements. There is at least one model for each type of reproduction desired—standard (78 RPM), fine-groove (33½ and 45 RPM), or single-needle "All Purpose" and dual-needle "Turnover" for playing all types of records. Each tone arm is scientifically curved and balanced for faithful tracking, and designed to emphasize the best qualities of the cartridge with which it is equipped.

### STANDARD FOR 78 RPM RECORDS

MODEL	ILLUSTRATION	LIST PRICE	OUTPUT LEVEL	NEEDLE FORCE	RESPONSE TO	SHURE CARTRIDGE USED	SHURE NEEDLE NUMBER	SHIPPING WEIGHT	CODE
92H	Fig. D	\$5.50	3.5V	1 oz.	5000 c.p.s.	W42H	None	9 oz.	RUSUV
93A	Fig. C	7.50	1.6V	1½ oz.	6000 c.p.s.	W57A	None	13 oz.	RUGLI
96A	Fig. C	8.50	4.3V	1½ oz.	6000 c.p.s.	W56A	None	13 oz.	RUGAB
900HS*	Fig. B	11.50	1.8V	1½ oz.	4500 c.p.s.	W60HS*	A62A	12 oz.	RUZUA

### TURNOVER FOR 33½, 45, 78 RPM RECORDS

MODEL	ILLUSTRATION	LIST PRICE	OUTPUT LEVEL		NEEDLE FORCE	RESPONSE TO	SHURE CARTRIDGE USED	SHURE NEEDLE NUMBER		SHIPPING WEIGHT	CODE
			MG	STD.				MG	STD.		
901D	Fig. A	\$16.25	1.2V	1.4V	7 grams	10,000 c.p.s.	W22AB	A65MG	A62A	12 oz.	RUZEL

### SINGLE-NEEDLE ALL-PURPOSE FOR 33½, 45, 78 RPM RECORDS

MODEL	ILLUSTRATION	LIST PRICE	OUTPUT LEVEL		NEEDLE FORCE	RESPONSE TO	SHURE CARTRIDGE USED	SHURE NEEDLE NUMBER	SHIPPING WEIGHT	CODE
			MG	STD.						
92U	Fig. D	\$9.75	2.0V	2.3V	8 grams	4500 c.p.s.	W66B	A66U	9 oz.	RUZIP

### FINE-GROOVE FOR 33½, 45 RPM RECORDS

MODEL	ILLUSTRATION	LIST PRICE	OUTPUT LEVEL	NEEDLE FORCE	RESPONSE TO	SHURE CARTRIDGE USED	SHURE NEEDLE NUMBER	SHIPPING WEIGHT	CODE
902MG	Fig. B	\$10.75	2.0V	10 grams	7500 c.p.s.	W31AR	A53MG	12 oz.	RUGEX

### SPECIAL SHURE PICKUP FOR "WEBSTER-CHICAGO" THREE SPEED CHANGERS

MODEL	ILLUSTRATION	LIST PRICE	OUTPUT LEVEL		NEEDLE FORCE	RESPONSE TO	SHURE CARTRIDGE USED	SHURE NEEDLE NUMBER		SHIPPING WEIGHT	CODE
			MG	STD.				MG	STD.		
920W	Fig. E	\$11.50	1.2V	1.4V	6 grams	10,000 c.p.s.	W22AB	A65MG	A62A	6 oz.	RUZUT

\*"Humi-Seal" Metal Wrapped Moisture Proofed Rochelle Salt Crystal for Use in Tropical Areas.

## PHONOGRAPH PICKUP NEEDLES

All Shure Needles are manufactured to exacting specifications to assure top quality performance. Needle-point quality is carefully controlled by precision craftsmanship. Extended performance is assured by life tests at the Shure Laboratories. SPECIFY SHURE NEEDLES ONLY. ACCEPT NO SUBSTITUTES.

MODEL	ILLUSTRATION	DESCRIPTION	LIST PRICE	CODE
A52A	Fig. C	Std. Osmium	\$1.50	RUGEM
A53MG	Fig. C	MG Osmium	1.50	RUGES
A56U	Fig. C	All Purpose Osmium Unipoint	1.50	RUGEP
A61A	Fig. A	Std. Sapphire	2.50	RUZAN
A62A	Fig. B	Std. Osmium	1.50	RUZAP
A63MG	Fig. B	MG Osmium	1.50	RUGAZ
A64MG*		MG Osmium	2.00	RUZAS
A65MG	Fig. A	MG Sapphire	2.50	RUGAY
A66U	Fig. B	All Purpose Osmium Unipoint	1.50	RUZIK
A67U	Fig. A	All Purpose Sapphire Unipoint	2.50	RUZIN

\*Standard Bent Shaft Needle Not Illustrated.



Fig. A



Fig. B



Fig. C



Fig. D



Fig. E



Fig. A



Fig. B

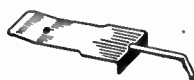


Fig. C

OSMIUM TIP

# CRYSTAL AND CERAMIC PICKUP CARTRIDGES

# SHURE

All Shure Replacement Cartridges have been painstakingly designed and engineered to meet the most exacting specifications. Each has been designed to meet certain specific requirements, such as high output, extended range, high compliance, and maximum tracking. For the finest in standard 78 RPM, fine-groove, or all-purpose replacement cartridges, see the charts below which furnish complete data on the popular Shure "Vertical Drive," "Lever-Type," "Muted Stylus," and "Direct Drive" Cartridges.

## FINE GROOVE CARTRIDGES FOR 33 $\frac{1}{3}$ , 45 RPM RECORDS



Fig. A  
"Direct Drive"

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.	CODE
W21F*	Fig. C	Crystal	\$7.75	1.5V	6 grams	10,000 c.p.s.	4 $\frac{1}{2}$ grams	A63MG	RUGEX
W31AR	Fig. A	Crystal	6.50	2.1V	7 grams	7,500 c.p.s.	5 $\frac{1}{2}$ grams	A53MG	RUGEB
WC31AR	Fig. A	Ceramic	6.50	.65V	7 grams	7,500 c.p.s.	5 $\frac{1}{2}$ grams	A53MG	RUGED
W53MG	Fig. E	Crystal	8.50	1.3V	6 grams	8,500 c.p.s.	12 grams	A64MG	RUGET

## TURNOVER CARTRIDGES FOR 33 $\frac{1}{3}$ , 45, AND 78 RPM RECORDS



Fig. B  
"Vertical Drive"  
(Turnover)

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.		CODE
				MG	STD.				MG	STD.	
W22A	Fig. B	Crystal	\$10.50	1.2V	1.4V	8 grams	10,000 c.p.s.	4 $\frac{1}{2}$ grams	A65MG	A61A	RUVAL
W22AB	Fig. B	Crystal	9.50	1.2V	1.4V	8 grams	10,000 c.p.s.	4 $\frac{1}{2}$ grams	A65MG	A62A	RUVAX
WC22AB	Fig. B	Ceramic	9.50	.21V	.18V	9 grams	10,000 c.p.s.	5 grams	A65MG	A52A	RUVUC

## ALL PURPOSE SINGLE NEEDLE CARTRIDGES FOR 33 $\frac{1}{3}$ , 45, 78 RPM RECORDS



Fig. C  
"Vertical Drive"  
(Single Needle)

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.	CODE
				MG	STD.					
W26A	Fig. C	Crystal	\$8.50	.87V	1.0V	8 grams	8,000 c.p.s.	4 $\frac{1}{2}$ grams	A67U	RUVUP
W26B	Fig. C	Crystal	7.50	.87V	1.0V	8 grams	8,000 c.p.s.	4 $\frac{1}{2}$ grams	A66U	RUVUM
W36B	Fig. A	Crystal	6.50	2.3V	2.5V	9 grams	7,000 c.p.s.	5 $\frac{1}{2}$ grams	A56U	RUGEN
WC36B	Fig. A	Ceramic	6.50	.6V	.7V	9 grams	7,000 c.p.s.	5 $\frac{1}{2}$ grams	A56U	RUGER
W66B	Fig. D	Crystal	7.51	2.0V	2.3V	8 grams	4,500 c.p.s.	12 grams	A66U	RUSUN

## STANDARD CARTRIDGES FOR 78 RPM RECORDS



Fig. D  
"Muted Stylus"

MODEL NO.	ILLUSTRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WT.	SHURE NEEDLE NO.	CODE
W23B	Fig. C	Crystal	\$7.75	1.1V	6 grams	8,000 c.p.s.	4 $\frac{1}{2}$ grams	A62A	RUVER
WC33B	Fig. A	Ceramic	6.50	.75V	9 grams	7,000 c.p.s.	5 $\frac{1}{2}$ grams	A52A	RUGEL
W42B	Fig. E	Crystal	4.45	1.3V	1 oz.	5,000 c.p.s.	25 grams	None	RUGUB
W42H	Fig. E	Crystal	4.45	3.5V	1 oz.	5,000 c.p.s.	25 grams	None	RUGUT
W56A	Fig. E	Crystal	6.65	4.3V	1 $\frac{1}{8}$ oz.	6,000 c.p.s.	12 grams	None	RUGUS
W56N**	Fig. E	Crystal	8.50	4.3V	1 oz.	10,000 c.p.s.	12 grams	A68D	RUGFC
W57A	Fig. E	Crystal	5.55	1.6V	3 $\frac{1}{4}$ oz.	6,000 c.p.s.	12 grams	None	RUGLA
W58A	Fig. E	Crystal	5.55	1.6V	1 oz.	6,000 c.p.s.	25 grams	None	RUGLU
W58HS***	Fig. E	Humi-Seal Crystal	6.55	1.6V	1 oz.	6,000 c.p.s.	25 grams	None	RUGUY
W59A	Fig. E	Crystal	5.55	2.5V	1 oz.	6,000 c.p.s.	25 grams	None	RUGAT
W60A	Fig. D	Crystal	8.50	1.6V	1 oz.	4,500 c.p.s.	12 grams	A61A	RUSIS
W60B	Fig. D	Crystal	7.50	1.6V	1 oz.	4,500 c.p.s.	12 grams	A62A	RUSID
W60HS***	Fig. D	Humi-Seal Crystal	8.50	1.8V	1 oz.	4,500 c.p.s.	25 grams	A62A	RUSIB
W61B	Fig. D	Crystal	7.50	1.6V	1 oz.	4,500 c.p.s.	25 grams	A62A	RUSIL

\*With .453 Mount for Oak Changer.

\*\*Cutter-Cartridge for Wilcox-Gay "Recordette." Is equipped with a bifurcated cutter-playback needle.

\*\*\*"Humi-Seal" Metal Wrapped Rochelle Salt Crystal Ideal for Tropical Areas.

## MICROPHONE REPLACEMENT CARTRIDGES CONTROLLED RELUCTANCE



**MODEL R5**

The Model R5 Controlled Reluctance Microphone Cartridge is available for service installation and is also ideal for the replacement of crystal microphone cartridges in Shure cases of the Model 707A and Model 100 Series designs. It will also replace cartridges in cases of other manufacturers' models of similar design, where space permits. Complete installation instructions in English and Spanish are included. It is an acoustically controlled balanced-armature transducer ideal for both microphone and soft-speaker applications. Practically unaffected by heat and humidity. Supplied with rubber mounting ring. Overall diameter of mounting ring 2 1/4"; thickness of rubber ring 3/16". Overall depth of cartridge 7/8". Shipping weight 4 ounces.

Code: RUTUC. List Price: \$10.00

## CRYSTAL



**MODEL R7**

The Model R7 Crystal Microphone Cartridge is available for service installation as a replacement for the cartridges in the Shure Crystal Microphones of the 707A and 708A series. High output—48db below 1 volt per microbar. Cartridge supplied with rubber mounting rings and a complete set of mounting instructions.

Model: R7 Code: RUDEC  
List Price \$7.75



**MODEL R10**

## CARBON

Model R10 Carbon Cartridge used in "CB", "100", and "120" Series Carbon Microphones. Rubber mounting rings. Easy to install.

Model: R10 Code: RUTUB  
List Price \$8.00

## CABLE TYPE TRANSFORMER



Model A86A is a high-quality cable-type transformer which offers additional versatility when used in conjunction with Shure Models 55, 55S, 556, 556S, and 51 Dynamic Microphones, which employ the impedance matching switch. It solves the frequent problem of installations requiring long lengths of microphone cables without the loss of high-frequency response. Model A86A matches 35 to 50 and 150 to 250 ohm microphones to high impedance amplifier input. Compact, sturdy. Case diameter 1 5/8", length 2 7/8", 2-foot cable. Shipping weight, 1 1/4 pounds.

Model: A86A Code: RUDEB List Price: \$16.00

## TAKE-APART STAND

Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle. Metal top threaded 5/8"—27. Height overall 6-11/16". Base diam. 4 1/2". Length of handle 5 7/8". Shipping weight 1 pound.

Code: RUKAB List Price: \$3.00

Model A41B. Microphone handle only. Threaded 5/8"—27.

Code: RUJAD List Price: \$1.25

## "GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

This rugged Heavy-Duty Switch employs a long life, leaf-type switch element that withstands the most severe field requirements of paging and dispatching systems. Has spring-temper, phosphor-bronze switch blades with pure silver contacts. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Large grip-bar assures positive contact. Firm downward pressure on grip-bar locks switch. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand as shown in illustration. No soldering necessary, simply plug in. Switch element can be readily removed for rewiring to accommodate other switching combinations. Rich satin chrome finish. Shipping weight 1 pound.



**MODEL A88A**

Model: A88A

Code: RUNEL

List Price: \$11.75

## ON-OFF PRESS-TO-TALK SWITCHES



**A83B**



**A84B**



**A85C**

Plug into the microphone quickly and conveniently. Durable, dependable. No soldering necessary.

Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-connector type Shure microphone. Internal plug establishes connections. Bakelite arrow knob.

Model A83B. Code: RUNIM  
55A15 Switch element only.

List Price: \$6.50  
List Price: \$1.50

Model A84B. Momentary "On-Off" switch. Press-to-talk Bakelite disc.

Model A84B. Code: RUNID  
55A16 Switch element only.

List Price: \$7.50  
List Price: \$1.75

Model A85C. Momentary Relay-Type switch. Press-to-talk Bakelite disc. Normally-open switch closes circuit comprising one conductor and shield of outgoing cable for operation of relay or other device; remaining conductor and shield of cable carry microphone output. Must be used with two-conductor shielded cable. Standard Shure cable-connector receptacle. Satin chrome finish.

Model A85C. Code: RUNAT  
55A19 Switch element only.

List Price: \$10.75  
List Price: \$2.00

## MODERN DESK STAND

Model S36A. Streamlined Desk Mount with stable support. Fits Shure connector-type Microphones, concealing plug in base. Ideal for use with A88A Grip-to-Talk Switch. Adapter provided for other type microphones. Removable bottom for installation of 3/8" standard bushing switch or volume control. Pearl Gray finish. Base: 2 1/2" high, 5" wide, 7" long. Shipping weight 1 1/2 pounds.



**MODEL S34B**

Model: S36A

Code: RUSEF

List Price: \$5.50



**MODEL S36A**



NO FINER CHOICE THAN

**Electro-Voice**

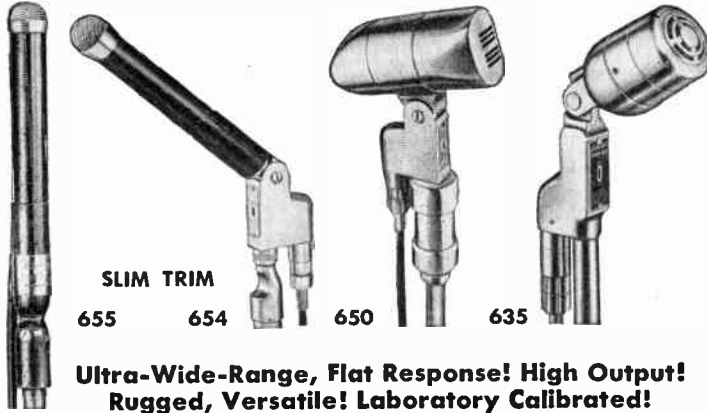
for TV • BROADCASTING • RECORDING • P.A. • COMMUNICATIONS

RESEARCH-ENGINEERED

**MICROPHONES**

**HIGH-FIDELITY TV-BROADCAST DYNAMICS**

**CARDIOID UNIDIRECTIONAL MIKES**



**SLIM TRIM**

655 654

650

635

**Ultra-Wide-Range, Flat Response! High Output!  
Rugged, Versatile! Laboratory Calibrated!**

Proved in studio and remote use on network and local telecasts and broadcasts. Exclusive, long-life *Acoustalloy* diaphragm and highly efficient magnetic structure assure ultra-wide-range high fidelity response. High output level gives excellent signal to noise ratio. Omnidirectional, becoming slightly directive at extremely high frequencies. Close tolerances and individual laboratory control guarantee uniformity. Ideal for audience participation, applause pick-up, recording and high quality public address... for individual or group pick-up of voice and music indoors and outdoors.

**Model 655 Slim-Trim TV Dynamic.** Frequency response 40-15,000 c.p.s.  $\pm 2.5$  db. Output level -54 db. *Pop-proof* head stops wind and breath blasts. Can be used on stand, in hand or on boom; easily concealed in studio props. Needs no additional closely-associated auxiliary equipment. *Acoustalloy* diaphragm. Impedance 250 ohms. Easily changed to 50 ohms. Removable swivel. Cannon XL-3 connector. Has  $\frac{1}{2}$ " pipe thread.  $\frac{3}{4}$ "-27 adapter furnished. Made of high tensile aluminum. Size: with swivel  $11\frac{3}{8}$ " long; dia.  $1\frac{1}{16}$ ". 18 ft. broadcast-type cable. Net wt., less swivel, 10 oz.  
List Price.....\$200.00

**Model 654 Slim-Trim Broadcast Dynamic.** Similar to Model 655. Frequency response 50-13,000 c.p.s., substantially flat. Output level -55 db. Recessed selector in stud gives 50 or 250 ohms impedance. *Pop-proof* head. *Acoustalloy* diaphragm. Swivel case, made of brass. Cannon XL-3 connector.  $\frac{3}{8}$ "-27 thread.  $\frac{1}{2}$ " pipe thread adapter furnished. 18 ft. broadcast-type cable. Size: 10" long with stud;  $1\frac{1}{16}$ " dia. Net wt.,  $15\frac{1}{2}$  oz.  
List Price.....\$90.00

**Model 650 Broadcast Dynamic.** Frequency response 40-15,000 c.p.s.,  $\pm 2.5$  db. Output level -48 db. Dual-type external shock mount. Recessed impedance selector switch gives 50 or 250 ohms. Tiltable head. Pressure cast case, finished in durable Satin Chromium. *Acoustalloy* diaphragm. Cannon XL-3 connector.  $\frac{3}{8}$ "-27 thread. Size:  $2\frac{1}{4}$ " x  $4\frac{3}{4}$ " x  $5\frac{1}{4}$ " including stud. Shock mount is  $1\frac{1}{2}$ " x  $3\frac{3}{8}$ ". Net wt., including shock mount,  $2\frac{3}{4}$ " lbs.  
List Price.....\$150.00

**Model 635 Broadcast Dynamic.** Meets exacting requirements of TV and Broadcast service. Compact, rugged, versatile—used in studios and on remotes, on a stand or in the hand, indoors and out. Response 60-13,000 c.p.s.,  $\pm 2.5$  db. Output level -55 db. 50-250 ohms impedance selector. *Acoustalloy* diaphragm. Head tilts through 90° arc.  $\frac{3}{8}$ "-27 thread. Cannon XL-3 connector. Satin Chromium finish. 18 ft. broadcast-type cable. Size  $2$ " x  $4\frac{1}{4}$ " x  $4\frac{1}{2}$ ". Net wt.,  $1\frac{1}{2}$  lbs.  
List Price.....\$69.00



731

726

950

**Overcome Background Noise,  
Stop Feedback, Improve Pick-up**

E-V Mechanophase® Principle provides wide-angle front pick-up—dead at rear. Solves difficult sound pick-up problems—assures finer, clearer reproduction of voice and music—simplifies microphone and speaker placement—increases pick-up range—permits higher volume levels. Tiltable head. Satin Chromium finish.  $\frac{3}{8}$ "-27 thread. 18 ft. cable. Size, less shock mount,  $2\frac{1}{2}$ " x  $3\frac{1}{2}$ " x 9". Net wt.,  $2\frac{1}{2}$  lbs.

**Model 731 Dynamic (Cardyne II).** Flat response 30-12,000 c.p.s. Output level -53 db. Dual-type external shock mount. High-Low impedance selector. Cannon XL-3 connector. "On-Off" switch (optional).  
List Price.....\$92.00

**Model 726 Dynamic (Cardyne I).** Frequency response 40-10,000 c.p.s. Output level -53 db. High-Low impedance selector. MC-3 type connector. "On-Off" switch.  
List Price.....\$68.50

**Model 950 Cardax Crystal.** First High level cardioid crystal microphone with *Dual Frequency Response*—Flat for high fidelity sound pick-up (output -57 db) or rising characteristic for extra crispness of speech (output -50 db). Fully enclosed Metal Seal crystal. Built-in cable connector. "On-Off" Switch. Size  $2\frac{1}{2}$ " x  $2\frac{7}{8}$ " x  $6\frac{1}{4}$ ", including stud. Net wt.,  $1\frac{3}{4}$  lbs. \*E-V Pat. Pend.  
List Price.....\$42.50

All E-V Dynamic Microphones are now phased to facilitate multiple microphone installations

**E-V DYNAMIC, DIFFERENTIAL\* AND CRYSTAL MICROPHONES**



**SLIMAIR**

636

630

**Model 636 "Slimair" Dynamic for P.A.** Exceptionally fine for public address, recording, and other general-purpose use. Rugged, versatile. High-fidelity response 60-13,000 c.p.s. Output -55 db. *Pop-proof* head stops wind and breath blasts. *Acoustalloy* diaphragm. Alnico V. Omnidirectional. Wide pick-up range, for individual or group work indoors and outdoors. Used in hand, on stand, or overhead—or can be concealed in stage props. "On-Off" switch optional. Metal case, in Satin Chromium finish. Swivel head permits 90° vertical tilt. MC-4 connector.  $\frac{3}{8}$ "-27 thread. 18 ft. cable. Size:  $10\frac{1}{4}$ " long incl. stud. Dia.  $1\frac{1}{16}$ ". Net wt., 15 oz. High or low impedance selection.  
List Price.....\$70.00

**Model 630 High Fidelity, High Output Dynamic.** Brilliant, general-purpose dynamic—famous for quality far beyond its moderate price! Substantially flat response 60-11,000 c.p.s. Assures faithful reproduction of speech and music. Output level -55 db. Compact, lightweight, extra rugged for indoor and outdoor use. Unaffected by heat and humidity. Exclusive *Acoustalloy* diaphragm. Swivel head permits 90° tilt. Built-in cable connector.  $\frac{3}{8}$ "-27 thread. Satin Chromium finish. "On-Off" switch. 18 ft. cable. Size  $2$ " x  $4\frac{3}{4}$ " x  $4\frac{1}{2}$ " including stud. Net wt.,  $1\frac{1}{2}$  lbs. Available in Hi-Z, 50, 200, 250 or 500 ohms impedance.  
List Price.....\$42.00



606

611

911

**Model 606 Differential\* Dynamic.** Close-talking, noise-cancelling microphone. Used in airport control towers, police dispatching, close-talking public address and high noise industrial applications. Response substantially flat, 100-6,000 c.p.s. Output -55 db. *Acoustalloy* diaphragm. Head at 22° fixed tilt.  $\frac{3}{8}$ "-27 thread. Built-in cable connector. Satin Chromium finish. Size  $2$ " x  $3\frac{1}{4}$ " x  $2\frac{1}{4}$ " incl. stud. Net wt., 12 oz. Available in Hi-Z, 50, 200 or 250 ohms impedance. Low impedances not balanced to ground. (\*Patent No. 2,350,010.)

**Model 606-8.** With 6 ft. cable. List \$42.00  
**Model 606-20.** With 18 ft. cable. List \$43.50

**E-V "Mercury" Model 611 Dynamic.** For economical public address systems, home recorders, Ham rigs, other uses. Smooth response 50-8000 c.p.s. Output -55 db. Non-directional. *Acoustalloy* diaphragm. Tiltable head. "On-Off" switch. Built-in cable connector.  $\frac{3}{8}$ "-27 thread. Satin Chromium finish. Available in Hi-Z, 50, 150, 250 or 500 ohms impedance. Size  $2\frac{9}{16}$ " x  $3\frac{1}{8}$ " x  $6\frac{1}{4}$ " incl. stud. Net wt. 2 lbs.  
**Model 611-8.** With 6 ft. cable. List \$33.50  
**Model 611-20.** With 18 ft. cable. List \$35.50

**E-V "Mercury" Model 911 Crystal.** Same smart design and fine performance as Model 611. Response 50-8000 c.p.s. Output -50 db. Metal Seal Crystal. High imp. Net wt.  $1\frac{1}{2}$  lbs.  
**Model 911-8.** With 6 ft. cable. List \$25.50  
**Model 911-20.** With 18 ft. cable. List \$27.50

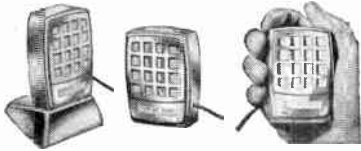
Reference Level: Dynamic Microphones 6mw/10 dynes/cm<sup>2</sup>; Crystal, Ceramic and Carbon Microphones 1 volt/dyne/cm<sup>2</sup>.

NO FINER CHOICE THAN

RESEARCH-ENGINEERED

# Electro-Voice MICROPHONES

STANDS AND ACCESSORIES



## Multi-Purpose CENTURY

Most popular microphone ever produced! Incomparable for all low-cost applications. Hundreds of thousands in use for public address, paging, recording, amateur communications. Can be used in any position—in hand, on table, on stand or overhead. Excellent frequency response. High output level. Essentially non-directional, becoming directive at higher frequencies. Highest purity pressure cast case finished in rich, durable Satin Chromium. Rugged, light weight. Size 3" x 2 1/4" x 1". Furnished with 3/4"-27 thread stand adapter.

**Model 915 "Century" Crystal.** High capacity, moisture sealed crystal. Smooth response 60-7500 c.p.s. Output -50 db. High impedance. AC-DC insulated. 7 1/2 ft. cable. Net wt., 6 oz.

List Price..... \$11.25

**Model 915-S.** Same with slide-to-talk switch. List Price..... \$13.00

**Model 715 "Century" Ceramic.** Moisture-proof ceramic generating element. AC-DC insulated. Smooth response 55-7500 c.p.s. Output -55 db. High impedance. 7 1/2 ft. cable. Net wt., 6 oz.

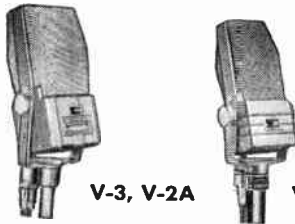
List Price..... \$11.25

**Model 615 "Century" Dynamic.** Has exclusive, long-lasting E-V Acoustalloy diaphragm. Withstands extreme temperature, humidity, corrosive effects of salt air, and severe mechanical shocks. Smooth response 55-7500 c.p.s. Output -55 db. Choice of high impedance or 50 ohms. Low impedance not balanced to ground. 7 1/2 ft. cable. Net wt., 8 oz.

List Price..... \$18.50

**Model 415.** Reclining Desk Stand. Mounts Century at 15° tilt. Gray-brown finish. Size 2 3/8" x 2 3/4" x 1". Net wt., 4 oz.

List Price..... \$1.70



V-3, V-2A V-1A

## High Fidelity, High Output Bi-Directional VELOCITY

Superb pick-up and reproduction of voice and music has made these microphones favorites over the years. Advanced design now brings Dynamic advantages to Velocity performance. Response is smooth, peak-free over a wide frequency range. Equal front and back pick-up. Zero pick-up at sides, top and bottom. Excellent for individual or group work in public address, broadcasting, recording. Proper placement and tilting reduce feedback and random noise. Acoustalloy Diaphragm. Reflection-free housing. Internal shock absorber. Locking cradle. "On-Off" switch. 3/4"-27 thread. 18 ft. cable.

**Model V-3.** Impedance selector provides high or low impedance. Substantially flat response, 40-10,000 c.p.s. Output level -53 db. Size 3 1/2" x 2 3/4" x 8", including stud. Net wt., 2 1/2 lbs.

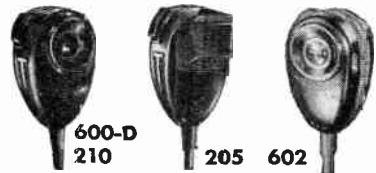
List Price..... \$69.00

**Model V-2A.** Similar to V-3, but without impedance selector switch. Choice of 50, 250, 500 ohms, or Hi-Z.

List Price..... \$57.50

**Model V-1A.** Same high quality in compact, smaller size, ribbon-type velocity. Frequency response 40-9,000 c.p.s., substantially flat. Output level -63 db. Size 2 1/4" x 2 1/8" x 6 1/2", including stud. Net wt., 2 lbs. Available in Hi-Z, 50, 250 or 500 ohms impedance.

List Price..... \$46.00



## E-V MOBIL-MIKES

**Model 690-D Dynamic.** Lightweight, hand-held, extra-rugged. Withstands extreme climatic conditions. Smooth response provides higher articulation and more usable power level; less fatiguing to listener. Output -55 db. Acoustalloy diaphragm. Press-to-talk switch controls relay. Size 2 1/4" x 2" x 4". Black phenolic case, with mounting bracket. 6 ft. cable. Choice of high or low impedances. Wt. 8 oz.

List Price..... \$38.50

**Model 600-DL.** With switch lock. List... \$40.00

**Model 210 Carbon.** Similar to Model 600-D, but single-button carbon. Gives high intelligibility speech transmission. Substantially flat response. Output -50 db. Press-to-talk switch controls relay. 5 ft. cable. Net wt., 7 oz.

List Price..... \$28.50

(Also available in exact replacement models for Motorola, RCA, G.E. and similar mobile equipment)

**Model 205 Differential\* Carbon.** Close-talking, noise-cancelling single-button carbon Mobil-Mike. Gives maximum speech intelligibility under high ambient noise. Blast proof, waterproof, shock resistant. Substantially flat response gives high articulation. Output -50 db. Press-to-talk switch controls relay. Black phenolic case, with mounting bracket. 5 ft. cable. Size 2 1/4" x 2 3/4" x 4". Net wt., 7 oz.

List Price..... \$34.50

**Model 602 Differential\* Dynamic.** Similar to Model 600-D, but close-talking, noise-cancelling differential type. Assures clear speech transmission under intense noise in any weather or climate. Output -55 db. Press-to-talk switch controls relay. 5 ft. cable. Available in all impedances. Wt. 8 oz.

List Price..... \$45.00

## ELECTRO-VOICE FLOOR AND DESK STANDS

### Model 425 Deluxe Floor Stand

Remarkably light in weight, yet very stable. Red button at top of shaft gives one-hand height control from 37" to 60". Locks automatically on release. Shaft can be rotated without any adjustment device. Unique locking-type adjustable legs permit stand to be placed flush against wall or speaker's table. Easy to assemble or take apart. Folds into small, compact package. Modern die-cast base. 3-leg spread 17". Satin Chromium finish. Net wt., 7 1/2 lbs.

List Price..... \$27.50

### Model 430 Utility Floor Stand

Similar to Model 425, but with button control on lower section for height adjustment from 36" to 65". 3-leg spread 17". One bolt assembly. Gray finish. Extension shaft in Satin Chromium. Net wt. 7 1/2 lbs.

List Price..... \$17.00

### Touch-to-Talk Stand

Fits any microphone with standard 3/4"-27 thread! Specially-designed, lever-type switch for relay operation on microphone "On-Off" -closes or opens instantly, or locks in "talk" position, with light finger-tip action. Gives easy "Break in" operation in communications, public address, paging, dispatching. Switch is self-contained unit, easily removable from the round die-cast base. Single-pole double-throw. Stand finished in Satin Chromium. Gray plastic switch lever and red locking button.

**Model 428.** "Break-in" Touch-to-Talk Stand with switch. Ht., 7". Base diam., 5 1/2". Net wt., 1 1/4 lb.

List Price..... \$14.00

### Model 423-A Desk Stand

Sturdy, smartly styled, round die-cast base, 5 1/8" diam. Rests firmly. Rich Satin Chromium finish. Rubber base buttons. 3/4"-27 thread. Choice of 3" or 5" matching stem riser. Net wt., 1 lb.

List Price..... \$4.50

### Model 427-A Desk Stand

Attractive, round die-cast base rests stably on desk or table. 5" stem riser. Satin Chrome finish. Standard 3/4"-27 thread. Base diam., 4 3/8". Net wt., 3/8 lb.

List Price..... \$3.50

### Model 427.

Same as 427-A but finished in lustrous gray-brown.

List Price..... \$2.75

## Low Impedance Microphone-to-Grid Matching Transformer

**Model 502.** Transformer windings have low distributed capacity and are amply shielded against inductive hum by a high permeability shield inside a pressure cast case. Designed for mounting on amplifier chassis or in series with the microphone line. Designed for 50 and 250 ohm (500 ohms optional) microphones. Broadcast fidelity. Response 40-20,000 cps ±1 db, for speech or music. MC-4 input connector.

List Price..... \$15.00

**Model 345 Shock Mount.** Dual-type external shock mount prevents reproduction of external shocks and stand vibrations. Permits tilting microphone head. 3/4"-27 thread. Easily attached or removed. Satin Chromium finish. Size 1 1/2" x 3 3/8". Net wt. 10 oz.

List Price..... \$13.00

**Model 335 Blast Filter.** Acoustically treated, scientifically curved grille stops wind and breath blasts in dynamic microphones. Does not affect frequency response. Easily fits over head of E-V Models 690, 635 and 605 Microphones. Satin Chromium finish.

List Price..... \$5.50

### Model 605 Durable Dynamic

For dependable, low-cost general-purpose use. Substantially flat response, 50-7500 c.p.s. (Output level -55 db. Non-directional, becoming directive at higher frequencies. Acoustalloy diaphragm. Head at 22° fixed tilt. Built-in cable connector. Satin Chromium finish. Available in Hi-Z, 50, 200, or 250 ohms impedance. Low impedance not balanced to ground. Wt., 12 oz.

**Model 605-8.** With 6 ft. cable.

List..... \$27.50

**Model 605-20.** With 18 ft. cable.

List..... \$29.50

### Model 920 "Spherex" Crystal

Fine quality all-direction pick-up for conferences, round table discussions, home recording and public address. Substantially flat frequency response. 60-7000 c.p.s. Output level -50 db. Omnidirectional polar pattern. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Lustrous Satin Chrome finish. 3/4"-27 thread. 1 diameter 2 1/4". Net wt., 8 oz.

**Model 920-8.** With 6 ft. cable.

List..... \$19.00

**Model 920-20.** With 18 ft. cable

List..... \$20.50

### Model 805 Contact Microphone

For guitar, banjo, mandolin, violin or any vibrating musical instrument. Increases natural sound volume, eliminates tonal effects. Response 40-8000 c.p.s. High impedance. Crystal sealed against moisture and acoustic feedback. Chromium finish. 15 ft. cable. Net wt. 2 oz.

List Price..... \$17.25

NO FINER CHOICE THAN

# Electro-Voice

MODERN PHONO-PICKUP

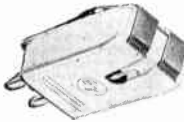
# CARTRIDGES

FOR ALL 3 SPEEDS

## 6 BASIC PREFERRED TYPES ★

### CARTRIDGES FOR 78 R.P.M.

**Model 12 Crystal.** The most versatile 78 r.p.m. replacement. Replaces over 80% of cartridges in use. Medium voltage output is ideal for most phono combinations. Weighs 1/5 ounce. Tracks perfectly with less needle force. Ideal for "in stock" cartridges for general replacement. Output, 2 volts. Supplied with E-V Snap-In Holder and mounting hardware. For standard 1/2" hole centers, RCA 13/16" mounting or Webster-Electric side mounting cartridges.



**PREFERRED ★**

**Model 12, with O-3 Osmium needle. List . . . \$7.50**  
**Model 12-S, with S-3 Sapphire needle. List . . . \$8.50**

**Model 32 Crystal.** The 78 r.p.m. cartridge that provides the longest record life, lowest needle talk and greatest stylus life. Ideal for record enthusiasts with valuable libraries of 78 r.p.m. records. Frequency response comparable to wide range magnetics. Output 1 volt, useable in most radio-phonos combinations. Standard 1/2" mounting. Uses E-V whisker-type needle.



**Model 32, with O-3 Osmium needle. List . . . \$6.50**  
**Model 32-S, with S-3 Sapphire needle. List . . . \$7.50**

**Model 42 Ceramic.** The Model 42 cartridge utilizes a ceramic generating element for complete moisture inhibition. Long-lasting in extremely hot, humid climates. Output is .8 volt. Inherently, ceramic elements have a lower output than crystal elements. Purchasers should be advised to turn set gain control to higher level than normally used with crystal cartridges. Mounting bracket of Model 42 drilled for mounting in tone arms with either 1/2" or 3/8" hole centers.



**Model 42, with O-3 Osmium needle. List . . . \$6.50**  
**Model 42-S, with S-3 Sapphire needle. List . . . \$7.50**

### CARTRIDGES FOR 45 and 33 1/3 R.P.M.

**Model 14 Crystal.** The E-V Model 14 cartridge gets all the music from the extended range fine groove records. Response follows professional standards. . . is free from peaks and distortion that mar wide range response. Range guaranteed 50 to 15,000 c.p.s. ± 2 1/2 db. A truly high fidelity phono-cartridge that requires no expensive preamplifier or equalizer. Output, 1 volt. Uses E-V 1-mil, whisker-type needle.



**Model 14, with O-1 Osmium needle. List . . . \$7.50**  
**Model 14-S, with S-3 Sapphire needle. List . . . \$8.50**

**Model 34 Crystal.** The high compliance-to-voltage output ratio of this cartridge makes it a superb replacement for 45 and 33 1/3 r.p.m. players. Reproduction is fuller yet needle tracks with whisker touch in record grooves. Records sound better and last longer. Output, 1.25 volts, slightly higher output than average fine groove cartridge. Mounting bracket has 1/2" and 3/8" hole centers. Makes ideal replacement in RCA-type "45" changers and in Columbia 33 1/3 "LP" player. Uses E-V whisker-type 1-mil needle.



**PREFERRED ★**

**Model 34, with O-1 Osmium needle. List . . . \$6.50**  
**Model 34-S, with S-1 Sapphire needle. List . . . \$7.50**

**Model 44 Ceramic.** Model 44 utilizes a ceramic generating element for complete moisture inhibition. Makes an ideal, long lasting replacement in hot, humid climates. Output is .5 volt. Ceramic elements are inherently lower in output than crystal elements. Purchasers should be advised to turn volume control higher than normally used with crystal cartridges. Model 44 mounts in tone arms with either 1/2" or 3/8" hole centers.



**Model 44, with O-1 Osmium needle. List . . . \$6.50**  
**Model 44-S, with S-1 Sapphire needle. List . . . \$7.50**

### ELECTRO-VOICE REPLACEMENT NEEDLES

MODEL	TYPE AND APPLICATION	LIST PRICE
O-3	Single-Tip .003" Osmium for Models 12, 32, 42, 96, 96-T	\$1.50
S-3	Single-Tip .003" Sapphire for Models 12, 32, 42, 96, 96-T	2.50
O-2	Single-Tip .0023" Osmium for Models 33, 33-B, 43	1.50
S-2	Single-Tip .0023" Sapphire for Models 33, 33-B, 43	2.50
O-1	Single-Tip .001" Osmium for Models 14, 34, 44, 96, 96-T	1.50
S-1	Single-Tip .001" Sapphire for Models 14, 34, 44, 96, 96-T	2.50
SO-13	Twin-Tip .001" Sapphire-.003" Osmium for Models 16 & 16-TT	3.00
O-13	Twin-Tip .001" Osmium-.003" Osmium for Models 16 & 16-TT	2.50

Model 10 (not listed here) takes same needle as Models 12, 14 or 16.  
 Model 30 (not listed here) takes same needle as Models 32, 33 or 34.

## WILL MAKE OVER 92% OF ALL CARTRIDGE REPLACEMENTS

### CARTRIDGES FOR 78, 45, 33 1/3 R.P.M.

**Model 33 Crystal.** Utilizes a specially designed all-purpose needle which plays all three speeds with a single tip. Simplifies operation of multi-speed changers. Tracks well in all grooves. 2.3 mil tip reduces record wear over other types of all-purpose needles. Output 1 volt on microgroove, 1.8 volts on 78 r.p.m. records. Mounting bracket has 1/2" hole spacing for wide adaptability and ease of installation. Uses E-V whisker-type 2.3 mil needle.



**PREFERRED ★**

**Model 33, with O-2 Osmium needle. List . . . \$6.50**  
**Model 33-S, with S-2 Sapphire needle. List . . . \$7.50**

**Model 43 Ceramic.** Model 43 utilizes a specially designed all-purpose needle which plays all three speeds with a single tip. Ceramic generating element assures complete moisture inhibition. Ideal replacement for multi-speed changers in hot, humid climates. Output is .5 to .8 volt. It is an inherent characteristic of ceramic elements to have a lower output than crystal elements. Purchasers should be advised to turn set volume control higher than normally used with crystal cartridges. Mounting bracket has two sets of mounting holes spaced at 1/2" and 3/8" centers for wide adaptability in installation.



**Model 43, with O-2 Osmium needle. List . . . \$6.50**  
**Model 43-S, with S-3 Sapphire needle. List . . . \$7.50**

**Model 16-TT Crystal TWIN TILT.** The Twin-Tilt Cartridge with a one-piece, twin-tip needle will play all types of records . . . 78, 45 and 33 1/3 r.p.m. without weight change. The Model 16-TT is complete with Tilt mechanism. Merely tilt the selector handle to select the 1-mil or 3-mil needle tip . . . for slow or fast speed records. Output, 1-volt on each tip. Excellent for Webster-Chicago changers with Osmium 3-mil tip and Sapphire 1-mil tip on single E-V silent, whisker-type stylus.



**Model 16-TT, List Price . . . \$10.00**

**Model 16-OTT.** Same as Model 16-TT above but with Osmium 3-mil and Osmium 1-mil tips.  
**List Price . . . \$9.50**

**Model 16.** Cartridge only, without Tilt mechanism, but with Osmium 3-mil tip and Sapphire 1-mil tip, for exact replacement of units already installed.  
**List Price . . . \$9.00**

**Model 16-O.** Same as Model 16, but with Osmium 3-mil and Osmium 1-mil tips.  
**List Price . . . \$8.50**

**Model 96-T Crystal TURNOVER.** Popular Turnover type cartridge with separate needles for fast and slow speed records. The two needles are completely isolated from one another allowing correct frequency response on each. "Free" needle does not cause distortion. Output, 1 volt on each needle, ample for all turnover replacements. Positive-acting turnover mechanism prevents needle set-down error. Mounting plate supplied for LQD type cartridges. Complete with 3-mil Osmium needle, O-3, and 1-mil Sapphire needle, S-1.



**PREFERRED ★**

**Model 96-T, List Price . . . \$10.00**  
**Model 96.** Same but without turnover harness for installation in existing mechanism.  
**List Price . . . \$9.00**

### WITHOUT NEEDLE

**Model 60 Crystal DUO-VOLT.** This Bimorph<sup>®</sup> Crystal Cartridge permits easy selection of high or medium output for the job. Just connect leads to the two outer terminals for 4 volts output or to the center terminal and one outer terminal for 2 volts. No soldering. No accessories to attach or remove. Uses any standard 3-mil, 1-mil, or all-purpose needle, 3/8" mounting hole centers, Aluminum case. Ideal for varied replacement needs.



**PREFERRED ★**

**Model 60. Less needle. List Price . . . \$4.95**

**Model 50 Crystal.** Bimorph high level cartridge, supplied without needle. Can be used with any standard 1-mil, 3-mil or all-purpose tip replacement needle. Output level with straight shank is 5 volts; with compliant needle, 3 1/2 volts. Excellent replacement in record players with low gain amplifiers and in single play phonographs. Aluminum case.



**Model 50. Less needle. List Price . . . \$4.50**

<sup>®</sup>Brush Development Co.



**THE WORLD FAMOUS TURNER  
MODEL 22X CRYSTAL  
22D DYNAMIC**

Tops in value, tops in performance. Accurate pickup and faithful reproduction have made these units the most popular general purpose microphones on the market. Full 90° tilting head for semi or non-directional operation. Satin chrome finish. 5/8" - 27 coupler.

**MODEL 22X CRYSTAL.** High quality humidity protected crystal, mechanical shock-proofed, barometric compensator. Level: 52 db below 1 volt/dyne/sq. cm. Response: 60 - 9000 c.p.s. Complete with 7 ft. removable cable set.....List Price \$22.50  
Model S-22X.

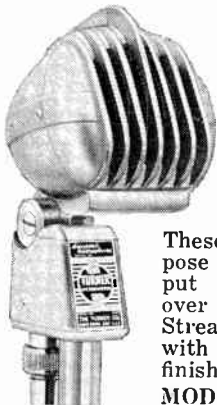
With slide on-off switch. List Price 25.00

**MODEL 22D DYNAMIC.** High quality Alnico magnets in high level dynamic circuit. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 70 - 9000 c.p.s. 7 ft. removable cable set. Available in 50, 200, 500 ohms or high impedance.

List Price \$27.25

Model S-22D.

With slide on-off switch. List Price 29.75



**HIGH PERFORMANCE!  
EYE APPEAL!  
MODERATE COST!  
MODEL 33X-33D  
CRYSTAL OR DYNAMIC**

These high fidelity, all purpose units combine high output with smooth response over a wide frequency range. Streamlined case designed with full rich satin chrome finish. 90° tilting head.

**MODEL 33X CRYSTAL** has high quality 2-element moisture sealed crystal, automatic barometric compensator, and mechanical shock proofing. Level: 52 db below 1 volt/dyne/sq. cm. Response: 60-9000 c.p.s. Complete with 20 ft. removable cable set.....List Price \$24.50

Model S-33X.

With slide on-off switch. List Price 27.00

**MODEL 33D DYNAMIC.** Alnico magnets. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 60-9000 c.p.s. Complete with 20 ft. removable cable set. High impedance wired single ended (single conductor shielded cable). 50, 200 or 500 ohms wired for balanced line (two conductor shielded cable).....List Price \$29.00

Model S-33D.

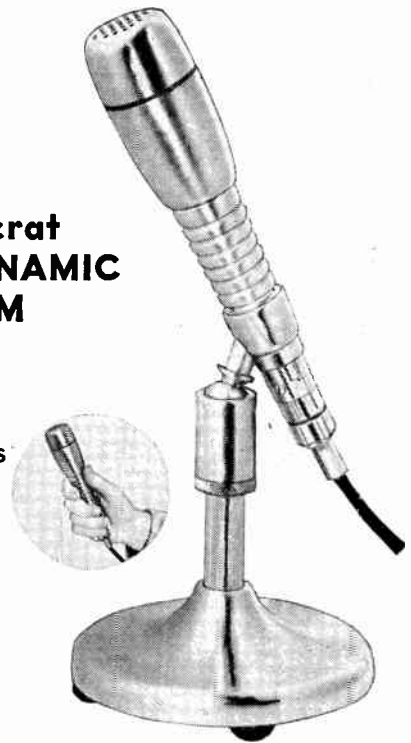
With slide on-off switch. List Price 31.50



*Microphones*  
**BY TURNER**

**The New  
Turner Aristocrat  
Model 50D DYNAMIC  
for TV - FM - AM**

- ★ Recording . . .
- ★ Broadcast . . .
- ★ Public Address



**THE CROWN JEWEL OF  
DYNAMIC MICROPHONES**

New beauty, new styling, new utility, and new performance make the Turner Aristocrat the finest of fine microphones. Each unit is laboratory calibrated to insure specification standards. Use indoors or out — in hand, on stand, suspended, or concealed in stage settings. Quickly and easily detached from ball swivel coupler for hand use. Non-directional polar pattern picks up sound from any direction. Equally effective for individual or group pickups with wide range, high fidelity reproduction. Completely self-contained, — its high output dynamic generator requires no closely associated auxiliary equipment for outstanding results.

**MODEL 50D DYNAMIC.** Frequency response: 50-15,000 c.p.s. flat within 2½ db. Level: 56 db below 1 volt/dyne/sq. cm. at high impedance. Available in 15, 50, 200, 500 ohms or high impedance output. Complete with ball swivel coupler, and 20 ft. two conductor shielded cable with cannon quick-disconnect plug (stand not included).....List Price \$150.00

**MODEL 60X CRYSTAL MICROPHONE**



A striking, low cost crystal microphone recommended where good quality speech reproduction is required and the factor of economy is important. A natural for hams, low priced public address systems, dictation machines, and home recorders. Use in hand, on desk, or on stand. Frequency response is 70 - 7000 c.p.s. and output level is 52 db below 1 volt/dyne/sq. cm. 6 ft. single conductor cable is securely anchored to case and cannot twist or pull out. Baked on beige wrinkle enamel finish. Complete with stand adaptor.

Model 60X .....List Price \$10.85  
Model S60X. With on-off slide switch.....List Price 12.85

**THE TURNER COMPANY, CEDAR RAPIDS, IOWA**



*Microphones*  
**BY TURNER**

**For AM·FM·TV·RECORDING·PUBLIC ADDRESS**  
**THE NEW TURNER 51D**

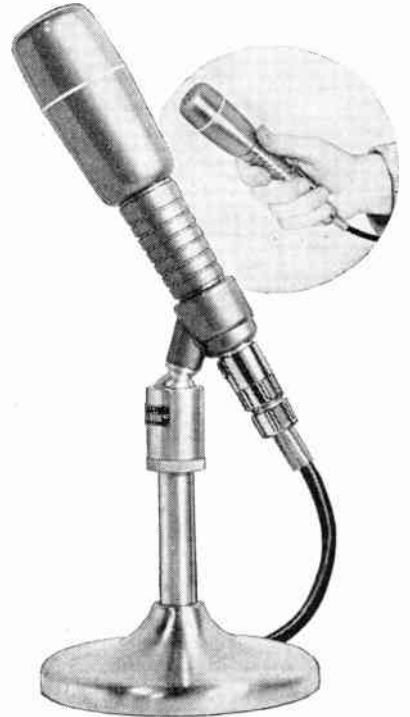
**DYNAMIC MICROPHONE**

This new dynamic microphone, handsomely finished in rich umber grey, offers exceptionally high quality performance at a new low cost. The slender, cylindrical design allows unobstructed vision for artists and audience. Omnidirectional in operation, the 51D picks up sound from any direction without discrimination . . . equally effective for individual or group pickups. Blast-proof head and rugged dynamic performance make it ideal for use indoors or outdoors . . . on stand, or quickly detached for hand use or suspension. No closely associated auxiliary equipment required.

**MODEL 51D DYNAMIC**

Frequency response: 60 to 13,000 c.p.s. substantially flat. Output level: 58 db below 1 volt/dyne/sq. cm. at high impedance. Impedance: choice of 50, 200 or 500 ohms or high impedance. Complete with ball swivel coupler, and 12 foot high quality two conductor shielded cable with Cannon quick-disconnect plug. (Stand not included)

List Price \$85.00



**The New TURNER Model 70D Dynamic or 70R Carbon**  
**Great performance — Amazing ruggedness**  
**Watertight! • Dust-Proof! • Corrosion-Proof!**

The new Turner 70 is a rugged, dependable unit designed especially to take tremendous punishment without affecting its clear, crisp voice response and high output. It is the ideal microphone for applications where high quality performance plus durability and dependability are demanded. It is completely impervious to water, dust and corrosion, even under conditions of prolonged exposure to these "mike wreckers."

Specific applications in which the 70 will prove to be superior are: Grain elevator, cereal mill, coal mine and other industrial uses where dust and corrosion render the average microphone useless in a short time; Shipboard and marine use, military, fire department, carnival and athletic field uses in which the 70 remains unaffected by water in any form—rainfall, mist, steam or total immersion.

All Model 70 and Model 71 microphones supplied complete with 7 foot attached cable, 2 conductor shielded for low impedances, single conductor shielded for high impedance. Quotations on request for any model furnished with Koiled Kord to meet your specifications.

**MODEL 70D DYNAMIC**—Frequency response: 200 to 5000 c.p.s. with slightly rising characteristic for maximum speech intelligibility. Output level: 52 db below 1 volt/dyne/sq. cm. Impedance: Choice of 50, 200, 500 ohms or high impedance, connected either for balanced line or single ended output. Diaphragm: Special heavy duty for maximum ruggedness and resistance to abuse—aluminum alloy.

List Price \$42.50

**MODEL 70R CARBON**—Same as 70D except with high quality carbon cartridge giving excellent articulation and intelligibility for speech. DC resistance: 150 to 250 ohms. Output level: 42 db below 1 volt/dyne/sq. cm.

List Price \$38.50



Standard models 71D and 71R (not sealed against prolonged exposure to water, dust and corrosion) are also available. Write for complete information.

**TURN TO TURNER for "sound performance"**

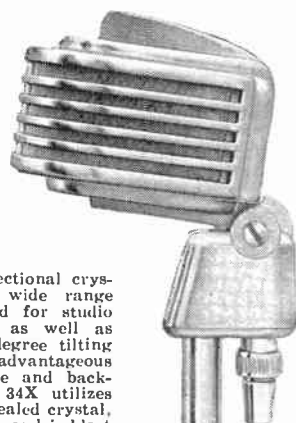
# Microphones BY TURNER



## BROADCAST QUALITY DYNAMIC

**MODEL 211.** Precision engineered for critical recording, P.A., sound system and broadcast work, including FM. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 30-10,000 c.p.s. Equipped with tilting head, balanced line output connection, and 20 ft. 2-conductor, heavy duty removable cable set. Satin chrome finish. 50 ohms, 200 ohms, 500 ohms or high impedance.

Model 211 .....List Price \$47.50



## MODEL 34X CRYSTAL MICROPHONE

Attractive, high fidelity, semi-directional crystal unit. Exceptionally smooth wide range frequency response. Recommended for studio and public address installations as well as quality recording work. Ninety degree tilting head permits tilting to most advantageous position to reduce audience noise and background disturbances. The Model 34X utilizes a high quality Bimorph moisture sealed crystal, automatic barometric compensator, and is blast and mechanical shock-proofed. Satin chrome finish. Level: 52 db below 1 volt/dyne/sq. cm. Response: 60-10,000 c.p.s. Complete with 20 ft. removable cable set.

List Price ..... \$29.00  
Model S-34X. With slide on-off switch .....List Price 31.50

## BEAUTIFUL NEW MODELS 25X AND 25D CRYSTAL AND DYNAMIC

A new leader in beauty and performance for all sound installations, call systems, recording, amateur communications, etc., indoors or out. Striking, modern case finished in rich two-tone umber gray with chrome plated grille. Full 90° tilting head for semi or non-directional operation.  $\frac{5}{8}$ "—27 coupler.

**MODEL 25X CRYSTAL.** Genuine Bimorph, high quality, moisture sealed crystal, mechanically isolated. Level: 52 db below 1 volt/dyne/sq. cm. Response: 50-9,000 c.p.s. Complete with 20 ft. removable cable set.

Model 25X .....List Price \$27.50

Model S-25X. With slide on-off switch .....List Price 30.00

Model P-25X. With push-to-talk button switch .....List Price 30.00

**MODEL 25D DYNAMIC.** High flux Alnico V magnets. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 50-10,000 c.p.s. Complete with 20 ft. removable cable set. High impedance wired single ended (single conductor shielded cable); 30, 200 or 500 ohms wired for balanced line (two conductor shielded cable).

Model 25D .....List Price \$40.00

Model S-25D. With slide on-off switch .....List Price 42.50

Model P-25D. With push-to-talk button switch .....List Price 42.50



## TURNER *Challengers*

### INEXPENSIVE, PRACTICAL MICROPHONES FOR GENERAL SOUND WORK

Priced within the range of every user, Turner Challenger Microphones offer performance, quality and appearance usually found in microphones listing at twice their low cost. Available with a choice of crystal or dynamic elements, they retain many of the high quality features of Turner construction. You can rely on Turner Challengers — they are fully guaranteed.

**MODEL BX CRYSTAL.** For recording, P.A., and amateur work. Brown Metallustre finish. Level: 52 db below 1 volt/dyne/sq. cm. Response 60-6,000 c.p.s. Complete with 7 ft. attached cable.

Model BX .....List Price \$11.75

**MODEL BD DYNAMIC.** Same appearance and finish as BX. Equipped with dynamic cartridge. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 100-6,000 c.p.s. Complete with 7 ft. attached cable. 50, 200, 500 ohms or high impedance.

Model BD .....List Price \$16.85

**MODEL CX CRYSTAL.** Satin chrome finish. 7 ft. removable cable set. Standard  $\frac{5}{8}$ " 27 mounting. Level: 52 db below 1 volt/dyne/sq. cm. Response: 60-7,000 c.p.s.

Model CX .....List Price \$16.25

**MODEL CD DYNAMIC.** Same style and finish as CX. High quality magnets. 7 ft. removable cable set. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 100-7,000 c.p.s. 50, 200, 500 ohms or high impedance.

Model CD .....List Price \$20.75

## MODEL M M

### MAGNETIC CONTACT PICKUPS



### FOR MUSICAL INSTRUMENTS

**MODEL MM.** Standard Turner pickup. Alnico V circuit provides uniform response over entire musical range. Gives pleasing reproduction of any string instrument. High impedance output. Installed in a few seconds. Complete with 20 foot cable and mounting device.

Model MM/VC.  
With volume control.....\$19.00

Model MM.  
Without volume control.. 16.75

DELUXE MODEL MIP  
(not illus.) ..... 23.50

## TURN TO TURNER for "sound performance"

**RUGGED TURNER  
DYNAMIC  
MICROPHONES**



*Microphones*  
**BY TURNER**

**UNFAILING DEPENDABILITY IN ANY CLIMATE OR TEMPERATURE . . .**

**FAMOUS TURNER MODEL 99**

Professional in appearance and performance. Smooth response not affected by heat, cold or humidity. Has adjustable saddle  $\frac{5}{8}$ "—27 mounting. Semi or non-directional operation. For announcing, and mobile public address systems, paging systems, communications, recording machines, etc. Gunmetal met-

alustre finish. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 60-9,000 c.p.s. 20 ft. removable single conductor shielded cable set. 50, 200, 500 ohms or high impedance.

Model 99 .....List Price \$36.00

**MODEL 999 BALANCED LINE DYNAMIC**

**For studio results under critical conditions.**

Same professional appearance as Model 99. Voice coil and transformer leads are insulated from ground and microphone case. Line is balanced to ground. Gunmetal metalustre finish. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 60-9,000 c.p.s. With 3 pin polarized locking connector and 20 ft. balanced line low capacity cable. 50, 200, 500 ohms or high impedance.

Model 999 .....List Price \$39.50

**MODEL U9S MULTI-IMPEDANCE DYNAMIC**

**Four impedances at your finger tips**

50, 200, 500 ohms or high impedance — get it quickly with the turn of the switch on the Turner U9S Dynamic. Same precision engineering and rugged construction as the Model 999 with built-in tapped multi-impedance transformer and switch. Dependable at all impedances and frequencies. Gunmetal metalustre finish. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 60-9,000 c.p.s. Complete with 20 ft. balanced line removable cable set.

Model U9S .....List Price \$42.50



**U9S  
ILLUSTRATED**



**TURNER MODEL 87**

**Velocity Microphone High Fidelity . . . Bi-Directional Multi-Impedance**

A new unit, engineered with single element ribbon supported in the field of an Alnico V magnet for maximum sensitivity. Thorough shielding excludes hum pick-up. The Model 87 has a bi-directional pick-up pattern with exceptionally smooth response from 80-10,000 c.p.s. Level: 62 db below 1 volt/dyne/sq. cm. at high impedance. Built-in impedance switch gives selection of 50, 200, 500 ohms

or high impedance output. Universal swivel mounting,  $\frac{5}{8}$ "—27 thread. Finished in dark amber gray with bright chromium screen. Complete with 20 ft. two conductor balanced line shielded cable.

Model 87 .....List Price \$49.85



**MODEL 77 . . .**

**THE TURNER  
"TRU-CARDIOID"**

The Turner "Tru-Cardioid" is a super-cardioid type microphone employing a combination of dynamic and velocity generators. "Tru-Cardioid" pickup pattern practically eliminates feedback, audience and background noise. Has wide range pickup at front and a sharply attenuated output at rear with approximately 15 db discrimination between front and rear at all frequencies. Response: 70-10,000 c.p.s. Level: 62 db below 1 volt/dyne/sq. cm. at high impedance. Built-in impedance selector switch gives choice of 50, 200, 500 ohms or high impedance output. 90 degree tilting head,  $\frac{5}{8}$ "—27 mounting. Finished in dark amber gray with polished chromium screen. Complete 20 ft. removable two conductor shielded cable set.

Model 77 .....List Price \$79.50



**TILTING HEADS**

Turner Microphone Models 22X, 22D, 25X, 25D, 33X, 33D, 34X, 211, and 77 are all equipped with 90° tilting heads.

**TURN TO TURNER for "sound performance"**

# Microphones BY TURNER



## MODERN, CONVENIENT, HAND HELD MICROPHONES



### MULTI-PURPOSE MICROPHONE The Turner "Han-D" Crystal or Dynamic

One of the handiest and most useful microphones made. Hang it, hold it, or mount on any standard floor or desk stand. Standard  $\frac{5}{8}$ "—27 thread mounting. Balanced to fit the hand naturally. Ideal for stage, paging, public address, amateur, mobile and traveling mike broadcasting. Satin chrome finish. Positive contact slide switch permits on-off operation.\*

**MODEL 9X CRYSTAL.** High quality, shock mounted, humidity protected crystal. Level: 52 db below 1 volt/dyne/sq. cm. Response: 60-7000 c.p.s. Complete with removable 7 ft. single conductor shielded cable set.

List Price ..... \$23.50

**MODEL 9D DYNAMIC.** Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 100-7000 c.p.s. Complete with removable 7 ft. single conductor shielded cable set. 50, 200, 500 ohms or high impedance.

List Price ..... \$28.50

\*Also available with heavy duty non-locking push-to-talk switch at same price. Specify: "P-9D" on order.

## THE TURNER BOOSTER



The Turner Television Booster and FM Amplifier is especially engineered to permit satisfactory TV reception in extreme fringe areas by increasing the television signal strength without appreciably increasing the noise level. It is also desirable for eliminating costly antenna installations in weak signal areas.

The now-famous cascode circuit utilizes the inherently low noise factor of the triode tube to provide an extremely high signal-to-noise ratio and deliver a higher usable gain.

- Continuous tuning on all channels
- Gain: 20 db on channels 2 to 6  
12-14 db on channels 7 to 13
- Fully shielded chassis
- Power Consumption: 6 watts, 105-120 volts, 50-60 cycles, a.c.
- Dimensions: 8" x 6" x 6"

List Price ..... \$57.50

Crystals licensed under patents of the Brush Development Company.

## THE POPULAR LOW COST TURNER TWENTY

A light-weight, convenient, hand held microphone available in a choice of crystal, dynamic, or carbon circuits. Various switching arrangements provide versatility for a wide range of applications. Equipped with hook ring for hanging. Bronze metalustre finish. Cable is securely anchored and is guaranteed not to pull out.

**Model 20X Crystal.** Level: 52 db below 1 volt/dyne/sq. cm. Response: 60-7000 c.p.s. 7 ft. cable. List ..... \$12.85

**Model S20X.** With push to talk switch having slide-lock feature. Switch connected in microphone circuit, normally open. List \$14.85

**Model SR-20X.** With push to talk slide-lock switch. Wired for relay control. List \$17.85

**Model 20D Dynamic.** Level: 52 db below 1 volt/dyne/sq. cm. Response: 100-7000 c.p.s. 7 ft. cable. List ..... \$16.85

**Model S20D.** (With push to talk switch having slide lock feature.) List ..... \$18.85

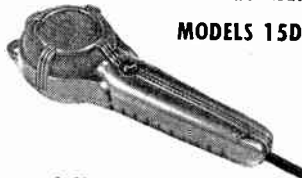
**Model SR-20D.** (For Relay Operation). List \$21.85

**Model 20R Carbon.** Level: 32 db below 1 volt/dyne/sq. cm. Response: 200-4000 c.p.s. 48" cable. List ..... \$12.85

**Model S20R.** (With push to talk switch having slide lock feature.) List ..... \$14.85

**Model SR-20R.** (For Relay Operation). List \$17.85

## MODELS 15D and 15D-NC HAND-HELD DYNAMICS



**Model 15D.** Heavy duty functionally designed case finished in gray gun metal. Hook for hanging when not in use. Equipped with attached 20 ft. two conductor shielded bal-

anced line cable. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 100-7000 c.p.s. Available in 50, 200, 500 ohms or high impedance. .... List Price \$31.50

**Model P-15D.** With push-to-talk button switch. .... List Price \$34.00

**Model 15D-NC.** Noise cancelling. Designed for intelligible communications under adverse background noise conditions. Unwanted sound cancelled out. Same case and finish as 15D.

Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: 100-5000 c.p.s. Available in 50, 200, 500 ohms or high impedance. Complete with attached 20 ft. two conductor shielded balanced line cable. .... List Price \$34.00

**Model P-15D-NC.** With push-to-talk button switch. List Price \$36.50

## L40 LAPEL MICROPHONE



Small, lightweight, and inconspicuous, the L40 can be worn in the lapel or concealed. Highest quality Bimorph, moisture sealed crystal produces high signal level. Engineered for crisp, clear speech reproduction. Chest sounds damped out. Alligator clip. Satin chrome finish. Level: 52 db below 1 volt/dyne/sq. cm. Response: 50-8000 c.p.s. With 20 ft. attached cable.

List Price ..... \$25.00

## WITH THIRD HAND—L40-3H

Slips over neck in a jiffy. Ideal for mobile sound work and call systems where operator needs both hands free. Indispensable for demonstrators. .... List Price \$30.00

# THE TURNER COMPANY, CEDAR RAPIDS, IOWA

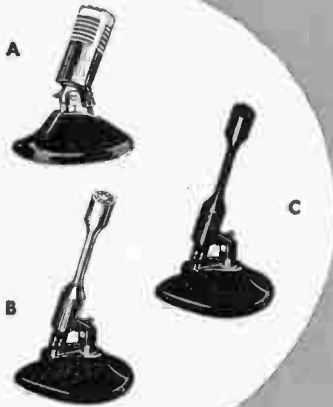


A complete line

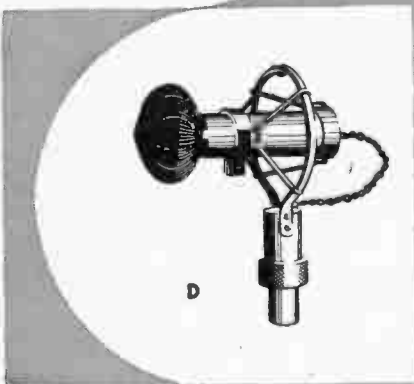
MICROPHONES

# FULL VISION *by American*

## Radio & TV



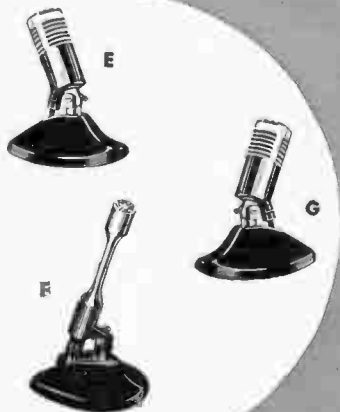
- A. DR-330 Cardioid (Dynamic and Ribbon) designed specifically for radio and television broadcast, and for motion picture studio requirements. The DR-330 Cardioid represents an achievement in ultimate cardioid performance. A superb smooth and extended peak-free frequency response, from 40-15,000 c.p.s., plus or minus 2.5 db., 50, 150 or 250 ohms impedance. List.....\$250.00
- B. D-33 Dynamic omnidirectional designed for broadcast, sound recording, public address. This full vision D-33 microphone provides extended peak-free frequency response, 40-15000 c.p.s., plus or minus 2. db., impedance 30-50 and 250 ohms. No pre-amplifier is required. List.....\$125.00
- C. D-33 Dynamic omnidirectional, antihalation finish; same specifications as D-33. The DR-330, DR-332, D-22 and R-331, shown on this page, are all available with permanent antihalation finish when specified. List (add to price of microphone).....\$10.00



## Motion Pictures

- D. D-44 Dynamic omnidirectional. 50-15,000 c.p.s., plus or minus 2.5 db., 0 degree angle of acceptance. Impedance 50 ohms, output level minus 86 db. List.....\$225.00 Exclusive American designed wind screen shown, efficient in wind velocities to 35 m.p.h., does not effect sensitivity or pattern. Wind screen available extra, fits Models D-22 and D-33 shown. List.....\$37.50

## Sound Recording and Public Address:



- E. DR-332 Cardioid represents an achievement in ultimate cardioid performance. A superb smooth and extended peak-free frequency response, from 50-8000 c.p.s., plus or minus 5.0 db. May be easily and quickly changed to low (30-50) med. (250), or high (40,000) ohms. List.....\$85.00
- F. D-22 Dynamic omnidirectional. Recommended for both public address and sound recording. Two impedances are provided, low (30-50) and high (40,000) ohms. Extended peak-free response 50-8,000 c.p.s., plus or minus 5.0 db., high output level, minus 52 db. No pre-amplifier is required. List.....\$75.00
- G. R-331 ribbon bi-directional. Designed for sound recording and public address. The R-331 ribbon microphone represents an outstanding achievement in performance. An exceptionally smooth and extended peak-free frequency response, from 50-8,000 c.p.s., plus or minus 3.0 db. May be easily and quickly changed to low (30-50) med. (250), or high (40,000) ohms. List.....\$75.00

*American*

MICROPHONE CO.

370 SOUTH FAIR OAKS AVENUE, PASADENA 1, CALIFORNIA

WRITE FOR FREE  
DESCRIPTIVE LITERATURE  
AND CATALOGUE NO. 46.

# American MICROPHONES

Licensed under Pats. of The Brush Develop. Co. and Licensed by Electrical Research Prods, Inc., under U. S. Pat. of A. T. & T. Co., and Western Elec. Co., Inc.

## C6 CRYSTAL MICROPHONE

**EXTREME SENSITIVITY.** New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure.

**BROADER RESPONSE.** Results of new construction include extension of both low and high end.

**BASS END IMPROVED.** Naturalness insured by improvement in low frequency response.

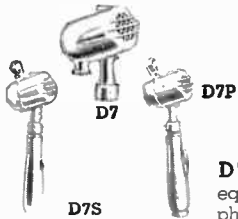
**LONGER LINES.** By increasing the voltage output, the cable length may be increased proportionately. In laboratory tests, regular cables 250 feet in length have been used with a net voltage sufficient to operate any standard high gain amplifier.

**MECHANICAL NOISE REDUCED.** Mechanical and stand noise is no longer a factor. The C6 method of crystal mounting reduces mechanical noises by 12 db.

**LESS AMPLIFIER AND INDUCED NOISE.** The high output of this microphone assures a very desirable signal-to-noise ratio.

**SWIVEL HEAD.** All angles for semidirectional and nondirectional pick-up are provided by the  $\frac{5}{8}$ " x 27 (standard) mounting connector.

Complete with 7' cable and plug at microphone. Polished chrome finish. Net weight 8 oz. Over-all height 3". Diameter  $2\frac{3}{8}$ ".  $\frac{5}{8}$ "x27 thread provided for suspension or stand mounting.  
C6 Crystal, Code CESIX.....List Price \$19.00



## THE "Clipper" DYNAMIC

**D7 and D7T MICROPHONES** equipped with single conductor Amphenol plug and 12½ feet shielded cable. Chrome finish,  $\frac{5}{8}$ "-27 thread stand mounting. Over-all height, 2½"; diameter, 1½". Net wt. 8½ oz. Hand microphones (D7P, D7TP, D7S, D7TS) with press-to-talk or slide switch all supplied with six feet of cable, loose ended. No plug.

**APPLICATIONS:** Excellent for communication purposes, Marine safety-at-sea installations, police broadcasting, amateur communication, public address, indoor and outdoor installations.

- D7T**—High Imp., 38,000 or 500 or 200 Ohms;  
Code: DISET .....List Price \$27.00
- D7TP** (Press-contact Switch),  
Code: DIMAT .....List Price \$31.00
- D7TS** (Slide Switch), Code: DIAHT.....List Price \$30.00
- D7**—Low Impedance, 50 Ohms,  
Code: DISEV .....List Price \$24.00
- D7P** (Press-contact Switch),  
Code: DIMAR .....List Price \$28.00
- D7S** (Slide Switch), Code: DIAHL.....List Price \$27.00

## RC CRYSTAL MICROPHONE

Complete with **NON-BREAKABLE PLASTIC STAND** and 7 foot Cable



RC Crystal Microphone may also be mounted on any stand equipped with standard  $\frac{5}{8}$ " x 27 thread. . . . An excellent microphone for Communication, Public Address or Amateur Radio.

HOME RECORDING OR BROADCASTING  
HIGH OUTPUT, GOOD QUALITY

Base easily removed by quarter turn, releasing bayonet lock. Cable replacements accomplished by releasing set screw in back of microphone and pulling gently on spring cable protector .....List Price \$10.90

# American



## ACCESSORIES

**SUSPENSION EYE.** For suspending any microphone with standard  $\frac{5}{8}$ " x 27 thread. Chrome finish. Sturdy. Code: DYEYE .....List Price \$2.00



Suspension Eye

**DD DESK STAND.** Round base, 4" upright. Net weight 1¼ lbs. 5¼" base. Chrome finish. Code: DYNES .....List Price \$4.50



DD Desk Stand

**BS BANQUET STAND.** Round base, 8" in diameter. Rods 12". Extended hgt. 24". Satin Black finish. Wt. 6 lbs. Code: FUDAS .....List Price \$12.00



BS Banquet Stand

**FH3 and FL3 FLOOR STANDS.** Approved by the best sound studios. Positive leather, friction-lock clutch. Noiseless operation. Rods 38". Extended height 6'. Three-contact, "floor grip," rubber-mounted base.



FH3 and FL3 Floor Stands

**FH3**, studio model, net weight 15 lbs. **FL3**, public address model, net weight 10 lbs.

**FH3 Floor Stand**, Code: FUHET .....List Price \$18.50

**FL3 Floor Stand**, Code: FLEXR .....List Price \$15.00

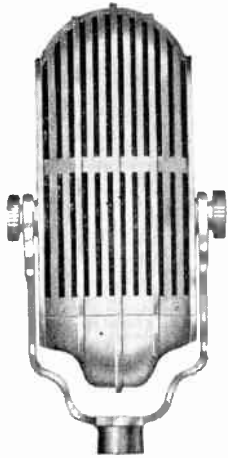
# American MICROPHONES

Licensed under Pats. of The Brush Develop. Co. and Licensed by Electrical Research Prods. Inc., under U. S. Pat. of A. T. & T. Co., and Western Elec. Co., Inc.

## D9A Unidirectional MICROPHONE

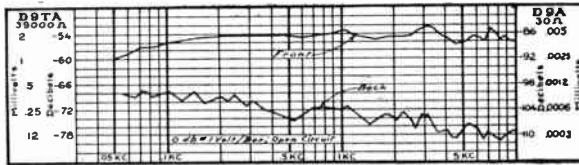
**GUARANTEED to produce 30% MORE VOLUME (power) than any microphone at twice the list price. UNIDIRECTIONAL, True CARDIOID pattern pickup, frequency response good to 10,000 c. p. s.**

**Actual Tests are Convincing Arrange for Test with your Jobber**



**THE D9A DYNAMIC**, a pressure-velocity combination microphone, with pick-up from front only, broad frequency response and high output, plus the usual dynamic microphone qualities of ruggedness, immunity to weather conditions, and circuit adaptability, should fill the majority of requirements.

The D9A Microphone is recommended for public address and general sound installations because its energy response field (cardioid of revolution) excludes extraneous pick-up and reduces feed-back by two-thirds. May be used for close talking due to the modified velocity section which also reduces wind noises to a minimum.



The above graph illustrates the average response characteristics for the D9A and D9AT. Voltage output levels, for 1 bar sound pressure (1 bar=1 dyne per sq. cm.) of the high and low impedance models. For 10 bar signal the output will be 20 db. higher.

Net weight, 2 1/2 lbs. Packed weight, 4 lbs. Height, 7"; depth, 2 1/4"; breadth, 2 1/2". Standard 5/8-27 thread provided for suspension or stand mounting. Finish: Satin Chrome.

25' Shielded Rubber-Jacketed Cable Supplied with each Microphone.

- D9A, Low Imp. (50 ohms).**  
Code: LOWEL.....List **\$42.00**
- D9AT, High Imp. (38,000 ohms).**  
Code: HIWEL.....List **\$45.00**  
Available on Order in 200 or 500 ohms.....List **\$45.00**

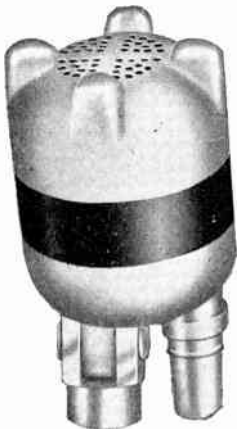
## D4T DYNAMIC MICROPHONE

**A QUALITY, LOW-PRICED, MOVING-COIL MICROPHONE.** For general use where clear speech and natural music reproduction is required. This new AMERICAN microphone is a very efficient instrument, having a broad range, from 60 to 7500 c.p.s., and high output of -56 db (0 db=1 v/bar). The utility value lies not only in the quality and type of response but also in mechanical features, such as light weight (approximately 10 1/2 oz.), a full 180° vertical angular setting, and positive friction lock at the swivel.

The D4T, high impedance, is equipped with a single-contact, shielded plug. The 50, 200 and 500 ohm models are equipped with a two-conductor plug and have a balanced line out.

The D4 model is of voice-coil impedance, approximately 30 ohms. Lines up to several hundred feet may be used on all models except the high impedance, where line should be restricted.

The complete assembly includes 12 1/2 feet of shielded, rubber-covered cable and shielded plug. Finished in platinum chrome. Standard mounting, 5/8" x 27 thread.



- D4T Dynamic (38,000 ohms), Code: DFORT**.....List Price **\$24.00**  
Available on order in 200 or 500 ohms.....List Price **\$24.00**
- D4 Dynamic (30-50 ohms), Code: DEFOR**.....List Price **\$21.50**

## DHT DYNAMIC HAND-HELD MICROPHONE

**Retractable Hanger — Press-to-talk Switch**

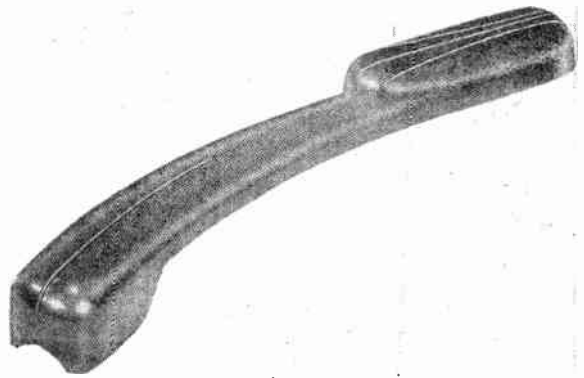
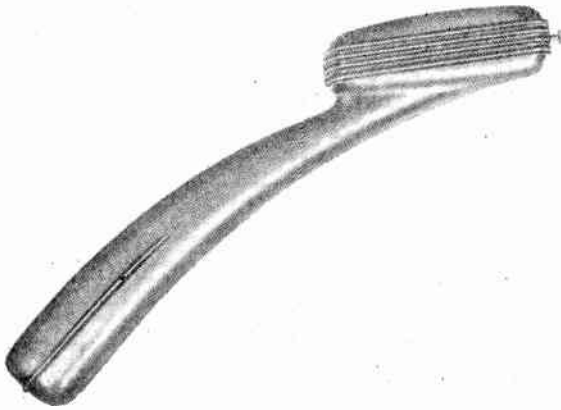


This compact, sturdy microphone was designed for all applications requiring a dependable hand microphone for voice communication. Small and lightweight, it can readily be concealed in the palm of the hand. An Alnico V magnet, efficient magnetic circuit and newly developed diaphragm and voice coil assembly combine to generate the high output of 56 db below 1 volt per bar for the high impedance model.

Other desirable features are: convenient hanger which retracts into the case of the microphone when not in use; molded plastic diaphragm not affected by heat, moisture or mechanical shock; supplied with five feet of low loss cable; press-to-talk locking type switch for operation of the microphone unit. Additional switch contacts on request.

- DHT Dynamic (38,000 ohms), Code: CALEB**.....LIST **\$25.00**  
Available on order in 200 or 500 ohms.....**\$25.00**
- DH Dynamic (30-50 ohms), Code: CALYX**.....LIST **\$22.50**
- CH Carbon hand microphone with switch, hangar and 5 feet cable. 70 ohms. Code: CARBO**  
LIST **\$20.00**

# American



**J-1 PHONOGRAPH PICKUP.** The curved arm with off-set head was designed to provide optimum tracking for both ten and twelve inch records with minimum wear of record and stylus. Base of the arm is designed for single hole mounting. Assembly includes CR-1A Crystal Cartridge, twenty-four inch single conductor shielded wire, arm rest, mounting hardware and complete mounting instructions.

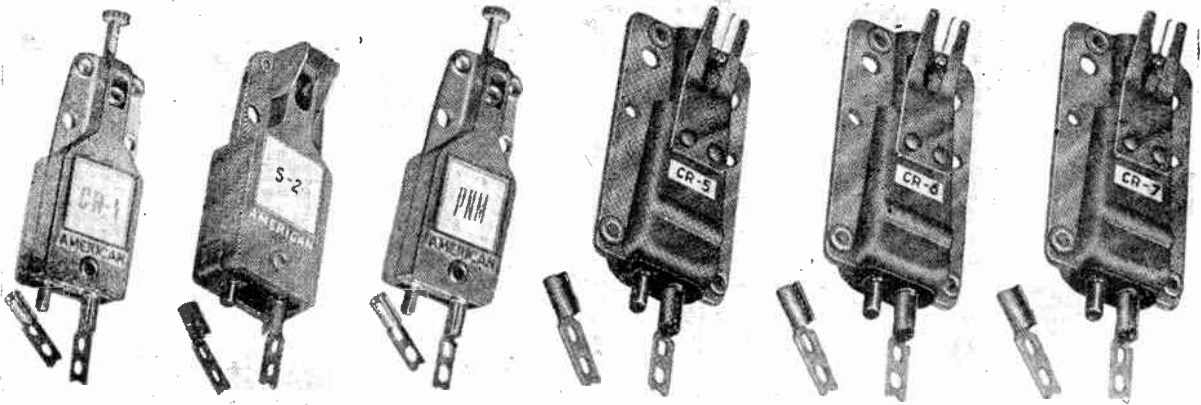
Model J-1 Code: JADED List: \$6.00

**J-3 LIGHTWEIGHT PHONOGRAPH PICKUP** for replacement purposes or new equipment. The arm is cast aluminum. The cartridge is aluminum. Needle force, 8 grams. For use with cartridges CR5, CR6, and CR7. Single hole mounting. Assembly includes arm and either cartridge CR5, CR6 or CR7.

Model: J-3 Code: JUBAL List: \$8.00

# American

## CRYSTAL CARTRIDGES



Model	List	Needle Force	*Output Voltage	Response	Terminals	Weight	Needle Screw	Type	Stylus	Code
CR1	\$4.00	1¼ oz.	3	8000	Pin	17 Grams	Thumb	Std. 78RPM	Optional	CINCH
CR2	4.00	1⅛ oz.	1½	7000	Pin	17 Grams	Thumb	Std. 78RPM	Optional	CIVIC
CR4	6.50	1¼ oz.	3½	8000	Pin	17 Grams	Thumb	Std. 78RPM	Optional	CLASP
CR5	6.50	6 grams	1	6000	Pin	5 Grams	Set	LP	1MO or S	CABAL
CR6	6.50	8 grams	1.1	6000	Pin	5 Grams	Set	Std. 78RPM	3MO or S	CUPAY
CR7	6.50	8 grams	1	6000	Pin	5 Grams	Set	Comb. LP&78	1MO or S	CADET
S2	6.50	1 oz.	1	6000	Pin	17 Grams	Set	Std. 78RPM	3MO or S	DELTA
PNM	8.00	1¼ oz.	1	5000	Pin	17 Grams	Thumb	Std. 78RPM	Optio. a	CRESS

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40

Radio's Master — 17th Edition

D-27



*The Finest  
Cardioid  
Dynamic!*



*You can  
actually hear  
the difference!*

## •UNI-DIRECTIONAL

NEW SUPERIOR ELIPSOID PICKUP PATTERN

## •ELIMINATES FEEDBACK

TROUBLE BECAUSE IT HAS LOWEST FEED BACK POINT OF ALL DIAPHRAGM TYPE MICROPHONES

## •FLAT RESPONSE. FREE FROM ANNOYING PEAKS, GIVING STUDIO QUALITY REPRODUCTION

The P.G. diaphragm follows air particle velocity where amplitude is a GRADIENT of the PRESSURE. In ordinary dynamics amplitude is restricted from following air particle velocity. The P.G. DYNAMIC is a radical improvement in this type of microphone. You can actually hear the difference. Case is designed according to modern acoustic principles. Rugged, not affected by temperature, altitude or humidity. Has unusually high output.



**Model PGH** —hi-imp. } **\$32.00**  
**Model PGL** —50 ohms } **List**

Output .....—55 db  
Freq. Resp. ....40-10000 CPS  
Cable Length .....25 ft.  
Finish .....Chrome  
Switch .....Yes  
Cable Connector .....Yes  
Stand Thread ..... $\frac{5}{8}$ -27  
Ship. Wt. ....2 $\frac{1}{2}$  lbs.



### PLASTIC BAFFLE FOR P.G. DYNAMIC

Increases output of the microphone 4 db. Especially useful when performer is at distance of 12" or more. Excellent for picking up entire stage, hands, etc. Snaps into place.  
Model PG.....List \$1.50

**Model PGAH**—hi-imp. } **\$25.00**  
**Model PGAL**—50 ohms } **List**

Output .....—60 db  
Freq. Resp. ....70-8000 CPS  
Cable Length .....12 ft.  
Finish .....Chrome  
Switch .....Yes  
Cable Connector .....Yes  
Stand Thread ..... $\frac{5}{8}$ -27  
Ship. Wt. ....2 $\frac{1}{2}$  lbs.

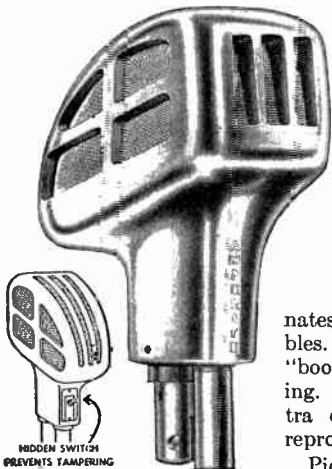
## AMPERITE MICROPHONE STANDS—SPECIFICATIONS

Model	Description	Base Wt.	Base Spread	Height Range	Thread	List Gunmetal or Chrome	Ship. Wt.
DS-M	Comb. Desk & Banquet	6 lb.	7 $\frac{1}{2}$ "	16"-24"	$\frac{5}{8}$ -27"	\$12.00	11 lb.
DS	Desk only	6 lb.	7 $\frac{1}{2}$ "	3"	$\frac{5}{8}$ -27" & $\frac{1}{2}$ " P.	6.00	11 lb.

PREFERRED BY LEADING P. A. MEN THE WORLD OVER



## New AMPERITE STUDIO "Ribbon" MICROPHONE MODELS R80H-R80L A "Blastproof Velocity" Eliminates Feedback Troubles



HIDDEN SWITCH PREVENTS TAMPERING

The Finest in  
Microphones  
regardless of  
Price

Reproduction is of the very highest type. Excellent for broadcasting, recording and public address. Eliminates feedback troubles. Will not become "boomy" on close talking. An entire orchestra can be faithfully reproduced.

Pick-up angle 120° front and back with practically no frequency discrimination. In spite of the wide pick-up angle, feedback is reduced to a minimum.

Not affected by temperature, altitude or humidity. Will operate under any climatic conditions—indoors or outdoors. Not affected by wind.

Frequency range 40-14,000 cps. Output—56 db. Complete with switch (optional), cable connector and 25' cable. Finish—Chrome. Stand. thread, Standard 5/8"-27.

Model	List
R80L—200 ohms output.....	\$80.00
R80H—High impedance.....	80.00
50 ohms available. Shipping Weight 10 lbs.	

## New "RIBBON" MICROPHONE, RBHG—RBLG Automatically Adjusted for Close or Distant Pick-Up A "Blastproof" Velocity

Studio reproduction—low feedback. A "ribbon" microphone that brings broadcast quality within everyone's reach. Perfectly natural reproduction on close talking—you can even shout into it. Will also faithfully reproduce an entire orchestra.

Pick up angle front and back—120° with practically no frequency discrimination. In spite of wide pick-up angle—feedback is reduced to an absolute minimum. Low feedback is due to flat response of the microphone.

Excellent for studio—P. A. or recording. Not affected by temperature, altitude or humidity. Can be used under all climatic conditions, and will withstand rough handling. Not affected by wind.

Frequency range 50-11,000 cps. Output—62 db. Complete with switch, cable connector, and 25' cable. Finish—Chrome. Stand thread—Standard 5/8"-27.



HIDDEN SWITCH PREVENTS TAMPERING

Model RBHG—High impedance .....	List \$42.00
Model RBLG—200 ohms output .....	42.00
50 ohms available. Shipping Weight 8 lbs.	

## COMPACT VELOCITY, ACH—ACL

The smallest complete velocity ever made

Compact—yet a complete Amperite "Ribbon" Microphone including transformer, switch and cable connector. Recommended wherever a compact microphone is a necessity. Can be used either as a hand microphone or on a stand. Frequency range 120 to 8,000 cps. Output—65 db.

Complete with switch—cable connector—12' cable. Stand thread—Standard 5/8"-27.

Model ACH—High impedance.....	List \$32.00
Model ACL—200 ohms output.....	32.00
50 ohms available. Shipping Weight 5 lbs.	



## AMPERITE KONTAK MIKE FOR MUSICAL INSTRUMENTS



(Model SKH)

Gives natural reinforcement without peaks. Easily attached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, —40 db.

Shipping Weight 2 lbs.



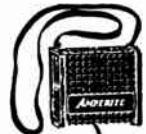
(Model KKH)

Model SKH—Hi-impedance .....	List \$12.00
Model KKH—With Hard Volume Control.....	List 18.00
Model KF—Foot Pedal Only .....	List 18.00
Low impedance available in model SKH at same price.	

## Amperite 7JH—7JL VELOCITY MICROPHONE "Lapel" Type

Reproduction is so perfect—you can hardly tell a microphone is working. Free from annoying peaks or mechanical reproduction. Output does not change with any position of the head. It can be concealed in clothing. Will operate under all climatic conditions. Unusually low feedback. Frequency range 60-7,000 cps. Output:—63 db. Cable length 25'. Rubber case.

Model 7JH—High impedance .....	List \$32.00
Model 7JL—200 ohms output .....	List 32.00
50 ohms available. Shipping Weight 3 lbs.	



## Model LGP—Input Transformer (Cable Type)

Enables the use of low impedance microphones and cable lengths up to 5,000' with amplifiers having high impedance input. Special shielding eliminates hum pick-up. Can be used with 25, 50, or 200 ohm microphones. Output connects directly into high impedance input of amplifier. Standard grade recommended for speech. Laboratory grade for music.

Model LGP—Lab—40 to 14,000 cps. ....	List 10.00
Shipping Weight 3 lbs.	



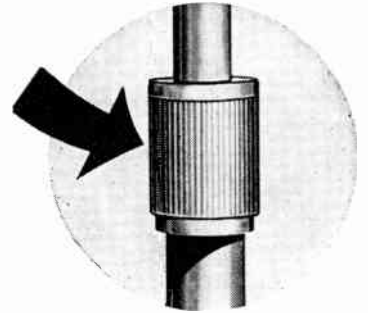


# ATLAS SOUND CORP.

the complete line for every public address need!

## ATLAS MICROPHONE STANDS featuring SPECIAL FULL-GRIP VELVET-ACTION CLUTCHES

Maximum Stability • Maximum Quiet & Ease  
Maximum Wear



The "Full-Grip" Clutch offers an extended length clutch body, permitting a secure, full-hand grip. The clutch mechanism is inner-lined with a wear-proof bakelite locking collet which grips without jamming, slipping, or sudden dropping. All bases are functionally designed to offer maximum stability for

a given base weight. The maximum base mass is located at the outer periphery of the casting where the concentrated weight is most useful. All bases include self-leveling, shock-absorbent base pads, plus three additional "anti-tip" points located between the base pads. The complete tube assemblies of all models are "super-chrome" plated, assuring "life-time" wear. All models terminate in a 5/8"-27 carefully machined thread.

MODEL	Weight	Base Finish	Tube Finish	Height Adjust.	Base Diam.	LIST PRICE
MS-10C	9 lbs.	Gray Shrivel	Full Chrome	35" to 64"	10"	\$ 9.75
MS-12C	12 lbs.	Gray Shrivel	Full Chrome	35" to 65"	10"	10.50
MS-11C	12 lbs.	Full Chrome	Full Chrome	35" to 65"	10"	13.00
†MS-20	15 lbs.	Gray Shrivel	Full Chrome	42" to 72"	12"	15.50
†MS-24	24 lbs.	Chrome & Gray Shrivel	Full Chrome	42" to 72"	17"	21.50
§CS-1	5 lbs.	Cadmium Plated	Full Chrome	23" to 62"	Collapsible	18.75
*CS-32	4 lbs.	Chrome & Gray	Full Chrome	36" to 64"	Demountable	10.25
*CS-33	3 lbs.	Hammerloid	Full Chrome	26" to 64"	Demountable	11.75

\*Each stand is individually packed complete in a single carton.  
†The MS-20 and MS-24 use large diameter, oversize, telescoping brass tube assemblies (7/8" telescoping tube - 1 1/8" base tube) resulting in a handsome and fine-appearing stand that supplements the professional appearance of large-size high quality microphones.  
§Collapsible to a minimum overall length of 23 inches.

### ADJUSTABLE BANQUET STAND

This stand incorporates the "Full-Grip Velvet-Action" principle of adjustment. The tube and base are completely finished in "super chrome" offering a fine appearing stand suitable for use on a banquet table. Adjustable from 18" to 32". Base diameter 8"; Weight 5 lbs.

Model TS-6

List Price \$9.00

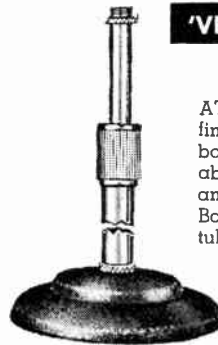


### 'VELVET ACTION' DESK STAND

MODEL DS-7

ATLAS Desk Stands employ the same fine finish and workmanship as embodied in the floor models. The adjustable Model DS-7 uses heavy duty 3/8" and 7/8" tubing. Felt base pads included. Base diameter 6", finish gray shrivel; tube chromium plated.

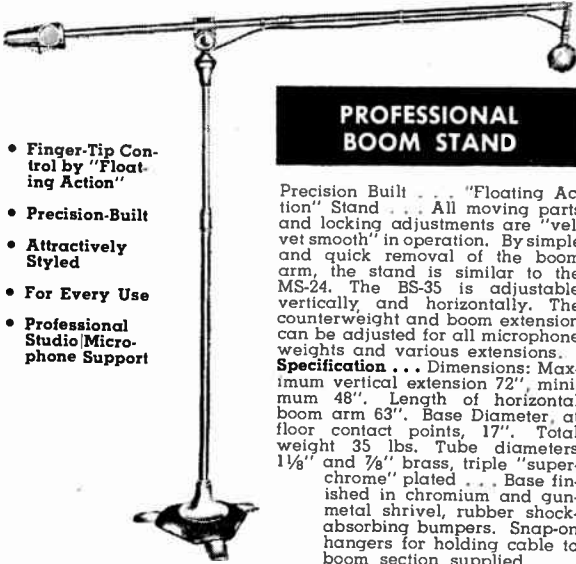
Model	Adj. Height	List Price
DS-5	Fixed 6"	\$3.00
DS-7	8" to 13"	5.00



# ATLAS SOUND CORP.



the complete line for every public address need!



## PROFESSIONAL BOOM STAND

- Finger-Tip Control by "Floating Action"
- Precision-Built
- Attractively Styled
- For Every Use
- Professional Studio/Microphone Support

Precision Built . . . "Floating Action" Stand . . . All moving parts and locking adjustments are "velvet smooth" in operation. By simple and quick removal of the boom arm, the stand is similar to the MS-24. The BS-35 is adjustable vertically, and horizontally. The counterweight and boom extension can be adjusted for all microphone weights and various extensions. **Specification . . .** Dimensions: Maximum vertical extension 72", minimum 48". Length of horizontal boom arm 63". Base Diameter, at floor contact points, 17". Total weight 35 lbs. Tube diameters and 7/8" brass, triple "superchrome" plated . . . Base finished in chromium and gunmetal shrivel, rubber shock-absorbing bumpers. Snap-on hangers for holding cable to boom section supplied.

Model BS-35 List \$60.00

## 'SNAP ON' MICROPHONE ATTACHMENT



A quick, simple, and safe means of attaching any microphone to any floor stand. Eliminates the need of threading the microphone on and off the stand. A two-section "Snap-On" ball bearing spring sleeve attachment permits the microphone to be attached or removed instantaneously. One section is attached to the microphone and one section permanently fastened to the stand.

Model SO-1 List Price \$2.75

## FLEXIBLE GOOSE NECK



Can be attached to any microphone stand so that some amount of overhang can be accomplished. Ends have 5/8"-27 male and female threads. Finished in bright chrome. Length 13".

Model GN-13 List Price \$2.75

## 'BABY BOOM' ATTACHMENT



Easily attached to any type of microphone stand. Can be locked in any position. Length of tube 32", chrome plated; castings in gray shrivel. 5/8"-27 thread size.

Model BB-1 List Price \$7.50

## MODEL US-1 BOOM BRACKET KIT



Will answer practically every conceivable problem of microphone placement. Set Screw assembly makes it possible to simply cut down any tubular section to any dimension and, thereby, tailor the bracket to suit the exact application. Microphone cable feeds through entire support arm including the adjustable elbow mechanism. Finished in bronze enamel. Main tube sections 22" long, support bracket tubes 5" long.

Model US-1 List Price \$11.50

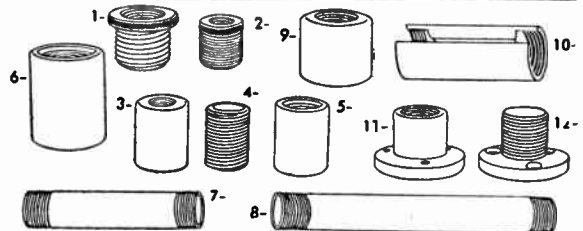


## BRACKET CLAMP

A multitude of useful applications. Can be used with Boom Arm, Goose Neck, etc. Chrome tube 6" long. Castings finished in gray shrivel. Can be clamped or permanently screwed or bolted in position. Thread size 5/8"-27.

Model BC-1 List Price \$3.50

## MICROPHONE ADAPTORS & FITTINGS



MODEL	Description	LIST PRICE
AD-1	5/8"-27 female to 1/2" pipe thread male (RCA Adaptor)	.60
AD-2	1/8" pipe female to 5/8"-27 male	.60
AD-3	1/8" pipe female to 5/8"-27 female	.60
AD-4	3/4" long, 5/8"-27 male running thread	.30
AD-5	5/8"-27 female to 5/8"-27 female coupling	.60
AD-6	7/8"-27 female to 7/8"-27 female coupling	.60
AD-7	3" long tube 5/8"-27 male each end	.60
AD-8	6" long tube 5/8"-27 male each end	.70
AD-9	7/8"-27 female to 5/8"-27 female	.60
AD-10	5/8"-24 female to 5/8"-27 female (W. E. Adaptor)	1.20
AD-11	Flange, 5/8"-27" female. Base Diameter 1 1/4"	.70
AD-12	Flange, 5/8"-27 male. Base holes on 7/8" mounting centers	.70

All adaptors chrome plated. We are prepared to supply any special types of adaptors or fittings, and bent tube sections, to your specifications in reasonable quantities.



# Brush

# CRYSTAL PRODUCTS



**BRUSH MODEL BA-109 MICROPHONE**

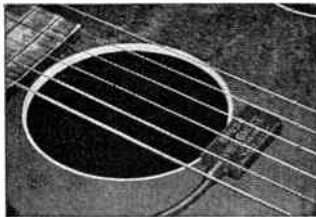
The Brush Model BA-109 microphone using the improved Acoustical\* was created for public address, home recording and amateur applications. The "Metalseal"\* crystal insures long life and reliability. Styled in rich maroon plastic and brushed chrome in compliance with the recent trend in industrial design.

- ✓ Response from 40 to 10,000 cps.
- ✓ Output Level 54 db. below 1 volt/dyne/cm<sup>2</sup>.
- ✓ Non-directional.
- ✓ High impedance equivalent to approximately .002 mfd. (1.8 meg. ohms at 1,000 cycles.)

The microphone is designed for use with standard 5/8" 27 thread microphone stand.

**List Price . . . . . \$22.50**  
 \* Trade Mark Shipping Wt. 1 lb.

**BRUSH MODEL "VM-1" "VIBROMIKE"**



The VM-1 or "Vibromike" is a miniature CONTACT-TYPE microphone with high sensitivity and unusually wide-range frequency response (30 to 6,000 cps.). Output voltage from .05 to .1 volt or higher. Size of microphone 7/8" x 3/4" x 5/8".

Designed for a broad field of reproduction applications through direct contact. Adaptable to musical instruments, industrial uses—detecting mechanical vibrations. Hermetically sealed in black rubber covered case.

Microphone complete with mounting clamp and 25' of cable.  
**Model VM-1 . . . (#325) . . . . . \$19.50 list**

**BRUSH MODEL "BL-2" LAPEL MICROPHONE**



The improved Model BL-2 lapel microphone features virtually flat response from 30 to 10,000 cycles. Output level 57 db. below 1 volt/dyne/cm<sup>2</sup>. Small and rugged (1 1/2" x 2 1/4") the BL-2 can be used in hand or as instrument pickup as well as in lapel. Microphone complete with 25' of cable.

**Model BL-2 (BA-111) \$25.00 list**  
 Net Wt. 8 oz. Shpg. Wt. 2 lbs.

**BRUSH MODEL BA-106 MICROPHONE**

The Brush Model BA-106 is a high quality microphone incorporating the hermetically sealed "Acoustical"\* with Sintered bronze damping. "Metalseal"\* crystal is used for protection against conditions of high humidity. This microphone offers unexcelled response in microphones of this type and price range.

Vibration, shock or low frequency wind noise do not affect the performance of this microphone.

Output level 50 db. below 1 volt/dyne/cm<sup>2</sup>.

Flat from 40 to 6,000 cps. Unexcelled for home recording, public address systems, ham shacks, monitoring and institutional and industrial applications.

Net Wt. 1 1/4 lbs.  
 Shipping Wt. 3 1/4 lbs.

**List Price . . . . . \$19.75**



**BRUSH MODEL BA-116 MICROPHONE**



The Brush Model BA-116 microphone features rugged dependability and uniform frequency response. Because of its quality features, this microphone is unexcelled in its price range for home recording, amateur, public address, institutional and industrial paging applications.

The microphone's "Metalseal"\* cartridge insures long life and reliability. It's shock mounted for protection against microphone stand and other mechanical noises.

Styled in brown hammered metallic finish and designed for desk or hand use without need of a stand. A standard 5/8" 27 thread is incorporated for floor stand use.

Net Wt. 1 lb. 4 oz. Shipping Wt. 1 lb. 8 oz.

Frequency Response	Output	Cable	List Price
50 to 6,000 cps.	53 db. below 1 volt/dyne/cm <sup>2</sup>	8'	\$14.75

**PRICES SUBJECT TO CHANGE WITHOUT NOTICE**

Complete technical data on request  
 \* Trade Mark. Reg. U. S. Pat. Off.

**THE BRUSH DEVELOPMENT CO.**

# Brush

# CRYSTAL PRODUCTS

Brush crystal phones possess the following outstanding features:

1. BIMORPH\* crystal drive element of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones.

### BRUSH MODEL BA-206 HEADPHONE



Designed for use where High Fidelity and smooth frequency response are of paramount importance. They are especially applicable to broadcast monitoring, to laboratory use in the study of sound measurements, audiometry and similar exacting headphone applications. Features exceptionally flat frequency response. Impedance of 100,000 ohms at 1000 cps; no transformer required. Ideal for multiple installation. Sensitivity is approx. 6.3

### HIGH FIDELITY MODEL "A-1"



For use where HIGH FIDELITY and extended frequency response are of paramount importance. (60 to 10,000 cps. Corrected for rising response below 200 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar exacting headphone applications. Sensitivity approx. 1.5 dyne/cm<sup>2</sup>/volt at 1,000 cps. Impedance over 80,000 ohms at any frequency within audio range. Headset complete with 5' cord and headband.

Model A-1 . . . (#205) . . . \$18.00 list  
Net Wt. 6 oz. Shipping Wt. 2 lbs.

### BRUSH MODEL "A" LORGNETTE PHONE



The "A" lorgnette phone is designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light weight, easy to handle, and comfortable at the ear.

Single phone complete with 5' cord and lorgnette handle.

Model A . . . (BA-202) . . . \$9.75 list  
Net Wt. 5 oz. Shipping Wt. 1 lb.

### MODEL BA-303 HUSHATONE\*



A miniature, molded plastic extension speaker for under pillow use. Disc shaped (4 1/8" dia. by 1 1/8" thick). Makes no uncomfortable lump beneath the pillow. Tone quality comparable to cone type speaker because of specially engineered response. Speaker gives ample output with low power consumption (.001 watt). Hermetically sealed, can be dipped into disinfecting solution (temperature not above 120°F). Light weight BIMORPH\* crystal drive element insures uniform response and high sensitivity. No parts to wear, loosen, or become detached. Furnished in maroon with satin chrome trim. HUSHATONE\* with 10' cord.

Fair Trade Retail Price . . . . . \$9.75  
Net Wt. 8 oz. Shipping Wt. 2 lbs.

2. Wider range response with more uniform output.
3. Compensation for ear coupling.
4. Light-weight, rugged, shock-proof construction.

dynes/cm<sup>2</sup>/volt at 1000 cps. Low percentage of distortion. Designed to give your ear a smooth comfortable air-tight fit which provides an excellent bass response. The Metalseal Crystal\* drive element is of such high impedance that line or circuit characteristics are not affected when monitored by these phones. Available in double, single and lorgnette models:

BA-206 . . . . . Double . . . . . \$28.00 list  
Net Wt. 8 oz. Shipping Wt. 2 lbs.

BA-207 . . . . . Single . . . . . \$16.00 list  
Net Wt. 4 oz. Shipping Wt. 1 lb.

BA-208 . . . . . Lorgnette . . . . . \$22.95 list  
Net Wt. 6 oz. Shipping Wt. 1 lb.

### BRUSH MODEL "A" GENERAL PURPOSE

Designed for GENERAL PURPOSE applications including laboratory, studio and skilled amateur home use. The BIMORPH\* crystal drive element insures wide ranges response (100 to 8,000 cps. and high sensitivity. High impedance; ideal for multiple installations.

Headset complete with 5' cord and adjustable headband.

Model "A" . . . (#200) . . . \$12.00 list  
Net Wt. 6 oz. Shipping Wt. 2 lbs.



### BRUSH MODEL "A" SINGLE PHONE

Particularly adapted to individual or group hearing aid and radio applications. Light weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber cushion to eliminate slipping.

Single phone complete with 5' cord and headband.

Model "A" . . . (#202) . . . \$6.45 list  
Net Wt. 3 oz. Shipping Wt. 1 lb.



### BRUSH MODEL "RC-20" CRYSTAL CUTTER

The Brush RC-20 Crystal Cutter has been designed to satisfy the demand for high quality, low cost recordings in the home, school and studio. Due to its inherent stiffness, the RC-20 will cut lateral type records in virtually all hard or soft disc materials. Being of simple and compact design, it is readily adaptable to all types of transcription equipment. A three watt amplifier is sufficient to satisfactorily drive the RC-20 cutter frequency response—flat within plus or minus 3 db. from 50 to 9 000 cps.

Cuts "Constant Amplitude" without equalization, and "Constant Velocity" or other desired frequency characteristics with suitable equalization. Complete technical data sent on request. Cutter (less stylus).

Model RC-20 . . . (#385) . . . \$25.00 list  
Net Wt. 4 oz. Shipping Wt. 2 lbs.



Prices Subject to Change Without Notice Complete technical data on request \*Trade Mark Reg. U. S. Pat. Off.

## THE BRUSH DEVELOPMENT CO.

# — TRIMM —

## HEADSETS AND ACCESSORIES

### FEATHERWEIGHT

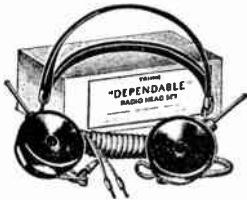


The world-famous TRIMM FEATHERWEIGHT headset. Weight: 4½ oz. complete with two units, 5-ft moisture-proof cord. Bakelite shell and cap. A custom-built phone throughout. Available in all standard ohmage.

#### 24,000-OHM IMP. SPECIAL for amateurs

- No. 106—Double, adjustable nickel-plated headband.....\$11.00
  - No. 107—Double, fabric-covered wire headband..... 11.00
- STANDARD FEATHERWEIGHT HEADSETS are available in 3, 76, 220, 500, 2M, 4M and 5M ohms d.c. resistance (Impedance approximately 5 times greater).
- No. 100—Double, adjustable nickel-plated headband.....\$11.00
  - No. 104—Double, fabric-covered wire headband..... 11.00

### DEPENDABLE



When a high grade headset is desired, but price must be considered, choose the DEPENDABLE. Bakelite caps and shells. Extra heavy chrome steel forged magnets, 5-ft. cord, vinyl plastic covered wire headband.

- No. 65—Double, 2M ohms.....\$4.80
- No. 67—Single, 1M ohms..... 2.60

### GROUP HEARING AID COMPONENTS

#### FEATHERWEIGHT EARPHONES



The most widely used single earphones for group hearing aid systems in churches, theatres, mortuaries, etc., are of the FEATHERWEIGHT type. Available with either lorgnette handles, or single headbands. Standard ohmage: 76, 1,000 ohms d.c. Low (less than 100-ohm), medium (100-500-ohm), and high (500 ohms and over lines respectively).



- No. 110—Headband type .....\$7.15
- No. 120—Lorgnette type ..... 8.25

#### OUTLET BOXES AND CONTROLS



Boxes 460 and 461 are recommended for the majority of installations, combines volume control and jack. No. 460 has brown hammertone finish, No. 461 glossy ivory to improve visibility in theatres. Standard ohmage: 1000 for low impedance lines, 10,000 for high.

- No. 460—Outlet Box (Brown—specify ohmage).....\$4.40
- No. 461—Outlet Box (Ivory—specify ohmage)..... 4.40
- No. 477—Outlet Box, dual jack, brown, same general shape as No. 460 ..... 3.85
- No. 478—Outlet Box, dual jack, ivory ..... 3.85
- No. 484—Outlet Box, single jack, brown ..... 3.30
- No. 485—Outlet Box, single jack, ivory ..... 3.30

### PROFESSIONAL

The choice of countless users . . . The original TRIMM headset. Watch case bipolar design, cap and shell molded of black bakelite (unless specified otherwise). Chrome steel forged magnet, concealed terminals, 5-ft. tinsel-braided cord. Standard resistance for double headsets: 4, 78, 500, 2M, 3M and 4M ohms d.c.



- No. 70—Double (4M ohms furnished if not specified).....\$5.80
- No. 72—Single (2M ohms maximum ohmage)..... 3.30

### ACME

A superior lightweight, low-cost headset. Cap and shell of molded bakelite. Weight: 6 oz. Cord: 4½-ft.



- No. 24—Double, 2M ohms, vinyl-covered headband.....\$3.95
- No. 24—Double, 4M ohms, vinyl-covered headband..... 4.10
- No. 25—Double, 2M ohms, metal headband..... 3.35
- No. 25—Double, 4M ohms, vinyl-covered headband..... 3.65
- No. 27—Single, 1M ohms, metal headband..... 2.00

### "501" PLUG

Similar to widely used Sig. C. PL-55 plug, brass body, tip permanently attached to rod, assembly cannot come apart. Precision profiled and polished for perfect contact with jack.



- No. 501 —Black plastic shell.....\$1.75
- No. 501-10—Black plastic shell, similar appearance to No. 501 but combines tip and sleeve assembly of "511" type plug. Ideal where cost is important..... 1.15
- No. 501-11—Red plastic shell..... 1.15

### "511" PLUG



The standard radio phone plug. Tip and sleeve bright nickel. Stay cord anchorage provided. Shielded types have a fiber liner.

- No. 511 —Black plastic shell.....\$0.55
- No. 511-1—Red plastic shell..... .55
- No. 511-2—Shielded, nickel-plated, single-piece shell..... .95
- No. 511-3—Shielded, nickel-plated, two-piece shell..... 1.45
- No. 511-4—Shielded, nickel-plated, stubby shell..... .90
- No. 515 —Adapter (Couples Amphenol type microphone plug to standard phone jack)..... .50

### "512" PLUG

Compact, non-protruding design. Bakelite body, nickel-plated tip and sleeve. Cord pin tips held by set screws.



- No. 512 .....\$0.75

### "514" MIN-A-PLUG



Developed especially for shielded microphone cable. Standard tip-sleeve construction. Wing type terminal clamps directly onto cord shield. Center conductor solders to lug.

- No. 514 —Black plastic shell.....\$0.55
- No. 514-1—Red plastic shell..... .55
- No. 514-2—Shielded shell ..... .90
- No. 514-3—Shielded, stubby shell..... .85

See other sections of U.C.P. Catalog or TRIMM General Catalog for more complete listings of headsets, plugs, jacks, replacement parts.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

# — TRIMM —

## HEADSETS AND ACCESSORIES

### COMMERCIAL



One of the most ruggedly built yet lightweight headsets. Practically non-breakable. Shell and cap molded of high strength plastic. Diameter 2 1/8", depth 3/4", cord 5-ft. tinsel, moisture-proof construction, type No. 501-10

plug attached. Leather-covered headband. This headset is recommended for monitoring service because of its high quality performance.

- No. 156—Double, 600 ohms Imp. ....\$17.60
- No. 157—Double, 17M ohms Imp. .... 17.60
- No. 158—Double, 600 ohms Imp., no plug ..... 15.95
- No. 159—Double, 17M ohms Imp., no plug ..... 15.95

### ARMY-NAVY

Very sensitive, 6-ft. waterproof cord, phone tip terminals. Plastic cap, metal shell. Leather headband. Weight: 1 lb. Available in two impedances.



- No. 29—Double, 2,200 ohms d.c. (20M ohms Imp.).....\$17.60
- No. 28—Double, 112 ohms d.c. (600 ohms Imp.)..... 17.60

### TRIMM "B"

Suggested for hospital installations. Bakelite shell and cap. Forged bar magnet. Fabric-covered headband. 5-ft. tinsel cord.



- No. 42—Double, 2M ohms.....\$8.80
- No. 43—Double, 600 ohms Imp.....8.80
- No. 44—Single, 1M ohms..... 5.10
- No. 45—Single, 300 ohms Imp..... 5.10

Ohmages given are d.c. resistance unless specifically indicated as impedance which is about 4-7 times the d.c. resistance.

Prices subject to change without notice.

### HEADSET REPLACEMENT PARTS

#### CORDS FOR TRIMM HEADSETS

- No. 811—Double, black, 4 1/2-ft., braided. Fits Acme and Rex.....\$1.27
- No. 821—Double, black, 5-ft., braided. Fits Dependable ..... 1.32
- No. 822—Double, black or brown (specify), braided. Fits Professional ..... 1.54
- No. 831—Double, black, 6-ft., moisture-proof, braided. Fits Featherweight ..... 2.09
- No. 870—Double, black or brown (specify), 6-ft., moisture-proof, braided. Fits Commercial..... 1.76
- No. 880—Double, black, 6-ft., waterproof, braided. Fits Army-Navy, etc. .... 3.30
- No. 807—Single, black, 4 1/2-ft., all-rubber. Fits Acme and Rex..... .62
- No. 826—Single, black, 5-ft., braided. Fits Dependable, Professional, etc. .... .94
- No. 838—Single, black, 6-ft., moisture-proof, braided. Fits Featherweight ..... 1.65

#### MISCELLANEOUS CORDS

- No. 881—Double, black, 5-ft., pin tips at terminal and receiver ends..\$1.10
- No. 882—Double, black, 5-ft., pin tips at terminal. Fits Brush type A headsets ..... 2.20
- No. 883—Double, black, 5-ft., pin tips at terminal, spade at receiver end ..... 1.10
- No. 884—Double, black, 5-ft., pin tips at terminal, eyelet and receiver end. Fits Brandes, etc..... 1.21
- No. 845—Double, all synthetic rubber cordage with molded plastic crotch. Terminals and length as specified. Widely used in hospital radio installations.... 2.75

#### DIAPHRAGMS

- No. 610—Featherweight .....\$0.25
- No. 612—Professional, Dependable ..... .20
- No. 613—Acme and Rex..... .20

#### EAR CUSHIONS



Sponge rubber ear cushions provide maximum ease in wearing headsets. Fit TRIMM Featherweight, Commercial, Acme, Rex, and "E" types.

- No. 654 .....\$1.50

For complete listing see TRIMM General Catalog

### PATCH CORDS

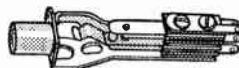


Widely used by the majority of radio stations. Cord assembly uses TRIMM No. 506 twin plugs and high quality shielded cord. Plug self aligning.

Number following "840" represents length.

- No. 506 —Plug, twin type.....\$ 4.95
- No. 840-1-PP—Cord-Plug assembly .... 13.20
- No. 840-2-PP—Cord-Plug assembly .... 13.42
- No. 840-3-PP—Cord-Plug assembly .... 13.80
- No. 840-4-PP—Cord-Plug assembly .... 14.19
- No. 840-6-PP—Cord-Plug assembly .... 14.96

See TRIMM Bulletin R-15 for more complete listing of Patch Cords, Plugs, etc.



### JACKS

TRIMM "90" Series, illustrated above, is commonly used for telephone switchboard types of applications, and permits very close spacing of jacks. The bushing at end of frame is plain, unthreaded, and the jack is mounted by means of a screw through the panel mounting plate. Frame is of steel, suitably plated. Springs are of nickel silver, and contacts are of fine silver providing excellent electrical contact.

#### CIRCUIT

#### "90" SERIES

	CODE No.	LIST
	90-01	\$1.00
	90-02	1.21
	90-03	1.21
	90-04	1.27
	90-05	1.32
	90-06	1.38
	90-07	1.54
	90-25	1.21
	90-26	1.60
	90-27	1.76

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

### ADDITIONAL PRODUCTS MANUFACTURED BY TRIMM

- \* WIRE WOUND POTENTIOMETERS
- \* RHEOSTATS
- \* L AND T PADS
- \* MIDGET EARPHONES
- \* STETH-A-PHONES
- \* MIN-A-PHONES

\* Items marked with (\*) are temporarily discontinued

- INSTITUTIONAL HEADSETS
- SPECIAL ARMY-NAVY HEADSETS
- PLUGS
- JACKS
- PATCHCORDS
- REPLACEMENT CORDS

COMPLETE LINE OF TELEPHONE PLUGS AND JACKS TO A-N SPECIFICATIONS  
Further information on all items available upon request.

## MONOSET \*

Direct Signal for Both Ears! Stethoscope design eliminates tire some pressure . . . Blocks out background noise . . . Weighs only 1.2 oz. . . . Excellent for communications, dictation equipment, aircraft radio, etc.

	List
Monaset only	\$ 9.95
Monaset with Standard Cord	14.15
Monaset with Volume Control Cord	18.55
Standard Cord only	4.20
Volume Control Cord only	8.60

**SPECIFICATIONS**—Sensitivity: 88 db. above .000204 dynes per sq. cm. for 10 microwatts input. Impedances: 128 ohms, 500 ohms, 2,000 ohms. Construction: Sealed magnetic receiver . . . Grey polished Tenite plastic . . . Removable plastic ear tips . . . 5 ft. finsel cord with standard plug. Built-in volume control optional.



## TWINSET \*

Nothing touches the ear! Adjusts to any head without pinching or pressure . . . Adjustable sound arm need not touch ear . . . Entire unit weighs only 1.6 oz. . . . Flexible, can be slipped into pocket . . . C. A. A. approved . . .

	List
Twinset only	\$13.05
Twinset with Cord	17.25
Monocord only	4.20

**SPECIFICATIONS**—Sensitivity: 101 db. above 000204 dynes per sq. cm. for 10 microwatts input. Impedances: 1,000 ohms—brown; 64 ohms—yellow. Coding visible inside female socket. Construction: Tenite plastic and bright nickel. Headband, spring steel wire cased in Tenite. 5 ft. Monocord plugs into either receiver. Special cord with built-in volume control available.



## PILLOW SPEAKERS

<p><b>DYNAMIC</b></p> <p>Model 51 Deluxe Dynamic Speaker complete with cord &amp; plug</p> <p>List \$13.20</p> <p>Model 51 Deluxe Dynamic Speaker with Transformer—available upon request up to 20,000 ohms</p> <p>List 15.50</p>	<p><b>MAGNETIC</b></p> <p>Model R Complete with Cord &amp; Plug</p> <p>List \$12.10</p> <p>Model R Unit only, no Cord</p> <p>List 7.90</p> <p>Standard Cord &amp; Plug</p> <p>List 4.20</p>
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**TELEX**

\* TRADEMARK

HEARING AT ITS BEST!

**ELECTRO-ACOUSTIC DIVISION • TELEX PARK**  
ST. PAUL 1, MINN. In Canada, Atlas Radio Corporation, Toronto

DEPT. B-17

## DYNASET \*

New Dynamic Under-the-Chin Headset with dynamic driver in plug. Excellent for office transcribing, radio monitoring and telecasting. Higher fidelity brings more lows and highs to your ears. Extremely sensitive—lightweight, only 1.25 oz. Comfortable under-the-chin styling.

	List
Dynaset Complete	\$15.60

**SPECIFICATIONS**—Sensitivity: Approximately 105 db. above .000204 dynes per square centimeter for one milliwatt power input. Recommended Maximum Power input: 25 MW. Impedance: 6 ohms. Construction: Anodized aluminum tone arm. Dynamic Driver housed in specially molded Tenite No. 2 plug. Frequency Range: 50 to 8,000 cps. or better.



# NEW WAYS TO

# 6 TELEX

# LISTENING COMFORT

## EARSET \*

Slips onto the ear! Made with flat plastic frame or slim metal bow, Earset holds sensitive receiver securely in place . . . Weighs only 1/2 oz. . . . User's other ear is always free for phone calls or conversation . . . Fits either ear, may be worn by anyone . . .

<b>PLASTIC EARSET</b>	List
Earset only	\$ 7.80
Earset with Cord & Plug	12.00
Standard Cord only	4.20
<b>METAL EARSET</b>	List
Earset only	\$ 8.50
Earset with Cord & Plug	12.70
Standard Cord only	4.20

**SPECIFICATIONS**—Sensitivity: Comfortable listening level with 3 milliwatt input. Impedances: 120 ohms, 2,000 ohms. Construction: Clear plastic ear frame or metal bow. Sealed, rustproof receiver. 5 ft. Monocord with standard phone plug connection.



STANDARD OF THE WORLD FOR QUALITY HEADSETS

# HEADPHONES By C. F. CANNON



## THE "CHIEF" Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is  $2\frac{1}{8}$ ". Double coils, two in each receiver. Chrome steel magnets  $\frac{3}{4}$ " diameter. Supplied with braid-covered headband with permanent adjustment and no removable parts. Cotton covered cord,  $4\frac{1}{2}$  ft. long.

CC-2—2000 ohms D.C.	.....List	\$4.00
CC-3—3000 ohms D.C.	.....List	4.50
CC-5—5000 ohms D.C.	.....List	5.50

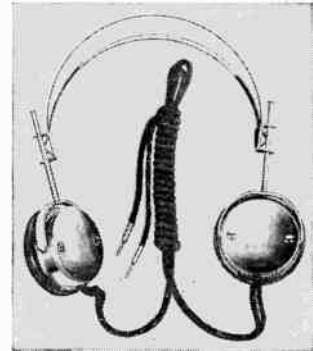


## CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm  $2\frac{1}{2}$ ". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2	.....List	\$6.50
AM-25-3	.....List	7.00
AM-25-5	.....List	8.50



## THE "MASTER" Cannon-Ball Headset

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm  $2\frac{1}{4}$ " diameter. Double coils. Chrome steel magnets.  $4\frac{1}{2}$  ft. cotton-covered cord.

MC-2—2000 ohms D.C.	.....List	\$3.50
MC-3—3000 ohms D.C.	.....List	4.00
MC-5—5000 ohms D.C.	.....List	5.50

## CANNON-BALL "EMPIRE" Lightweight Headset

A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is  $1\frac{1}{2}$ ". Polished aluminum cases with bakelite caps. Steel adjustable headband,  $4\frac{1}{2}$  ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C.	.....List	\$3.00
EC-3—3000 ohms D.C.	.....List	3.25

## THE "DIXIE" Cannon-Ball Headset

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside.

CD-2—2000 ohms D.C.	.....List	\$3.25
CD-3—3000 ohms D.C.	.....List	3.50



## BRANDES "SUPERIOR" Matched Tone Headset

A rugged headset, millions of which are in use all over the world. Large size diaphragms of  $2\frac{1}{2}$ " diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjustment.  $4\frac{1}{2}$  ft. cotton covered cord.

BS-2—2000 ohms D.C.	.....List	\$3.50
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## BRANDES "ADMIRAL" Matched Tone Headset

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

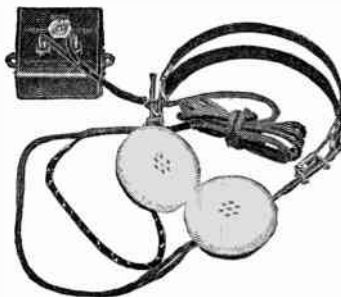
BA-2—2000 ohms D.C.	.....List	\$3.75
BA-3—3000 ohms D.C.	.....List	4.25
BA-5—5000 ohms D.C.	.....List	5.75

Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.

## ALNICO MAGNETIC No. 15

A new, small size, extra sensitive headset, light in weight. Diameter of diaphragm  $1\frac{7}{8}$ ". Molded cap and case. Steel adjustable headband.  $4\frac{1}{2}$  ft. cord.

AM-15-2	.....List	\$4.00
AM-15-3	.....List	4.50



## CANNON-BALL HEARING AID FOR RADIO OR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any radio or television set and permits listening to phones alone, speaker alone, or both together.

### FOR RADIO

With single phone	.....List	\$5.75
With double phones	.....List	8.00

### FOR TELEVISION

Kit complete with 15 foot cord, phone volume control and two sets of phones	.....List	\$16.50
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## CANNON-BALL "GRAND" Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm  $1\frac{1}{2}$ ". Aluminum case and bakelite caps. Chrome steel magnet, double coils.  $4\frac{1}{2}$  ft. cord. Spring steel headband permanently attached.

SG-1—1000 ohms D.C.	.....List	\$1.85
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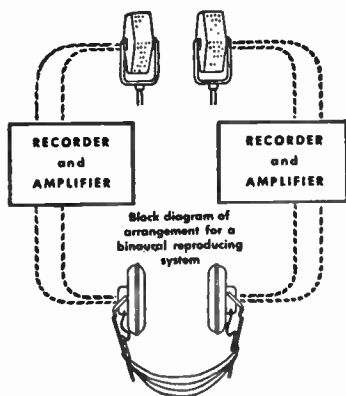
# Permoflux

## DYNAMIC Headsets

"SOUND IN DESIGN"



Permoflux Monaural and Binaural Headset (Binaural has PL-68 plug.)



Permoflux Dynamic Headphones employ actual moving coil type motor assemblies produced under conditions rivalling those used in finest watch-making traditions. Design and construction tolerances are maintained that were unbelievable in the Electronic Art only a short time ago. Frequency response obtained reproduces the full orchestral scale within range of average human hearing. Combined with the above outstanding performance characteristics are: compact design, sealed assembly, light weight, high resistance to impact, ability to withstand high humidity and extremes of temperature and altitude.

Permoflux Headphones have been test proven by U.S. Armed Forces, the nation's leading artists and broadcast engineers. Permoflux Headphones are also widely used in group training for deaf children and with audiometer equipment for testing hearing.

### PERMOFLUX MONAURAL DYNAMIC HEADSETS

	Headset Model	Uses Earphone	Headset Total Ohms Impedance	Professional Net Price
Standard	DHS-1B	PDR-1	24	\$35.00
	*DHS-15B	PDR-3	600	\$40.00
High Fidelity	DHS-28B	PDR-10	24	\$40.00
	*DHS-17B	PDR-8	600	\$45.00

Note: Headsets are supplied complete with ear cushions, 5 ft. cord and PL-55 plug. Shipping weight, 1 1/4 lbs. \*Have CAA Type Certification

### BASIC BINAURAL THEORY

Basically in binaural recording two microphones are used. Each receives sound as normally received by human ears. The sound picked up by each microphone is recorded and amplified separately. When replayed, each sound channel is fed to the earphone corresponding to the microphone that picked it up. (See diagram). This gives a startling sense of realism and figuratively transports the listener "through" the recording medium to the position occupied by the microphones.

### PERMOFLUX BINAURAL DYNAMIC HEADSETS

	Headset Model	Uses Earphone	Ohms Impedance Per Phone	Professional Net Price
Standard	B-DHS-1B	PDR-1	12	\$40.00
	B-DHS-15B	PDR-3	300	\$45.00
High Fidelity	B-DHS-28B	PDR-10	12	\$45.00
	B-DHS-17B	PDR-8	300	\$50.00

Note: Headsets are supplied complete with ear cushions, 5 ft. cord and PL-68 plug. Shipping weight, 1 1/4 lbs.

### Permoflux Telephone Pickup



Attaches to any telephone ear-piece to pickup both sides of a telephone conversation. Output may be fed to high impedance input of any tape, disc or wire recorder. No electrical connection to telephone is necessary. Higher output than any "underphone" type pickup — important in recording long distance conversations. Shipping weight 1/2 pound. \$17.50 LIST.



Radio's Master — 17th Edition

D-38

Write for More Complete Information  
**PERMOFLUX CORPORATION** CHICAGO 39, U.S.A.  
 GLENDALE 5, CALIF.

# Fairchild Recording and Playback Equipment

## TRANSCRIPTION PLAYBACK EQUIPMENT

530	Transcription Table, 3-speed, in Cabinet...	\$ 530.00
200 Type	Turret-Head 3-Way Transcription Arm, with Viscous Damping	65.00
205-C	Passive Equalizer	50.00
215-A	Moving Coil Cartridge, Microgroove, 1.0 mil dia. Tip	47.50
215-B	Moving Coil Cartridge, Lateral 2.5 mil	42.50
215-C	Moving Coil Cartridge, Lateral 3.0 mil	42.50
216-A	Moving Coil Cartridge, Vertical, 2.0 mil	50.00
542-M1	Transcription Arm	65.00
542-N1	Moving Coil Cartridge, Lateral, 3.0 mil	60.00
542-P1	Moving Coil Cartridge, Lateral 2.5 mil	60.00
650-A-B	Preamplifier (650C-D with Tubes; 651-B Power Supply; 20048 Frame)	130.00
	650-A, 60 db gain; 650-B, 50 db. gain.	

## DISK RECORDERS & ACCESSORIES

523-J1	Studio Recorder, complete with 541-A1 Cutterhead, Microscope, Spiralling	\$2985.00
539-K1	Console Recorder, complete with 541-A1 Cutterhead, 542-K1 Dynamic Pickup, Microscope, Spiralling	1395.00
539-G1	Portable Recorder, complete with 541-A1 Cutterhead, 542-K1 Pickup	985.00
541-A1	Magnetic Cutterhead, Equalizer 541-B1	160.00
300	Thermo-Stylus Kit, for Fairchild Cutterhead	100.00
301	Thermo-Stylus Kit, for RCA Cutterhead	115.00
302	Thermo-Stylus Kit, for Presto Cutterhead	115.00
304	Thermo-Stylus Kit, for Fairchild Cutterhead on 539 Recorder (Includes new type advance ball)	135.00
539-A19	Microscope & Mounting Kit for 539 Recorder	140.00
539-B12	Spiralling Kit for 539 Recorder	35.00
	Factory Installation Charge	12.50
539-B18	Suction Attachment, with 539-279 Bracket	12.50
539-325	Microgroove Kit for 539-G1 Recorder	135.00
	Factory Installation Charge	35.00
628-A1	Diameter Equalizer	130.00

## TAPE RECORDER & ACCESSORIES

126	Professional Tape Recorder	\$2750.00
130	Pic-Sync Attachment	1250.00
137	Automatic Framing Attachment, including Remote Control	1325.00

## UNITIZED AMPLIFIER SYSTEM

Consists of 620 Power Amplifier, 650 Preamplifier, Line Amplifier, 624 Output Switching, 625 Input Switching, 626 NAB Equalizer, 629 Mixer, 630 VU Panel, Auxiliary Power Supply, 633 Frame and other mounting accessories.

Write for detailed information and prices.

NOTE: All prices are net, f.o.b. Whitestone, New York and subject to change without notice.

## Turret-Head Arm



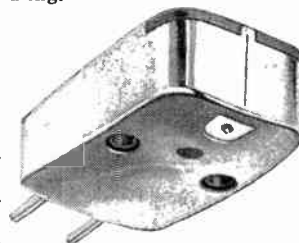
No more messy multiple pickup installations with several arms, equalizers, switches.

One arm, one equalizer do the trick—up to three cartridges in the Turret Head Arm. Equalizer with 4 NAB curves for lateral, two for vertical.

Merely turn a knob on the pickup to select proper cartridge with correct diamond tip for required record. Stylus pressure is adjusted automatically.

New viscous damping eliminates arm resonance; also greatly reduces danger of breakage in handling.

## A True Moving Coil Reproducer



A cartridge for every requirement — 78 standard, 33-1/3 transcription, microgroove, vertical. Select only the ones you need. You may be sure of close tolerances in dimensions of the diamond tip to fit the groove for maximum efficiency and minimum distortion.

Frequency response — 30-12,000 cycles.

Unusual mechanical construction allows high compliance to heavily modulated grooves.

Output unequalized — 3 millivolts. Output impedance — 80 ohms, but can be fed into any higher impedance including the grid of a tube.

## Pic-Sync Tape Recorder

Each time you retake a sound track, film production costs go up. The waste of film stock and the time delay for processing increase operating cost immeasurably. You eliminate these extra costs with the Fairchild PIC-SYNC Tape Recorder. Play back the sound at once . . . check it . . . erase the track . . . retake the sound before the talent, the set and crew are disbanded.

## NOW USE

### PIC-SYNC Tape Recorders for ALL Original Sound Tracks

1. 1/4" tape costs 80% less than 16mm magnetic film.
2. 1/4" tape requires 50% less storage space.
3. 1/4" tape recorded quality practically as good as "live" for dubbing or TV broadcast purposes.
4. 1/4" tape noise level far lower than sprocket driven tape or film. This is vital in multiple dubbing operations.



## Thermo Stylus Kit

Applies heat directly to cutting jewel, reducing basic surface noise to vanishing point. Records at least 20 db lower noise level.

Minimizes mechanical loading of the cutter by disk material, thus increasing high frequency response, especially at small diameters.

Invaluable for microgroove, standard 33-1/3 and 45 r.p.m. speeds.

Available for Fairchild, RCA and Presto Cutterheads.

Easily installed and operated. Includes heat control and calibrated meter.



WRITE: **FAIRCHILD**  
RECORDING EQUIPMENT  
CORPORATION

154th ST. and 7th AVE.,  
WHITESTONE, N. Y.  
PHONE: INDEPENDENCE 3-2100

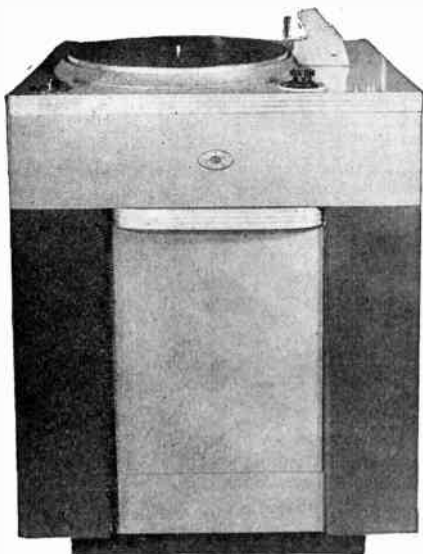
**WRITE** for information on the Control Track Generator which permits lip synchronous recording on good quality portable tape recorders for later transference to film, on Pic-Sync Recorder.





# RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS



**Presto Type 153 Reproducer extra**

## PRESTO 64-A TRANSCRIPTION TURNTABLE

The Presto 64-A transcription turntable offers the following features which are of major importance to the owner and operator: Unusual mechanical simplicity . . . low mechanical disturbance . . . maximum speed accuracy . . . extreme ruggedness for long continuous operation . . . instantaneous selection of desired speed . . . and no requirements for mechanical adjustments.

This transcription turntable is directly gear driven and employs two separate motors, one for 33-1/3, and the other for 78.26 rpm. There is no friction device of any kind in the mechanism and no mechanical shift is required to change speeds. To select 33-1/3 rpm, 78 rpm or "off," the operator merely throws a three position switch. These changes may be made as rapidly as desired while the turntable is in motion with no damage to the mechanism. Only one motor at a time is in operation. The transmission "over runs" the motor which is not turning and thus does not carry it along in rotation although the stationary motor is never disengaged from the mechanism.

### SPECIFICATIONS

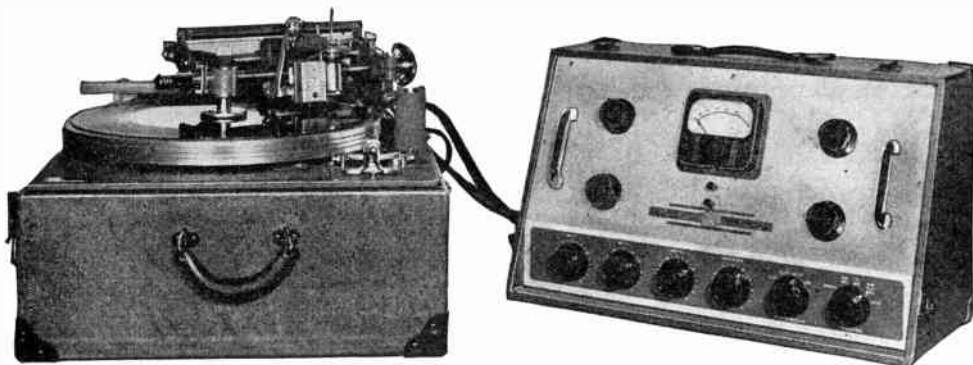
**Standard Equipment:** The 64-A transcription turntable includes the electro-mechanical gear drive, turntable and cabinet. A reproducer and network is not included.

**Speed Accuracy:** No deviation from 33-1/3 and 78.26 rpm.

**Noise Level:** Mechanical noise originating in the equipment over 50 db below program level.

**Power Requirements:** Approximately 75 watts from a 115 volt, 60 cycle line. Motors are of the 1800 rpm synchronous type and are available for other voltages and frequencies at additional cost.

**Mounting:** Turntable and gear drive mounted in heavy wood cabinet with in-laid linoleum top is 24 x 24 x 38 inches (61 x 61 x 84 cm.) List Price, \$495.00



## PRESTO 6-N RECORDER AND 90-B AMPLIFIER

The PRESTO 6-N Recorder and 90-B Amplifier is the ideal recording equipment for portable or stationery operation.

The 6-N Recorder is outstanding in its suitability for broadcast stations because it offers all the qualifications for good recordings, including master records, at the most economical price. It is ideal for the station requiring delayed broadcast of network programs, and for reference recordings.

The 6-N standard equipment includes the Presto 1-D cutting head, spiraling feed screw, vertical damper, time scale and pick-up. It is available for microgroove recording at addition cost.

The Presto 90-B recording amplifier contains all the facilities necessary for operation on remote assignments, but with all overall performance found only in high-fidelity studio equipment.

It consists of three preamplifiers with individual gain controls, a mixer circuit, a master gain control and recording amplifier. Provision is made for connecting the Presto 161-A automatic equalizer (radius compensator).

A five-position selector switch provides the following characteristics: 1—flat response, 30 to 15,000  $\pm 1$  db; 2—NAB 33 1/3 rpm recording; 3—present day 78-rpm recording; 4—NAB playback, and

5—automatic equalization. The flat response can be modified by variable bass and treble controls, giving emphasis up to a maximum of 20 db at 100 and 7,500 cycles per second or 20 db de-emphasis at 7,200 cycles per second.

Noise is 55 db below recording level and distortion at maximum output is less than 1.5%.

The use of input and output selector switches makes the 90-B amplifier unusually flexible. It permits combining the signals of three microphones or of two microphones and either one of two pick-ups. By using the "Line" position, recordings can be made from an incoming program line. The output selector has three positions; playback (public address), continuous recording and simultaneous recording. While recording, the line jack provides a monitoring outlet or permits feeding a program line at the correct level.

The correct level is monitored by means of a Weston Type 80 VU indicator with illuminated scale and its closely controlled electrical and dynamic characteristics make it an ideal volume indicator for recording.

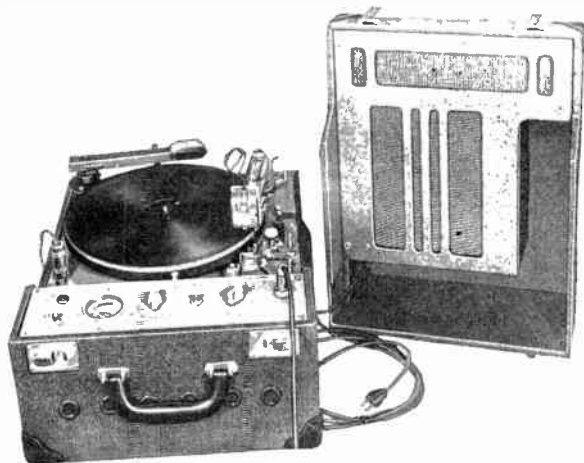
List Price of 6-N.....\$735.00  
List Price of 90-B.....595.00



# RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

## PRESTO K-10 RECORDER FOR MICROGROOVE AND REGULAR RECORDING



The PRESTO K-10 Recorder, formerly known as the K-8, the foremost machine of its kind to be used in schools for speech, voice, languages, dramatics, music, etc., is now offered for MICROGROOVE (long-playing) recording as well as the standard method.

Note these features:

- Cutting pitches of 112 lines per inch Outside-in, 112 lines Inside-out, 224 lines per inch Outside-in and 224 lines per inch Inside-out.
- Standard unit is equipped for two speeds, 33 1/2 and 78 rpm. Available for three speeds, 33 1/2, 45 and 78 rpm at additional cost.
- The cutting head is equipped with an advance ball which regulates the depth of the groove more accurately than a counter spring.
- The K-10 is equipped with a turnover type cartridge having sapphire styli for both standard and microgroove records. The cartridge is a ceramic type which has high output and is not easily affected by high temperature and humidity.
- A single control permits instant choice of recording, playback, or public address. Amplifier also contains radio and monitor jacks.

The PRESTO K-10 will, when set for MICROGROOVE, record 6 3/4 minutes on every inch of disc used. This means that a 15-minute recording with good fidelity can be put on one side of a 12" disc! And a half-hour can be put on one side of a 13 1/4" disc. Seven minutes can be recorded on one side of a 6 1/2" disc.

Price of K-10, less microphone and stand, \$348.00\*.

No increase over K-8.

\*\$5.00 additional for 45 rpm pulley and record adapter.

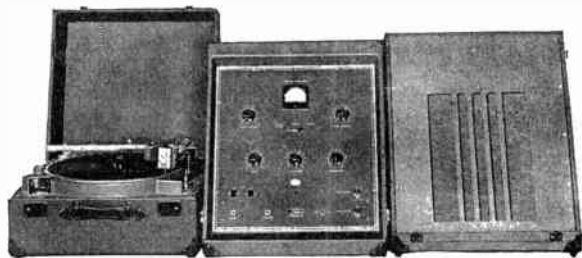
## PRESTO "Y" RECORDER FOR MICROGROOVE AND REGULAR RECORDING

The PRESTO Y-5 is identical to the famous Y-4 but MICROGROOVE has been added. The following feed pitches are included with the Y-3: 112 lines per inch Outside-in, 112 lines per inch Inside-out, 224 lines per inch Outside-in, and 224 lines per inch Inside-out.

Other features are:

- Two interchangeable Pickering sapphire cartridges — for MICROGROOVE and regular recording.
- Advance ball on cutting head to accurately control depth of groove.
- 16" turntable — will take 17 1/4" masters.
- Standard unit is equipped for two speeds, 33 1/2 and 78 rpm. Available for three speeds, 33 1/2, 45 and 78 rpm at additional cost.
- Amplifier has connections for two microphones and two turntables. Output is 10 watts. Both high and low frequency manual equalizers are included.
- Ten-inch PM speaker and baffle are built into cover of amplifier.
- Presto high-fidelity 1-D cutting head.

When set for MICROGROOVE the Y-5 will record for 6 3/4 minutes on each inch of disc used. A fifteen-minute program can be put on one side of a 12" record. A half-hour on one side of a 16" record. Forty minutes can be recorded on one side of a 16" record by cutting to minimum diameter.



The price of the Y-5 is \$771.00\*

Microphone and stands are not included as regular equipment.

\*\$10.00 additional for 45 rpm pulley and record adapter.

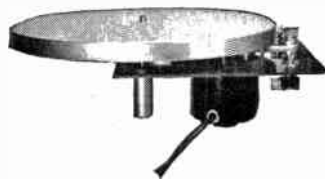
## 3-SPEED MICROGROOVE & STANDARD PLAYBACK TURNTABLE Type 15-G

The Presto Type 15-G turntable is an unusually high quality unit for the reproduction of recordings at 33 1/2, 45 and 78 rpm. The design provides an instantaneous speed selection with a very convenient control arrangement.

FEATURES:

- Heavy cast aluminum 12" turntable accurately machined and balanced.
- Precision idler wheels and motor pulley.
- Good speed regulation—minimum "wow."
- Performance comparable to transcription equipment.
- May be connected to any radio or audio amplifier.

15-G Chassis.....	\$49.50
Cabinet for above.....	16.00





# RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

## PRESTO LACQUER COATED ALUMINUM DISCS CUTTING AND PLAYING NEEDLES (For Professional and Institutional Recording)

### PRESTO GREEN LABEL DISCS

Packed 25 per box, except 13 1/4" are 30 per box.

Type	Size	Thickness	List Price Each
610-A	10"	.050	\$1.30
611-A	11 7/8"	.050	2.05
613-A	13 1/4"	.050	2.60
616-A	16"	.050	3.75

### PRESTO BROWN LABEL DISCS

Packed 25 per box, except 13 1/4" are 30 per box.

811-B	11 7/8"	.050	1.60
813-B	13 1/4"	.050	2.05
816-B	16"	.050	3.00

### PRESTO DOUBLE SIDED MASTERS

Packed: 11 7/8"—25, 13 1/4"—30, and 17 1/4"—20 per box.

621-A	11 7/8"	.050	2.05
623-A	13 1/4"	.050	2.60
627-A	17 1/4"	.064	5.60

### PRESTO SINGLE SIDED MASTERS

Packed: 11 7/8"—25, 13 1/4"—30, and 17 1/4"—20 per box.

821-B	11 7/8"	.050	1.60
823-B	13 1/4"	.050	2.05
827-B	17 1/4"	.064	4.10

### PRESTO ORANGE LABEL DISCS

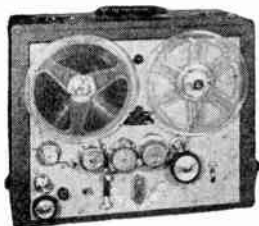
Packed 50 per box.

306-A	6 1/2"	.030	.40
308-A	8"	.030	.55
310-A	10"	.030	.85
312-A	11 7/8"	.030	1.15

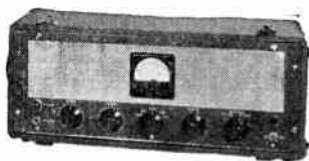
### CUTTING AND PLAYING NEEDLES

Type and Number	Cutting Stylil	List Price Per Needle
Sapphire 320-A	—Brass Shank—Short, (Box of 6)	\$6.00
321-A	—Brass Shank, Long, (Box of 6)	6.00
603-A	—Dural Shank—Short, (Box of 6)	8.00
603 MICRO	—Same as above for MICROGROOVE	8.00
604-A	—Dural Shank—Long, (Box of 6)	8.00
604 MICRO	—Same as above for MICROGROOVE	8.00
	Resharpening Sapphire	2.00
Stellite Cutting Stylii		
330-A	—(Box of 6)	2.00
331-A	—(Box of 6)	2.00
807-A	—Resharpening Stellite Point	.75
Steel Cutting Stylii, Long and Short		
350-A	—(Package of 3)	1.00
Sapphire Playing Needle		
420-A	—Sapphire Playing Needle	1.25
Transiptone Playing Needle		
430-A	—Transiptone Playing Needle	1.00
Red Shank Playing Needles		
440-A	—(Package of 25)	.25
440-B	—(40 Packages of 25)	10.00

## PT-920 TAPE RECORDER



TYPE RC-7



TYPE A-920

PT-920 COMPLETE IN CARRYING CASES

### SPECIFICATIONS

Frequency response 50-15,000 cps at 15"/sec. tape speed and 50-10,000 cps at 7 1/2"/sec.

Signal to noise ratio is 50 db with 2% distortion at 400 cps.

Instantaneous speed variations at 15"/sec. is not more than 0.25%.

Microphone input impedance normally 250 ohms.

Output of amplifier 15 ohms, 10 watts.

Bridging input 20,000 ohms, unbalanced.

Weights: RC-7—40 lbs.; A-920—35 lbs.

The PT-920 tape recorder has been developed for fully professional recording work and hence no compromise has been made with quality of materials and workmanship. The PT-920 has been designed especially for broadcast stations and recording studios and has found wide acceptance among colleges and universities as well.

This recorder consists of a three-motor drive system, separate erase, record, and reproduce heads and two separate amplifiers—one for recording and the other for monitoring. This arrangement permits instantaneous monitoring of the tape. The equipment takes standard RMA 7" reels. Continuous recording with two mechanical sections (type RC-7) and one amplifier section (A-920) may be done by interconnecting the units through the SA-10 changeover switch.

The PT-920 may be had on standard 19" relay rack mounting panels. Simply specify: "for rack mounting." Price same as in carrying cases.

### PRICES

Complete PT-920	\$749.00
RC-7—Tape Transport Mech.	425.00
SA-10—Transfer Switch	46.00
A-920—Amplifier	324.00



# RECORDING CORPORATION

**WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS**

## RC-10-24 TAPE RECORDER

The RC-10-24 is an extremely high quality rack mounting tape recorder for both RMA reels and NAB hubs. Maximum tape capacity is 2400 feet (nominal). This recorder incorporates a three-motor drive system with solenoid operated brakes and capstan pressure pulley. All functions are selected by push-button switch. The recorder may be completely connected to remote controls, either directly or by using relays.

The panel measures 19" wide by 24 1/2" high and is normally rack mounted although the recorder will operate in any position. Separate recording and reproducing heads are provided so that the tape may be monitored during recording.

The 900-A2 or the 901-A1 amplifiers are for use with the RC-10-24.

The three-motor drive system eliminates the complex mechanical arrangements which require frequent adjustment. This system also makes possible very fast speeds forward and reverse. This recorder has proven to be exceptionally reliable and trouble-free even under continuous periods of operation.

### SPECIFICATIONS

Reels 7" and 10 1/2". Standard tape speeds 7 1/2 and 15"/sec.

Fast Speeds, forward and reverse: 250"/sec.

Frequency response 50 - 15,000 cps at 15"/sec. and 50 - 7,500 cps at 7 1/2"/sec.

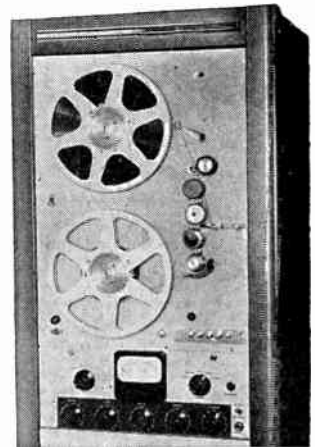
Dynamic range 55 db.

Instantaneous speed accuracy .15% at 15"/sec.

### PRICES

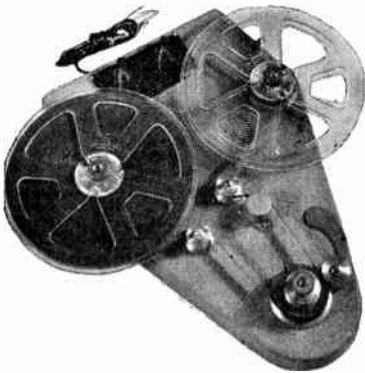
RC-10-24 Recorder.....\$761.00      900-A2 or 901-A1 Amplifier.....\$403.00

NOTE: Amplifier types 900-A2 and 901-A1 are generally similar except that the former is equipped with a low level 3-microphone mixer whereas the latter has a line-level input, either high impedance bridging or 500 ohm matching.



RC-10-24, in rack with 900-A2 Amplifier

## TL-10 PRESTO TAPE DRIVE



Presto offers an ingenious tape transport mechanism which can be quickly installed on any sixteen inch turntable. This mechanism derives its power from the turntable—it has no motors of its own. The present model is for tape reproduction only—no crasing or recording is included. No amplifier is provided. The equalized output of the playback head may be fed directly into standard speech input equipment.

The TL-10 Tape Drive consists of a triangular shaped cast chassis which mounts on two small posts fastened to the turntable panel. One point of the triangle carries the tape capstan and this rests directly on the center pin of the turntable to which the TL-10 is attached. A belt drive from the under side of the capstan rotates the take-up reel through a slip clutch. The reproducer head and guide pulleys are located on the upper side of the chassis and the equalizer network is placed below.

Two capstans are available for 15 or 7 1/2 inches per second tape speed based on the turntable speed of 78 rpm. Rewinding is achieved by transferring the empty reel to the take-up spindle and releasing the drag on the supply spindle. Specify type of turntable when ordering the TL-10.

The output of the head and equalizer is sufficiently high to be fed directly into a high quality preamplifier such as found in standard broadcast speech input equipment. An unusual type of capstan is employed, consisting of a wheel, relatively large in diameter, and having a rubber rim. The tape is wrapped around this capstan 180° and obtains very great traction against the rubber surface.

### PRICES

TL-10 Tape Drive — 1-Speed .....\$132.50  
2-Speed ..... 140.00

## RC-10-14 TAPE RECORDER

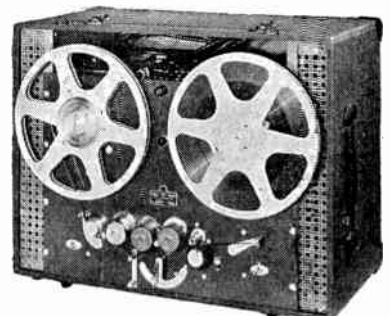
The RC-10-14 is similar in most respects to the RC-10-24, differing only in the panel size and the control switch arrangement. The panel is 19" x 14" and is frequently mounted in the CS-10 carrying case although the unit may be rack mounted also. The function switch is the rotary type and also mechanically operates the idler pressure pulley. The same three-motor drive and solenoid braking is used as on the RC-10-24.

The RC-10-14 recorder with the 900-A2 amplifier, in carrying cases, constitute portable equipment of the highest quality—equal in performance to the best studio recorders.

### PRICES

RC-10-14 Recorder.....\$684.00  
CS-10 Carrying Case..... 52.00  
900-A2 Amplifier, in carrying case..... 403.00

See Page E-4



RC-10 in Carrying Case 900-A2 Amplifier in Separate Unit



# REK-O-KUT COMPANY

MANUFACTURERS OF RECORDING AND TRANSCRIPTION EQUIPMENT FOR THE BROADCAST INDUSTRY

## WORLD'S TWO GREATEST HI-FIDELITY PORTABLE PHONOGRAPHS

THE  
*Rhythmaster*

THE  
*Recitalist*



### BOTH OFFER 3 INSTRUMENTS IN ONE

★ PHONOGRAPH ★ P.A. SYSTEM ★ BROADCAST RECEIVER (used with FM Tuner)  
Indispensable for Recreation Centers, Broadcast Stations,  
Advertising Agencies, Schools, Hospitals, Record Collectors, Musicians, Etc.

THE RHYTHMASTER AND THE RECITALIST are the only full-range portable phonographs that balance the response characteristics of amplifier, speaker and speaker enclosure. By carefully compensating the natural resonances of these three components, undesirable reverberations are eliminated, and truly lifelike sound reproduction is achieved.

THE POLYPHONIC SELECTOR, an exclusive Rek-O-Kut engineering triumph, found only in the Recitalist and the Rhythmaster, maintains the proper relationship between the highs and lows when the record is played at any volume, either very softly or very loud! Thus, the high notes of the violins, chimes, triangles, cymbals, etc., are always reproduced clearly and distinctly in all their original beauty and cannot be drowned out by the loud passages of the brasses and percussion instruments.

THE RHYTHMASTER'S PATENTED CONTINUOUSLY-VARIABLE SPEED TURNTABLE plays records not only at 33 1/2, 45 and 78 R.P.M., but at ANY speed variation from 25 to 100 R.P.M. Not only will the CVS Turntable play your records back at the exact pitch and tempo they were recorded, but also at any increased or decreased tempo to fit a particular need: ★DANCING:—Set the rhythm of your folk-dance, tango, rumba to your own taste. ★PHYSICAL EDUCATION:—Set the rhythm most suitable for teaching swimming, exercises, etc.

★MUSICIANS:—(1) You can now set the pitch of your records to your own personal interpretation of any recording. (2) You can set the pitch of the record to match the pitch of your piano or other instrument for purposes of accompaniment. ★SCHOOLS:—Invaluable tool for teaching music, band instruments, languages, typing, dancing, gymnastics, etc. ★RECREATION CENTERS, CAMPS, COMMUNITY CENTERS:—Powerful amplifier and speaker afford undistorted volume to cover an assemblage of 500 people or more.

THE RHYTHMASTER AND RECITALIST ARE BOTH "FLEXIBLE" INSTRUMENTS. (1) A microphone input enables "mixing" of live music or voice simultaneously with a recording being played. (2) Can be used as a high fidelity public address system. (3) By connecting an AM or FM Tuner, these phonographs become superb broadcast receivers.

### SPECIFICATIONS

**TURNTABLE:** 12" cast aluminum, with hardened and ground shaft.  
**MOTOR:** Constant-speed, 4 pole induction.

**SPEAKER:** 8" P.M. type, built to our exacting specifications with heavy Alnico V magnet.

**AMPLIFIER:** Frequency response is controlled by Polyphonic Selector.

Position No. 1—Uniform within 1 db from 50 to 15,000 cycles.

Position No. 2—Bass up 4 db at 100 cycles, treble uniform above 5,000 cycles.

Position No. 3—Bass up 6 db at 100 cycles, treble uniform above 5,000 cycles.

Position No. 4—Uniform from 50 to 3,000 cycles, increasingly sharp cut-off, 14 db down at 10,000 cycles.

**PICKUP:** 16" with dual stylus cartridge. Plays up to 16" broadcast transcriptions, standard commercial pressings and micro-groove records.

**POWER OUTPUT:** 10 watts at less than 3% total harmonic distortion.

**INPUT CHANNELS—THREE:** High impedance microphone, radio, phono-pickup.

**INPUT GAIN:** Microphone, 120 db; phono-pickup, 80 db; radio, 80 db; magnetic pickup, 90 db.

**OUTPUT IMPEDANCE:** 6-8 ohms at speaker jack.

**NOISE LEVEL:** More than 50 db below rated output with all controls set at maximum.

**CONTROLS:** Microphone, radio-phono, Polyphonic Selector.

**TUBE COMPLEMENT:** (2) 6SL7, (2) 6V6GT, (1) 5Y3GT plus (1) 6NC7 for magnetic pickup.

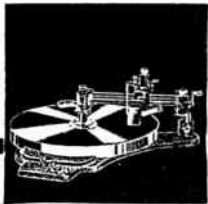
**POWER INPUT:** 70 watts.

**CASE:** Sturdy Plywood, covered with rich grey leatherette.

**DIMENSIONS:** 17" wide, 9 1/2" high, 21 1/4" deep (Closed).

**WEIGHT:** 38 pounds.

Model	Description	Net Price
RP-43C RECITALIST	3 Speed, crystal pickup	\$229.95
RP-43M RECITALIST	3 Speed, pre-amp., mag. pickup	249.95
RP-43VC RHYTHMASTER	Variable Speed, crystal pickup	269.95
RP-43VM RHYTHMASTER	Variable Speed, pre-amp., magnetic pickup	289.95



# REK-O-KUT COMPANY

MANUFACTURERS OF RECORDING AND TRANSCRIPTION EQUIPMENT FOR THE BROADCAST INDUSTRY

## Challenger De Luxe

### PROFESSIONAL 13 1/4" DISC RECORDER FOR STANDARD AND MICRO-GROOVE RECORDING

The "Challenger," America's finest professional 13 1/4" disc recorder, is built to meet the respective needs of the Professional Recordist, Musician, Educator and Recording Enthusiast who wants to make permanent, professional recordings. The "Challenger" embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features incorporated in the "Challenger" simplify and improve the art of disc recording.



**CHALLENGER DELUXE** ..... \$439.95

#### ACCESSORIES

**M12-192**.....Micro-Groove Leadscrew ..... 17.95  
**TR-103A**.....Idler and Adapter for 45 RPM, interchangeable with 33 1/3 RPM idler..... 7.00

#### SPECIFICATIONS:

- MOTOR:** Heavy duty Synchronous motor (TR-1211, described in detail on page E-8), fitted with lamitex drive pulley. Suspended in sheer shock mounts to prevent transmission of motor vibration.
- RECORDING AREA:** Records from 6" up to 13 1/4" masters.
- SPEEDS:** Simple, finger-tip speed control for instantaneous selection of speed desired—78, 45, or 33 1/3 RPM.
- OVERHEAD RECORDING MECHANISM:**
  - "LIFTOMATIC SAFETY CAM" prevents double cutting and damage to the stylus by automatically raising the cutter from the disc as it approaches the center of the record.
  - FACILITATES INTERCHANGING LEADSCREWS for standard or micro-groove recording.
  - SPIRAL GROOVES: Run-in, run-out and locked grooves are made with a simple, manual operation.
- PICKUP ARM:** 16" with dual stylus magnetic variable reluctance cartridge. Plays up to 16" broadcast transcriptions, standard commercial pressings and micro-groove records.
- TURNTABLE:** Precision machined aluminum fitted with hardened and ground shaft. Driven by two double-duty neoprene idlers running against the inside rim.
- SPEAKER:** 8" PM type. Custom-built to rigid REK-O-KUT specifications for extra power and wide range. Mounted into detachable cover of case.
- CASE:** Sturdy plywood covered with rich grey leatherette. Built to withstand rough usage.
- DIMENSIONS:** 25" x 22" x 12". Weight: 65 Lbs.

### R-8A UNIVERSAL RECORDING AMPLIFIER (as used in DeLuxe "Challenger")

**FREQUENCY RESPONSE:** ±1 db from 30 to 20,000 cycles at normal setting of equalizer controls.  
**POWER OUTPUT:** 13.5 watts at less than 3% total harmonic distortion into resistive load.  
**TREBLE EQUALIZER:** Boost of 14 db and attenuation of 15 db above 8,000 cycles, continuously variable.  
**BASS EQUALIZER:** Boost of 14 db and attenuation of 14 db below 50 cycles, continuously variable.  
**INPUT CHANNELS—FOUR:** 2 high impedance microphones, phono channel compensated for G.E. or Pickering pickup, radio. Switch on rear of chassis changes phono channel for crystal pickup operation.  
**GAIN:** Microphones—120 db; Phono—90 db; Radio—80 db.  
**OUTPUT IMPEDANCE:** 4, 8, 15, 125, 250, 500 ohms for cutter and speaker.  
**OUTPUT SELECTOR:** Three positions providing—recording, play-back and public address. Microphones are muted in play-back position.  
**MONITORING:** A switch is provided giving three positions of monitor level—off, medium, loud. Speaker or headphones may be used. Meter on front panel indicates correct recording level.  
**HUM AND NOISE:** 64 db below 13.5 watts with all controls turned for maximum hum and noise output.  
**CONTROLS:** Microphone "1", microphone "2", radio-phone fader, output selector, treble equalizer, bass equalizer, monitor.  
**TUBE COMPLEMENT:** (2) 6SJ7; (2) 6SL7; (1) 6SC7; (2) 6V6; (1) 5Y3.  
**POWER SUPPLY:** 105-125 volts, 50-60 cycles.

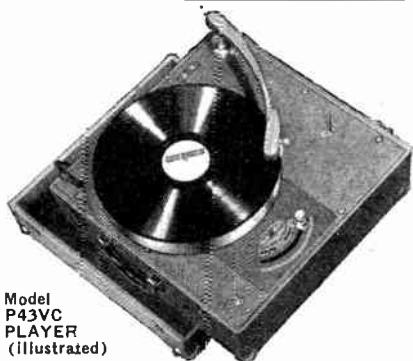


**POWER CONSUMED:** 100 watts.  
**DIMENSIONS:** Panel—19" x 6 1/4"; Chassis—17" x 8 3/4".

**R-8A**.....For rack mounting, including tubes.....\$149.95  
**C-85**.....Portable Case (illustrated), additional..... 22.95

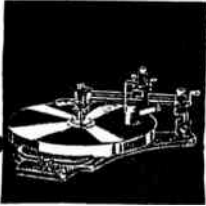
### RECORD PLAYERS 3 SPEED • VARIABLE SPEED

The quality instruments of the playback field. Play through any amplifier, sound projector, recorder, radio or TV set. Recommended for dubbing your favorite records into ANY type of recorder—wire, tape or disc.



Model  
P43VC  
PLAYER  
(Illustrated)

Model	Turntable (See Page E-9 for Detailed Descriptions)	Pick-up	Net Price
P-43C	LP-743, 3 Speed	16" Crystal, Dual Stylus	\$ 94.95
P-43M	LP-743, 3 Speed	16" Dual Stylus, Magnetic Variable Reluctance	99.95
P-43VC	CVS-12 Continuously Variable from 25 to 100 RPM	16" Crystal, Dual Stylus	124.95
P-43VM	CVS-12 Continuously Variable from 25 to 100 RPM	16" Dual Stylus, Magnetic Variable Reluctance	129.95



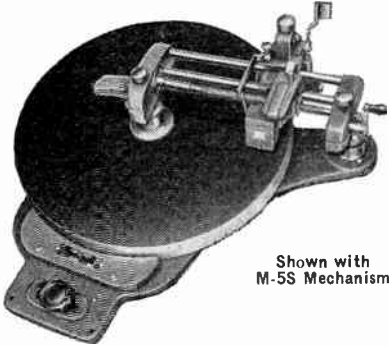
# REK-O-KUT COMPANY

MANUFACTURERS OF RECORDING AND TRANSCRIPTION EQUIPMENT FOR THE BROADCAST INDUSTRY

## MODEL V DELUXE DUAL SPEED 16" RECORDING TURNTABLES

The outstanding value in the recording field. Ruggedly constructed and precisely machined, the model "V" deluxe turntable will maintain the constant, wow-free speed and smoothness demanded in broadcast work.

The model M-5S Overhead Cutting Mechanism mounts to the "V" deluxe turntable in a matter of moments.



Shown with  
M-5S Mechanism

- MOTOR:** Synchronous type equipped with lamitex pulley for synchronous speed and maximum drive. Suspended in sheer shock mounts to prevent transmission of motor vibration to turntable or chassis.
- TURNTABLE:** Normalized aluminum alloy casting, lathe turned and balanced.
- CHASSIS:** Cast-iron ribbed L beam type with socket for instantaneous installation of M-5S recording mechanism.
- IDLERS:** Double-duty type made of Neoprene compound provides maximum traction. Will not glaze under operating conditions.
- OILING:** Shafts and bearings are self-oiling. Require infrequent periodic lubrication.
- SPEED CHANGE:** Mastermatic self-locking instantaneous speed shift.

### SPECIFICATIONS:

- DIMENSIONS:** Front to Back 20"; Width 20"; Height 2½" above motor board; 5" below motor board; Weight 28 lbs.

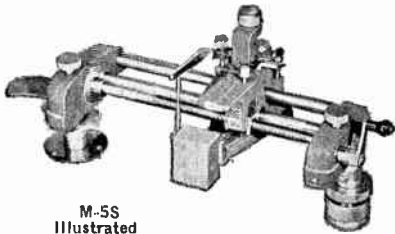
Model	Net Price
"V-Deluxe"	\$215.00

### ACCESSORIES

- P-11**—Portable case for "V" Deluxe recording table and M-5S cutting mechanism ..... **64.00**
- C-7**—Console cabinet, metallic grey finish, with record drawer for storing 100 transcriptions. 4 adjustable screw jacks. Built-in electrical outlets. Motorboard cutout ..... **129.95**
- V103A**—45 RPM Idler and record adapter interchangeable with 33 ½ ..... **8.00**

## MODEL M-5S MASTER-PRO 16" OVERHEAD RECORDING MECHANISM

A precise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a micro finish. The Master-Pro is a universal machine that can be readily attached to all 16" recording turntables as well as the Rek-O-Kut model "V" recording table.



M-5S  
Illustrated

- TILT AND LEVEL ADJUSTMENT:** Enables the operator to level and square his unit to disc in a matter of moments.
- DUAL CLUTCH SPIRALING CONTROL:** A fool-proof device which eliminates the danger of spoiling a record while the crank-handle is in motion.
- MICROMETER DEPTH ADJUSTMENT:** For positive depth control of the cutting head.
- LEADSCREW:** Stainless steel with matched bronze feednut.
- ANGLE OF CUT:** Is controlled by a simple micrometer adjustment.
- GEARS:** Drive gears completely enclosed to prevent fouling by loose chips.

### SPECIFICATIONS:

Standard units are equipped with 8-ohm magnetic cutter and 120-line O.I. Leadscrews.

- DIMENSIONS:** Length 16"; Width 6½"; Height 9"; Weight 11 lbs.

Model	Net Price
M-5S ..... With 8 ohm cutter.....	\$215.00
M-5S ..... Without cutter.....	200.00

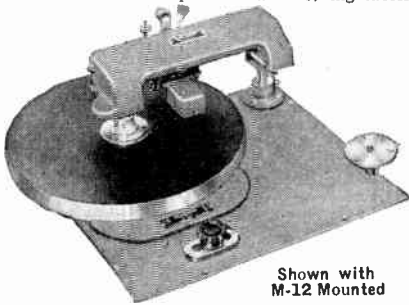
### EXTRA LEADSCREWS

Specify "Inside Out" or "Outside In" by letters I.O. or O.I. after part number.

Part No.	Lines Per Inch	Net Price
MS-105 .....	105.....	\$ 37.50
MS-120 .....	120.....	37.50
MS-135 .....	135.....	37.50
MS-210 (Micro-Groove) 210.....		47.50

## MODEL TR-12H DUAL SPEED 12" RECORDING TURNTABLE

The first 12" dual speed recording turntable to feature a SYNCHRONOUS MOTOR. Design and construction of the model TR-12H is similar to the Rek-O-Kut 16" professional recording tables. The model M-12 overhead recording mechanism is mounted to the chassis in a few moments.



Shown with  
M-12 Mounted

- TURNTABLE:** Aluminum, lathe turned and balanced.
- CHASSIS:** Cast aluminum. Drilled and tapped for instantaneous mounting of the M-12 recording mechanism.
- MOTOR:** Heavy duty Synchronous, fitted with a lamitex drive pulley. Suspended in sheer shock mounts to prevent transmission of motor vibration.
- SHAFTS:** Hardened, ground and polished to a micro-finish.
- DRIVE:** Internal rim. Drives through double-duty Neoprene idlers which insure free, smooth and quiet operation.

### SPECIFICATIONS:

- SPEED CHANGE:** Instantaneous speed shift engages either the 78 or 33 ½ RPM idler.

- FINISH:** Beautiful grey wrinkle.
- DIMENSIONS:** Front to Back 16½"; Width 16"; Height 1¾" above motor board. 5" below motor board. Weight 17 lbs.

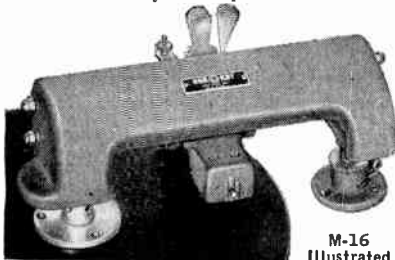
Model	Description	Net Price
TR-12H	With Synchronous Motor.....	\$129.95
TR-12	With 4 pole induction motor	99.95

### ACCESSORY

- T-103A**...45 RPM Idler and record adapter interchangeable with 33 ½ ..... **7.00**

## MODEL M-12 OVERHEAD RECORDING MECHANISM

The M-12 Overhead Cutting Mechanism is a truly professional machine for recording enthusiasts and professionals. It incorporates many of the features found only in 16" professional units. The M-12 records up to 13 ¼" master discs and can be mounted on any 12" recording turntable.



M-12  
Illustrated

- SPIRAL GROOVE:** A run-in, run-out and locked groove made with a simple manual operation.
- LEADSCREW:** 108LPI stainless steel, lapped to a matched feednut which is in constant mesh.
- LIFT-O-MATIC:** Automatically lifts cutter from disc as it approaches end of lead screw.
- MAGNETIC CUTTER:** 8 ohms, flat from 40 to 7,000 cycles.
- DIMENSIONS:** Length 11¼"; Width 4¼"; Height 6".

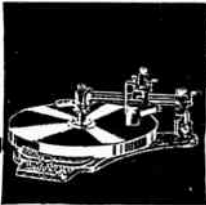
### SPECIFICATIONS:

Model	Net Price
M-12.....For 12" turntables.....	\$ 99.95

### EXTRA LEADSCREWS

Specify "Inside Out" or "Outside In" by letters I.O. or O.I. after part number.

Part No.	Lines Per Inch	Net Price
M12-108 .....	108.....	
M12-120 .....	120.....	17.95
M12-144 .....	144.....	17.95
M12-192 (Micro-Groove) 192.....		17.95



# REK-O-KUT COMPANY

MANUFACTURERS OF RECORDING AND TRANSCRIPTION EQUIPMENT FOR THE BROADCAST INDUSTRY

## MODEL "G-2" DELUXE 16" TRANSCRIPTION TURNTABLES

The model "G-2 Deluxe" Transcription Turntable is acknowledged without reservation by the broadcasting industry to be the finest rim-driven turntable on the market. The rigid requirements for network programs are easily met by the "G-2 Deluxe."

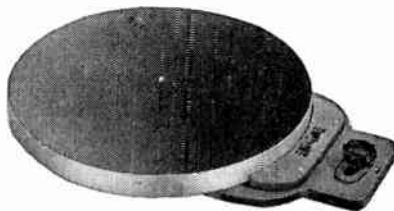
### OPERATING DATA:

- STARTING:** From standing start to 78 RPM  $\frac{1}{4}$  of a turn. From standing start at 33  $\frac{1}{2}$  RPM  $\frac{1}{4}$  of a turn. Meets the NAB standard for speed variation and wow content.
- NOISE LEVEL:** 50 db below average recording level.
- CUEING:** 15  $\frac{3}{4}$ " turntable permits the record to overlap  $\frac{1}{8}$ " which enables the operator to cue from the rim of the disc.
- CONSTRUCTION:** (A) Precision lathe-turned balanced turntable. (B) Synchronous motor with Lamitex pulley for maximum drive. (C) Double-duty Neoprene idlers. (D) Cast-iron I. beam no twist chassis. (E) Mastermatic self-locking instantaneous speed shift. (F) All shafts hardened, ground, polished to micro finish.
- DIMENSIONS:** Front to Back 20"; Width 16"; Height 2  $\frac{1}{2}$ " above motor board; 5" below motor board. Weight 26 lbs.

Model	Description	Net Price
G-2 Deluxe	With Synchronous Motor, Mastermatic Shift	\$179.95
G-2 Standard	With 4 pole Induction Motor and Manual Shift	137.50

### ACCESSORY

G 103 A	45 RPM Idler and record adapter interchangeable with 33 $\frac{1}{2}$	8.00
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G-2 Standard Illustrated

## MODELS T-12H and T-43H DUAL SPEED 12" TRANSCRIPTION TURNTABLES

The REK-O-KUT Models T-12H and T-43H are the only 12" dual speed turntables that meet the standards for speed regulation and wow content specified by the National Association of Broadcasters. The construction, design and performance standards equal the REK-O-KUT 16" broadcast models. The T-12H and T-43H are recommended for use with Hi-Fi amplifiers and speaker systems.

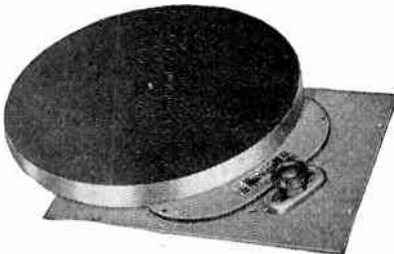
### SPECIFICATIONS:

- NOISE LEVEL:** (a) T-12H—T-43H: 50 db below average recording level.  
(b) T-12—T-43: 40 db below average recording level.
- MOTORS:** (a) T-12H and T-43H—Synchronous.  
(b) T-12 and T-43—4 pole induction, built to REK-O-KUT specifications.  
All motors, shock mounted, are fitted with lamitex pulleys, which are pressed on, and ground concentric to the motor shaft—an exclusive REK-O-KUT feature which insures smooth, rumble-free operation.
- COMPONENTS:**  
Turntable—Cast aluminum, machined and balanced.  
Chassis—Aluminum casting, cross ribbed, flush mount. Requires a rectangular cutout for mounting. Easily installed.  
Drive—Internal rim drive through double-duty Neoprene idlers insures free, smooth and quiet operation.
- SPEED SELECTION:** Instantaneous speed shift engages either 78 or 33  $\frac{1}{2}$  RPM idler without stopping turntable or removing disc.
- FINISH:** Grey Wrinkle.
- DIMENSIONS:** Front to Back 15"; Width 13"; Height 1  $\frac{3}{8}$ " above motor panel and 5" below motor panel. Weight 13 lbs.

Model	Speeds	Net Price
T-12H	78 - 33 $\frac{1}{2}$	\$119.95
T-12	78 - 33 $\frac{1}{2}$	84.95
T-43H	45 - 33 $\frac{1}{2}$	119.95
T-43	45 - 33 $\frac{1}{2}$	84.95

### ACCESSORIES

T-103 A	45 RPM Idler, with record adapter, interchangeable with 33 $\frac{1}{2}$	7.00
T-104	78 RPM Idler, interchangeable with 45 RPM	6.50



T-12H Illustrated

## MODEL LP-743 — 3 SPEED 12" TRANSCRIPTION TURNTABLE

Here is the outstanding value for the discriminating buyer who seeks a quality three-speed turntable, at a moderate price. The LP-743 meets the growing demand for a good turntable which is priced between deluxe models and ordinary phono motors. Designed and dimensioned for easy replacement of obsolete motors in average consoles.

### SPECIFICATIONS:

- NOISE LEVEL:** 30 db below average recording level.
- TURNTABLE:** Lathe-turned and balanced. Made of laboratory tested aluminum casting.
- MOTOR:** Induction type, designed for smooth, quiet, vibration-free operation, fitted with a Lamitex motor pulley.
- SHAFT:** Turntable shaft hardened, ground and polished.
- SPEED CHANGES:** Instantaneous without stopping turntable or removing disc.
- FINISH:** Grey hammertone.
- DIMENSIONS:** Front to Back 14"; Width 12"; Height 1  $\frac{3}{8}$ " above motor panel; 5" below motor panel. Weight 10 lbs.

Model	Net Price
LP-743	3 Speeds: 78 - 45 - 33 $\frac{1}{2}$ .....\$54.95



## MODEL CVS-12 — CONTINUOUSLY VARIABLE-SPEED TURNTABLE

Plays at any speed from 20 to 100 RPM without distortion or warble

Operates on 50 or 60 cycles. Just plug in . . . no more changing of motor pulley or idler to convert from 50 to 60 cycles, or vice versa. Speeds are regulated by a simple movement of the lever to compensate for any fluctuations in line voltage or frequencies. Plays all standard and microgroove records as well as 16" professional broadcast transcriptions. Excellent for broadcast stations, disc jockeys, schools, dance studios, musicians, singers, record collectors, gymnasiums, etc. The only turntable to use in areas of fluctuating line voltage, frequency, or with portable power plant.

### SPECIFICATIONS:

- SPEED RANGES:** Continuously Variable.  
(a) 110V-60 cycles, Range: 25 to 100 RPM.  
(b) 110V-50 cycles, Range: 20 to 85 RPM.
- MOTOR:** Constant speed, 4 pole, with cone pulley.
- DRIVE:** Exclusive VARI-CON\* self-seating rim drive.
- TURNTABLE:** 12" cast aluminum, with hardened and ground shaft.
- NOISE LEVEL:** 30 db minimum below average recording level.
- DIMENSIONS:** Front to Back 15  $\frac{1}{2}$ "; Width 12"; Height 1  $\frac{1}{2}$ " above chassis, 5" below chassis.

Model	Net Price
CVS-12	Variable Speed, 25-100 RPM.....\$84.95



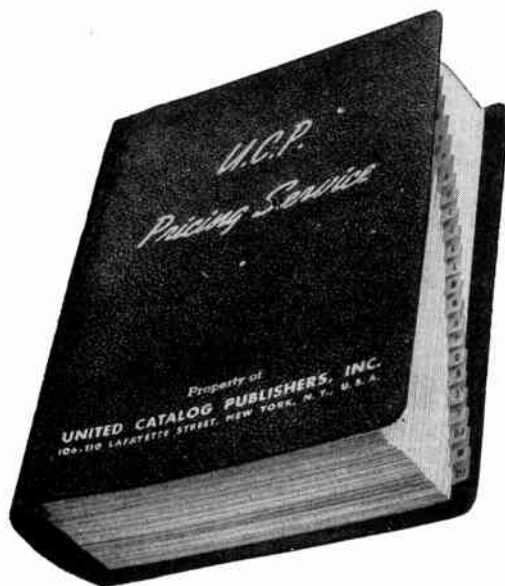
\*Patent Pending.



# PRICES

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Delivery is often dependent on the availability of raw materials. So check with your distributor for delivery information.

# Concertone

MAGNETIC TAPE RECORDERS

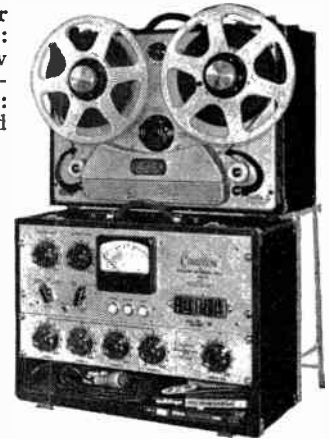


## CONCERTONE NETWORK RECORDER

The Concertone Network Recorder and recording amplifier incorporates such features of engineering and design as to represent a major advance in dependability of operation and simplicity of maintenance in the field of broadcast recording and reproduction. A high degree of versatility is achieved through provision for mounting up to 5 heads; flexibility attained by option of rack panel mounting, portable cases or console cabinet installation.

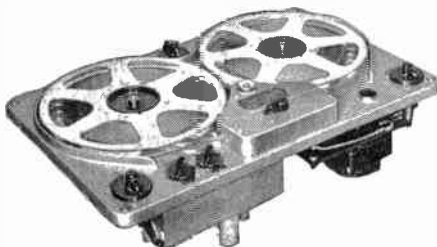
### SPECIFICATIONS

**NETWORK RECORDER NWR-1:** Meets all adopted N.A.B. standards. Frequency response:  $\pm 2$  db from 40 to 15,000 cps at 15"/sec.,  $\pm 2$  db from 50 to 9,000 cps at 7.5"/sec. Signal to noise ratio: 55 db. Harmonic Distortion: 2% at zero V.U. **NETWORK DRIVE NWD-1:** Drive panel: 14" x 19". Mounting Depth: 6" (below panel). Tape speeds: 7.5" and 15"/sec. Flutter and wow: 0.1% RMS at 15"/sec. 0.2% RMS at 7.5"/sec. **NETWORK AMPLIFIER NWA-1:** Amplifier panel: 7" x 19". Mounting depth: 6" below panel. Input level: Minus 20 V.U. minimum. Output level: Plus 20 V.U. maximum. **MICROPHONE MIXER BCM-1:** Mixer panel: 3½" x 19". Mounting depth: 6" (below panel). Input: Four low level low impedance microphone channels, individually controlled. Output: Plus 10 V.U. across 600 ohm balanced line.



## PROFESSIONAL USERS' NET PRICES

Drive mechanism NWD-1 on 14" x 19" rack panel, complete with erase-bias oscillator — \$478.00. Amplifier NWA-1 on 7" x 19" rack panel, complete with power supply and drive controls — \$317.00. Four channel microphone mixer BCM-1, on 3½" x 19" rack panel, complete with self-contained power supply — \$127.50. Carrying case for Network drive mechanism — \$42.50. Carrying case for Network amplifier and microphone mixer — \$42.50.



## CONCERTONE HIGH FIDELITY RECORDER Model 1401

The only truly high-fidelity high performance tape recorder in the popular price field. Complies with NAB standards. Choice of 7.5" or 15"/sec. tape speeds. Plays standard 5", 7" and NAB 10½" reels. Extended frequency response, 50 to 15,000 cps  $\pm 2$  db; tape noise down to random level. Simultaneous monitoring from tape while recording. Basic recorder (illustrated) ready for custom installation, includes drive, power supply and preamplifiers. Professional Users' Net Price, single

or dual track heads — \$345.00. Model 501 carrying case with monitoring amplifier, high fidelity 8" speaker and all connections for portable system — \$82.50. Model 502, without amplifier and speaker — \$47.50. Model 702 Console Cabinet, all metal — \$97.50.

Manufactured by

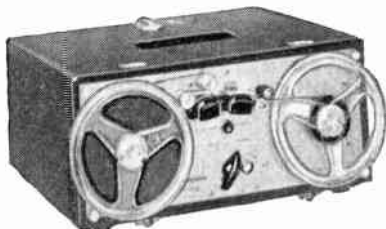
# BERLANT ASSOCIATES



WORLD'S MOST WIDELY USED

**Magnecord**

— FIRST CHOICE OF THE PROFESSIONALS



PT6-AH

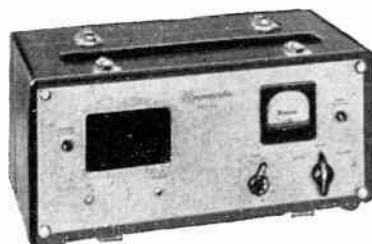
**PT6-AH** Magnecord mechanisms are recognized as the greatest value in the professional field.

This recorder has separate erase and record/reproduce heads; high speed forward; includes 7 1/2" and 15" tape speed capstans for either speed. Uses standard 7" reels and rewinds 1200 feet in 40 seconds. Price **\$316.00**. Weighs less than 29 lbs.

**PT6-AHX** (less case): **\$299.00**

Also available with 2-speed motor for all 3 tape speeds (3 3/4", 7 1/2" or 15"/sec.). **PT6-AH** recorder with dual track heads also obtainable on special order.

**PT6-J**—An all-purpose combination record/reproduce amplifier, 10 watts of audio, terminals for external speaker. One low-impedance mike input, also bridging input. Output: zero level at 600 ohms, balanced. Monitor speaker. Complete with tubes and interconnecting cables, **\$248.00**. Specify for 15" or 7 1/2"/sec. equalizer. (3 3/4"/sec. tape speed equalizer extra). Weight 21 lbs. Panel 7" x 17".



PT6-J



PT63-J

PT63-AH

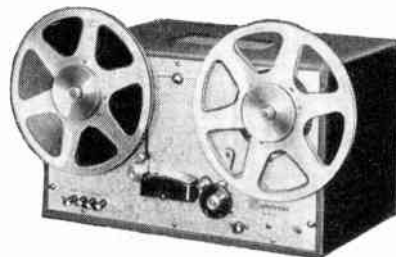
This Magnecoder has **THREE** heads—erase, record, playback—to monitor from the tape while recording.

The **PT63-AH** is the same size and weight as the **PT6-AH** complete with capstans for 7 1/2" and 15" tape speeds—**\$350.00**. Three speeds (3 3/4", 7 1/2", 15") are obtained by ordering **PT63-AH** mechanism with two-speed hysteresis synchronous motor, \$30 additional. Dual track heads also at slightly additional cost.

**PT63-J** has separate record and playback amplifiers for simultaneous playback of tape while recording. Single low-impedance microphone input, also bridging input. Has 600 ohm balanced, zero level output and 10 watts of audio with terminals for external speaker. Switch for 7 1/2" or 15"/sec. tape speed equalization. Switch for reading bias, record or playback. **\$387.00**.

The **PT7-AH** Magnecoder has many outstanding features. Three heads—erase, record, playback—triple shielded to eliminate cross-talk or hum . . . New positive drive speed reducer for perfect timing . . . Instantaneous start and stop . . . 2-speed switch on panel for 7 1/2" and 15" tape speeds . . . High speed forward and rewind . . . Frequency response: flat from 50-15,000 cps. ±2 db. at 15" tape per second; flat from 50-7,500 cps. ±2 db. at 7 1/2" tape per second . . . Interlocked pushbutton controls, forward-stop, rewind, or hi-speed. Can be remote-controlled . . . Automatically lifts tape from heads in hi-speed or rewind. **\$468.00**.

**PT63-J** Amplifier, illustrated and described above, is used with **PT-7** series.



PT7-AH

FOR BROADCASTING • INDUSTRIAL RESEARCH  
SCHOOLS • CHURCHES • BUSINESS • MEDICINE

# PROFESSIONAL TAPE RECORDER . . . . .

## STANDARD MAGNECORD SPECIFICATIONS

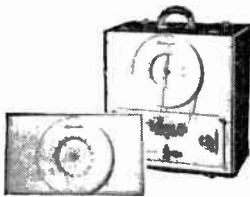
- **FREQUENCY RESPONSE:** Flat from 50 to 15,000 cps,  $\pm 2$  db. at 15" per second tape speed and flat from 50 to 7500 cps,  $\pm 2$  db. at 7 1/2" per second tape speed, when using Magnecorder equalizers selected for specific speed used. 50 to 4000 cps,  $\pm 2$  db. at 3 3/4" per second tape speed.
- **SIGNAL TO NOISE RATIO:** Exceeds 50 db. with less than 2% harmonic distortion.
- **MAXIMUM FLUTTER:** Less than 0.3% peak-to-peak.
- **FINISH:** Gray hammered panels—Leatherette cases.
- **POWER:** 117 volt, 60 cycle, AC (single phase).



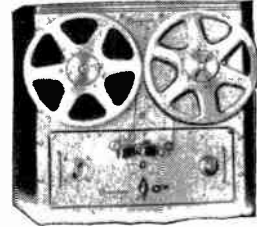
**PT6-P** combination record/playback amplifier with small monitor amp. Includes tubes, case, connector cables. Specify 15" or 7 1/2"/sec. equalizer. **\$462.00**



**PT6-R** record/playback amplifier. Zero-in, Zero-out. Headphone jack. Includes all tubes and connector cables. Specify either 15" or 7 1/2"/sec. equalizer. **\$383.00**

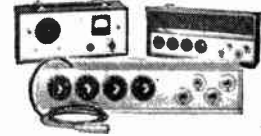


**PT6-EL**—Continuous Loop Mechanism. Eliminates rewinding tape. Holds up to 600 ft. (15 min. at 7 1/2"/sec.). Use with PT6AX and PT6 amplifiers. 19" wide x 10 1/2" for rack mount or PC-MA portable case. Gray finish. Mounting bolts. **\$64.50**

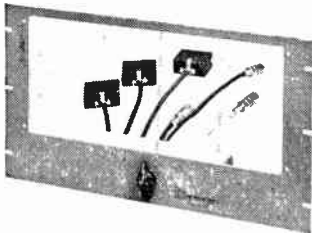


**PT6-M**—Auxiliary spooling mechanism accommodates 10 1/2" NAB reels — doubles record and playback time. 19" wide x 10 1/2" high for rack mount. Separate rewind and take-up motor. No reels included. **\$128.00**

**PT6-IM4**—Four-channel input mixer (low level) 17" long. 30/50 ohm microphones. **\$74.50**



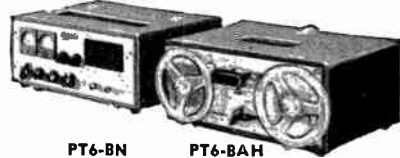
**PT6-HT**—Panel and throwover switch provides selective switching for two recorders. Permits continuous operation using single amplifier. Panel 19" for rack mounting. For PT6 equipment. **\$36.00**



Here's something really NEW in tape recording—a *third dimension in sound!* It is available only in the Binaural Magnecorder. Unequaled realism through stereophonic sound!

Dual half-track Binaural heads. Uses standard 1/4" tape; records two tracks simultaneously through two microphones and two amplifiers; playback through two amplifiers and two speakers or headphones. Meets all NAB standards.

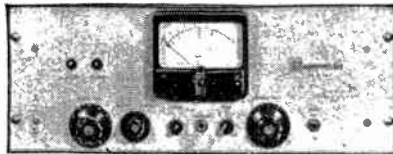
**PT6-BN**—Binaural Amplifier **\$515.00**  
**PT6-BAH**—Binaural Mechanical Unit **\$364.50**



**PT6-BN**      **PT6-BAH**



Professional amplifier unit—**PT7-P**—well adapted for console, rack or portable. Three-channel, high-level mixing amplifier. Balanced output at zero level, 600 ohms. Separate record and playback amplifiers plus 10 watts audio. Switch for 7 1/2"-15" equalizer. Switch for record or playback bias readings on 4" VU meter. Includes tubes, case, connector cables. **\$440.00**



The line level amplifier—**PT7-C**—has separate record and playback amplifiers. Headphone jack. Can be rack mounted either horizontally or vertically. Input: 600 ohm, balanced; also bridging input. Output: zero level at 600 ohms, balanced. Switches for reading bias, record or playback on 4" VU meter, and for 7 1/2" or 15"/second tape speed equalization. Gray finish. Weight 26 1/2 lbs. **\$334.00**

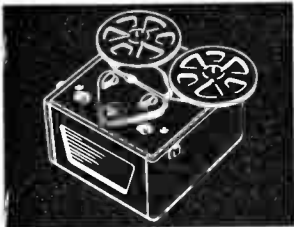


America's most complete console combination—**PT7-CC**. It offers you maximum flexibility, yet all in one unit! A beautifully finished wood cabinet, Formica top, with chrome trim... plenty of storage space for reels and extra equipment. No slipping—no wear—no oiling... assured accurate timing always. A dependable drive, surpassing all others. **PT7-CC** includes **PT7-AX**, **PT7-C** amplifier and cabinet. Dimensions: 38" high, 25" wide, 24 1/2" deep. **\$950.00**. Console cabinet only, **\$164.00**. Above combinations also available with **PT63-J** or **PT7-P** at extra cost.

All prices and models subject to change without notice

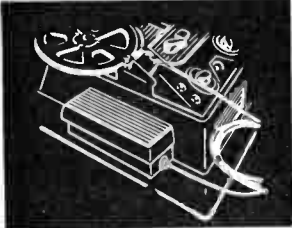
**WRITE FOR COMPLETE NEW CATALOG OF EQUIPMENT:  
 MAGNECORD, INC., 360 N. MICHIGAN AVE., CHICAGO, ILL.**

Dept. RM-52



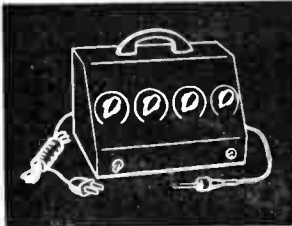
**TAPE PLAYER**

2 Speeds. Plays back any pre-recorded tape. Fast rewind, forward. Model PBI with pre-amp plays through any amplifier. Model PBA2 has amplifier, speaker.



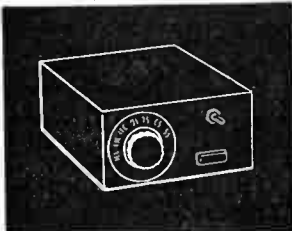
**FOOT CONTROL**

Model FP-5 instantly starts, stops tape recorders and players. Designed for business and institutions. Invaluable for transcription, lectures, slide-film, conferences and dictation.



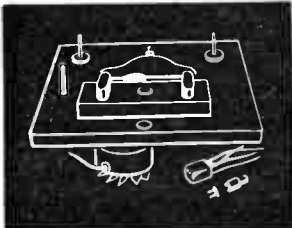
**AUDIO-MIX**

Model MM4 electronic mixer for multiple mike recording on tape, wire, disc, or P.A. systems. Wide range of audio blending. Connects to any audio system.



**AM RADIO TUNER**

Model AM-T. Self-powered selective tuner fits recorder compartment. Has AC line and plugs into phono jack. Plays through any amplifier.



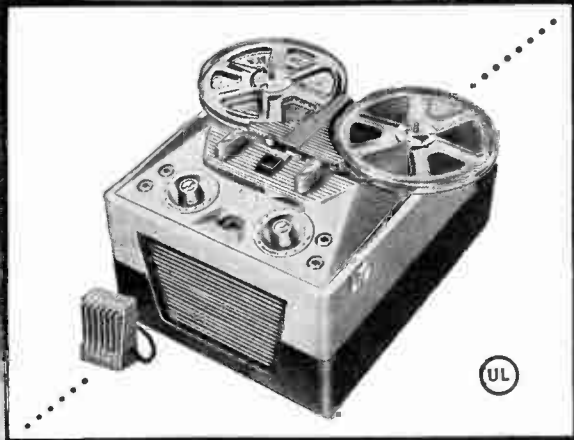
**BASIC TAPE UNIT**

Model 9T-3M. 2 push-button speeds. Mounts in radio or TV sets, or joins to P.A. system. Dual track or full width (single track) heads.

**ACCESSORIES** Pentron auxiliary speaker. Telephone pick-up. Microphone. Magnetic tape. Plastic reels. Extension cords.

*tops!*

**IN EYE APPEAL  
IN EAR APPEAL**



# PENTRON

## Multi-Speed TAPE RECORDER

The *one* all-purpose portable recorder that records and plays back every voice, every sound with faithful realism. Its unmatched versatility meets countless requirements of industry, business and government. Recordings can be played over and over or same tape can be re-recorded any number of times.

**Only Low-Priced Recorder with all these Professional Features**

2 Hours recording or playback.  
"Edit-Ear" Control corrects while playing.  
Push-Button 3 3/4" and 7 1/2" speeds.  
Fastest Rewind and forward speeds.

Auto. Amplifier Equalization in both speeds.

Auxiliary Jacks for P.A. system.

Heads—single or dual track.  
Weight—only 27 lbs.

Write for FREE Bulletins!

**IN "SOUND" ELECTRONICS IT'S  
THE PENTRON CORP.  
CHICAGO 16, ILLINOIS**

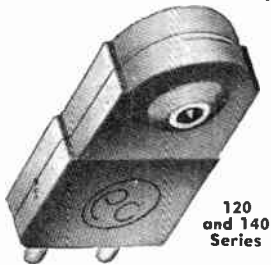


# PICKERING HIGH QUALITY AUDIO COMPONENTS FOR RECORD REPRODUCTION



## THE PICKERING CARTRIDGE

There is a Pickering Cartridge Reproducer for every record playing and transcription use . . . Professional, Laboratory and Home Phonograph.



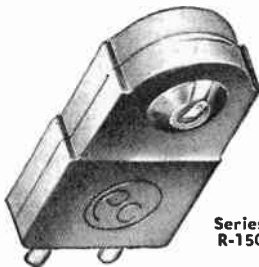
120  
and 140  
Series

**Models D-120M, S-120M, D-140S and S-140S**, with diamond or sapphire stylus, are without equal; they produce the finest quality reproduction of

lateral recordings; they are the choice of professional audio engineers.

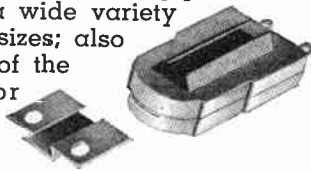
MODELS D-120M AND S-120M are for playing standard records and transcriptions requiring 2.5 mil styli. MODELS D-140S AND S-140S are for long playing, microgroove records; 33 $\frac{1}{3}$  and 45 RPM.

**Model R-150**, featuring a replaceable diamond or sapphire stylus is specifically designed to produce optimum quality record response with standard home record playing phonographs. The R-150 is designed for 78 RPM shellac records. The high frequency response is attenuated by mechanical means above 8000 cycles.



Series  
R-150

All Pickering Cartridges will fit practically any arm made for a standard pickup. Their ingenious "Keystone Clip" mounting permits adaptation to a wide variety of arm shapes and sizes; also permits adjustment of the stylus position for minimum tracking error. Special adapter-clips are available for Webster-Chicago and Garrard changers.



**PICKERING CARTRIDGES  
ARE UNCONDITIONALLY  
GUARANTEED**

**Model S-120M** with .0027" Sapphire stylus . . .

**Model D-120M** with .0025" Diamond stylus . . .

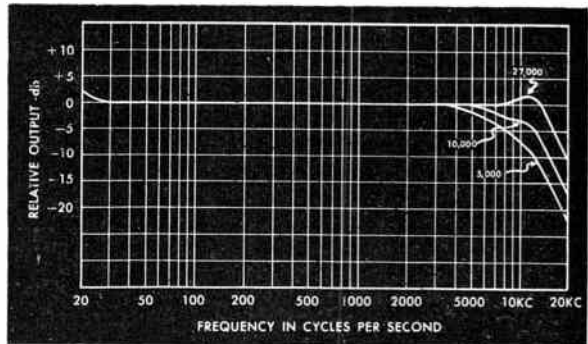
**Model S-140S** with .001" Sapphire stylus for long-playing MICROGROOVE recordings .

**Model D-140S** with .001" Diamond stylus for long-playing MICROGROOVE recordings .

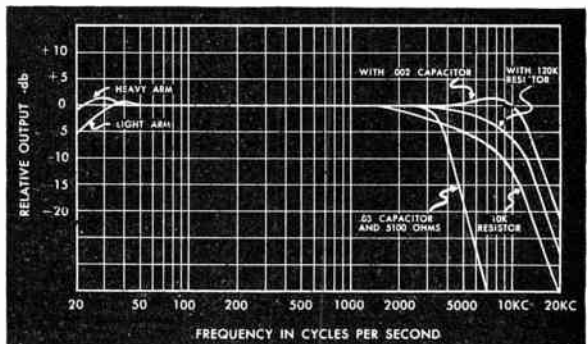
**Model R-150** without stylus for home phonographs . . .

### Styli for Model R-150 Cartridge Reproducer

- |                        |                       |
|------------------------|-----------------------|
| S-20 — .002" Sapphire  | D-20 — .002" Diamond  |
| S-25 — .0025" Sapphire | D-25 — .0025" Diamond |
| S-30 — .003" Sapphire  | D-30 — .003" Diamond  |



The frequency response characteristics with various load impedance values are shown in the accompanying curves, Series 140 and 120 above and R-150 below.



With the exception of the stylus point, all Pickering Cartridges are covered by an unconditional guarantee, provided the cartridge has not been opened nor subjected to extraordinary abuse. Every Pickering Cartridge, before leaving the factory, is carefully tested for FREQUENCY RESPONSE, WAVEFORM DISTORTION, OUTPUT LEVEL, TRACKING PRESSURE, and in addition, optical inspection of the stylus polish and shape, mechanical inspection of moving parts and electrical inspection of the pickup coil are made on each unit. Reports from users reveal absolute stability, amazing ruggedness and complete insensitivity to the effects of temperature and humidity.

**Pickering  
& Company, Inc.**

**Oceanside, Long Island, N. Y.**

# PICKERING HIGH QUALITY AUDIO COMPONENTS

## PREAMPLIFIER MODEL 230H

EQUALIZES THE BASS RESPONSE OF RECORDS AND TRANSCRIPTIONS AND PROVIDES THE NECESSARY GAIN FOR HIGH-QUALITY MAGNETIC PICKUPS.

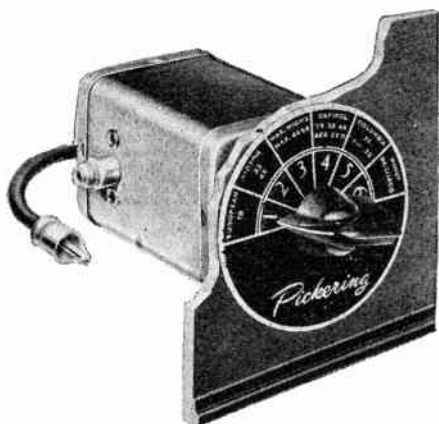
The Pickering 230H Preamplifier is designed to operate with any high-quality amplifier having a high impedance input. It is self-powered, operates from the 115 volt AC line, and is installed by simply plugging in.

Model 230H is unique in its accuracy of equalization, being superior to most broadcast station equipment in this respect. Further, the intermodulation and harmonic distortion is lower than good engineering practice requires in professional equipment. The 230H Preamplifier represents the most advanced design ever achieved in phonograph preamplifiers, and like all Pickering Audio Equipment, symbolizes maximum performance.



### TECHNICAL SPECIFICATIONS

**FREQUENCY RESPONSE:** Within 2 db from 40—20,000 cps. Compensates for 6 db per octave loss below 500 cps. . . . **OUTPUT:** High impedance, 2 volts average from phonograph records. (For 500/600 ohm output at -10 dbm use Pickering 600G transformer, available as accessory equipment.) . . . **DISTORTION:** Not more than 0.2 percent intermodulation at normal output level. Not more than 0.4 percent intermodulation at +10 db over normal level. Not more than 1.7 percent intermodulation at +20 db over normal level. . . . **HUM LEVEL:** -56 db below maximum signal. . . . **INSTALLATION:** Unit furnished with 6 ft. approved cord which can be connected to wall socket or amplifier. Input socket—standard type; matching plug furnished with unit. Output—terminal strip. Rubber shock mounts provided. . . . **DIMENSIONS, WEIGHTS AND TUBES:** Size of preamplifier: 7½ inches long, 3½ inches deep and 4½ inches high. Weight: 2 lbs. 6 oz. Tubes: 6C4, 6x4, 6AU6 (any good, standard brand).



## RECORD COMPENSATOR MODEL 132E

Provides the flexibility required to properly equalize for the different recording characteristics used by various record manufacturers.

The Pickering Record Compensator permits proper equalization of the amplifier system to produce optimum reproduction of individual records; because all linear circuit elements are used it has no inherent distortion. This Compensator permits each individual record to offer all of its quality without compromise . . . permits getting the maximum use out of scratched and worn records. Its six positions correctly equalize for all of the established recording characteristics including microgroove and standard records, domestic and foreign.

The Pickering Record Compensator is a most important addition to any record player equipped with an amplifier system having a high gain preamplifier, such as the Pickering 230H. It is easily installed, and like all Pickering Audio Equipment, symbolizes maximum performance.

### SWITCH POSITIONS

- 1—EUROPEAN RECORDS, this group covers HMV, English Decca, FFRR 78's, and American pressings of European recordings.
- 2—VICTOR, 33½ and 45 rpm recordings.
- 3—VICTOR 78, no high frequency roll-off, 500 cycle turn-over.
- 4—CAPITOL, and for most 78 rpm domestic records, including Columbia, Decca, MGM, etc.
- 5—COLUMBIA, and for most makes of 33½ rpm microgroove recordings.
- 6—NOISY RECORDS, this position permits playing of old noisy records with objectionable hiss removed.

### TECHNICAL SPECIFICATIONS

**INPUT:** High impedance magnetic cartridge . . . **OUTPUT:** To feed into high-gain amplifier which has 6 db per octave rise below 500 cycles per second, and which has an input resistance of 47,000 ohms . . . **INSTALLATION:** Unit can be mounted in any position (on panels up to ¾ inch thick) by means of threaded bushing. Since no power is required to operate the Record Compensator only a single connection has to be made to a suitable preamplifier. Input connection—standard socket. Matching plug furnished with unit. Maximum distance between record compensator and preamplifier input 20 inches, cable supplied . . . **DIMENSIONS AND WEIGHT:** Size of unit: 1¾" square by 3½" overall, less switch shaft. Weight: 6½ oz.

**Pickering  
& Company, Inc.**

Oceanside, Long Island, N. Y.



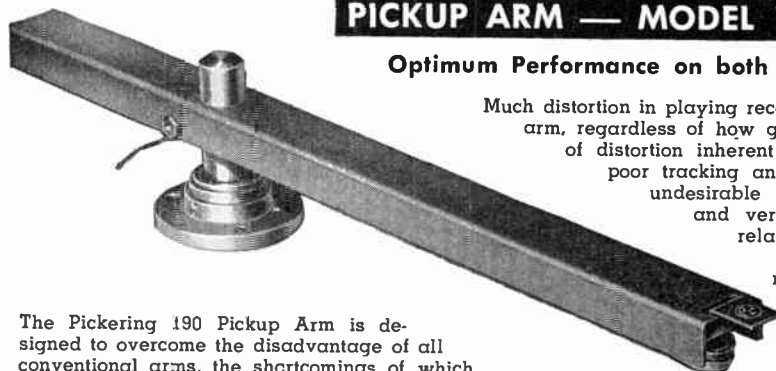
... FOR RECORD REPRODUCTION



**PICKUP ARM — MODEL 190**

The only arm capable of

**Optimum Performance on both Microgroove and Standard Records.**



Much distortion in playing records can be caused by an inadequate pickup arm, regardless of how good the cartridge. The most common causes of distortion inherent in the operation of conventional arms are poor tracking and excessive record and stylus wear. These undesirable qualities are a result of improper lateral and vertical moments of inertia and an incorrect relationship between the two. Further, many arms cause tracking error which creates needless distortion.

The Pickering 190 Pickup Arm is designed to overcome the disadvantage of all conventional arms, the shortcomings of which have been severely accentuated by the advent of LP microgroove records. Extensive investigation by Pickering engineers disclosed that reproducer arms which perform well on 78 RPM phonograph records and standard transcriptions will not necessarily produce good results on LP microgroove records. In fact no commercially available arm was found which would meet all of the requirements for this type of service.

The 190 Pickup Arm embodies all the features determined as significant and important to enable a high quality cartridge to meet the stringent requirements for playing LP records without distortion and free of record and stylus wear: 1 — The ratio of vertical-to-lateral moment of inertia is as low as possible . . . 2 — The vertical mass has been minimized in order to track any record without imposing extra vertical load on grooves. It plays badly warped records just as well as flat ones . . .

- 3 — There is no spurious arm resonance at any frequency . . .
- 4 — Pivot friction is lower than 3 gram centimeters and the bearings are rugged and trouble-free . . .
- 5 — The arm is statically balanced about the vertical axis to eliminate tendency to jump grooves when subjected to bumping or jarring . . .
- 6 — Offset head reduces tracking error to less than plus or minus 2½° . . .
- 7 — Stylus point is protected against contact with anything but the record grooves. It cannot strike the turntable mat or center-pin. It plays all size records up to 17¼" O.D. In addition to these important design considerations, the 190 Pickup Arm features: Sensitive tracking force adjustment . . . height adjustments for turntables from ½" to 2" high . . . one-hole mounting and self-contained levelling screws . . . plug-in cartridge holder . . . magnetic arm rest . . . stylus point completely visible for starting and cueing records . . . 16¾" long.

**Pickering Cartridges used with the Model 190 Arm require 50% less vertical tracking force than is required when using conventional arms.**

**MODEL 163A EQUALIZER**

**Model 163A Equalizer** A loss-type equalizing network for use with the Model 161M Pickup. It is designed to compensate for most of the commonly encountered record characteristics. Position 1 — flat high frequency response to over 15,000 cps. Low frequency rise to give full compensation from 500 to 40 cycles. Position 2 — flat high frequency response. Low frequency response approximately 5 db. below position 1. Position 3 — for NAB or Orthacoustic transcriptions. Position 4 — Low frequencies same as position 2. High frequencies sharply attenuated to reduce surface noise. Attenuation starts at 4000 cycles. Position 5 — low frequencies same as position 1. High frequencies same as position 4. 250/600 ohms output, — 60 lb. Size 3½ x 3¼ x 5 inches. Shipping weight 2 lbs.



**EACH PICKERING PICKUP AND CARTRIDGE IS UNCONDITIONALLY GUARANTEED**

With the exception of the stylus point, all models of the Pickering Cartridge Reproducer and Pickering reproducing equipment, are covered by an unconditional guarantee provided that the unit has not been tampered with nor subjected to extraordinary abuse. Replacement diamond and sapphire styli can be installed in cartridge reproducers for the following net charges:

**Pickering Reproducing Equipment is Sold by All Principal Distributors**

For Models 160 or 161 Diamond stylus of any radius .....	<b>\$22.50 Net</b>
For Cartridge Reproducers	
.0027" Sapphire for 120 Series.....	<b>2.50 Net</b>
.001" Sapphire for 140 Series.....	<b>5.00 Net</b>
.0025" Diamond for 120 Series.....	<b>15.00 Net</b>
Special Radius Diamond for 120 and 140 Series .....	<b>22.50 Net</b>
.001" Diamond for 140 Series.....	<b>22.50 Net</b>

**Pickering & Company Inc.**

Audio Laboratories, Oceanside, Long Island, New York



# GENERAL ELECTRIC

## PHONOGRAPH PARTS and ACCESSORIES



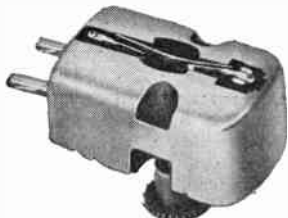
UPX-007 List Price \$15.95  
Tone arm and cartridge—78RPM records



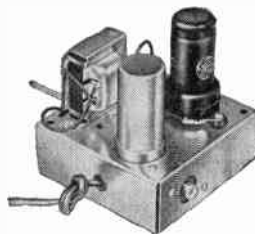
UPX-006 List Price \$19.95  
Plays 33, 45, 78 records (with stylus)



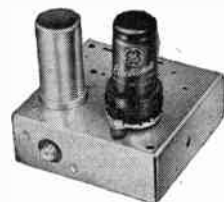
FA-21-A List Price \$41.00  
Professional transcription arm



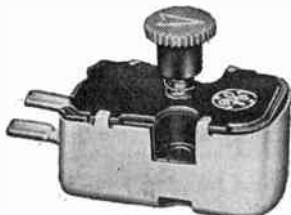
RPX-052 List Price \$38.95  
Furnished with Dual  
Diamond and Sapphire Stylus



UPX-003 List Price \$17.95  
Self-powered preamplifier



SPX-001 List Price \$11.90  
Preamplifier less rectifier



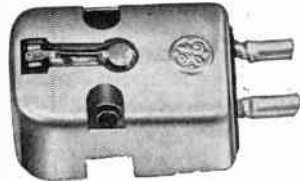
RPX-050 List Price \$13.95  
Plays 33, 45, 78 records (less stylus)



UPX-111 List Price \$15.95  
Installed in Webster Plug-in Head



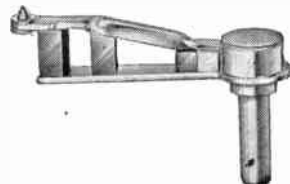
RPX-040 and RPX-041 List Price \$9.95  
Use with 1 or 3 mil single stylus



RPX-046 List Price \$11.45  
For professional and broadcast use



DUAL WIDE-RANGE STYLI



SINGLE WIDE-RANGE STYLI

All General Electric Single and Dual Styli are now designed to give smooth, vivid performance to 15,000 cycles. Now you can enjoy hearing the reproduction of your favorite musical compositions as they should be heard—with true fidelity of performance. The increased number of damping blocks combined with the double-twist "Baton" design afford a fidelity unexcelled by any commercially available stylus. Harmonic distortion, needle talk and scratch are reduced to a minimum. Stylus pressure is very low, only 6 to 8 grams for all types of records. See the table below for complete information on these items.

### REPLACEMENT STYLI FOR G-E VARIABLE RELUCTANCE CARTRIDGES

Stylus Radius in Ins.	Recommended Use	Diamond Stylus	Color Code	List Price	Sapphire Stylus	Color Code	List Price
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### SINGLE STYLI FOR RPX-040, RPX-041 AND RPX-042 CARTRIDGES

.001	Microgroove (33 & 45 RPM)	RPJ-004	Black	\$27.50	RPJ-005	Red	\$3.50
.0025	NAB Transcriptions	RPJ-002	Yellow	27.50	RPJ-006	White	3.50
.003	Standard 78 RPM	RPJ-003	Violet	27.50	RPJ-001	Natural	3.50

### DUAL (SAPPHIRE or DIAMOND) STYLI FOR RPX-051, RPX-052 AND RPX-050 CARTRIDGES

.001 & .0025	Triple Play (Microgroove & Standard)	RPJ-011	.001 Black .0025 Yellow	\$49.95	RPJ-007	.001 Red .0025 White	\$5.95
.001 & .003	Triple Play (Microgroove & Standard)	RPJ-012	.001 Black .003 Violet	49.95	RPJ-010	.001 Red .003 Natural	5.95

### DUAL (SAPPHIRE and DIAMOND) STYLUS FOR RPX-051, RPX-052 AND RPX-050 CARTRIDGES

.001 & .003	Triple Play (Microgroove & Standard)	RPJ-013	.001 Diamond .003 Sapphire		Black Tip Natural Tip		\$31.00
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\* Some Sapphires are synthetic.

# WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin. Established 1909

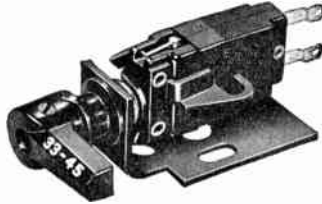
## CRYSTAL CARTRIDGES

FOR

EASIER STOCKING . . . FASTER TURNOVER . . . EASIER REPLACEMENT



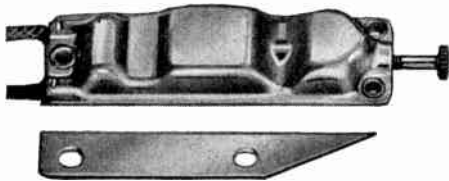
**MODEL WS**  
for all 78 r.p.m.  
replacements



**MODEL AX**  
for 3-speed, 2-needle replacements. Snap-off bracket for arms with integral twist mechanism.



**MODEL F16M**



**MODEL CX**



**MODEL Q**

### CHARACTERISTICS AND LIST PRICE

model No.	average output at 1000 C.P.S. Volts		minimum tracking pressure		approx. cut-off frequency C.P.S.	net weight grams	needle information (see note)	list price
	r.p.m. 33 1/3 - 45	r.p.m. 78	r.p.m. 33 1/3 - 45	r.p.m. 78				

dual purpose cartridge microgroove and standard (33 1/3, 45 and 78 r.p.m.) and microgroove (33 1/3 and 45 r.p.m.) only.

			grams	grams				
A1	.75	1.00	7.0	7.0	5,000	5.0	1MS & 3MS	\$8.50
A1M	.75	1.00	7.0	7.0	5,000	5.0	1MO & 3MO	7.50
A2	.75	—	7.0	—	5,000	5.0	1MS	6.50
A2M	.75	—	7.0	—	5,000	5.0	1MO	6.00
A9-1	.75	1.00	7.0	7.0	5,000	5.0	2MS	6.50
A9M1	.75	1.00	7.0	7.0	5,000	5.0	2MO	6.00
AX	1.0	1.5	7.0	7.0	5,000	13.0	1MO & 3MO	8.25
F13M	.85	—	7.0	—	6,000	8.0	1MO	6.50
F14-2	.85	1.70	7.0	21.0	6,000	10.0	DO	8.50
F15M	.85	1.70	7.0	21.0	6,000	10.0	1MO & 3MO	8.50
F16M	.75	1.00	8.0	8.0	6,000	10.0	1MO & 3MO	8.50
F19	3.5	5.0	12.0	12.0	3,000	10.0	1MO & 3MO	8.50
Q3	2.0	3.0	12.0	12.0	5,000	23.0	2MO	7.50

standard (78 r.p.m. only)

				ounces				
A3	—	1.00	—	.25	5,000	5.0	3MS	6.50
A3M	—	1.00	—	.25	5,000	5.0	3MO	6.00
CX	3.0	3.40	15.0	2.50	5,000	16.0	—	4.50
C4	—	2.50	—	2.50	5,000	16.0	—	4.50
D2	—	2.50	—	2.50	5,000	25.0	—	5.40
D3	—	.70	—	1.25	6,000	25.0	—	5.55
F1P	—	1.25	—	1.00	5,000	8.0	—	5.00
F2P	—	1.25	—	1.00	5,000	18.0	—	5.00
F7P	—	1.20	—	1.00	8,000	18.0	3MO	7.50
F7P 2	—	2.25	—	1.50	5,000	8.0	3MO	6.50
N6P	—	1.50	—	1.00	5,500	25.0	—	5.25
N7P	—	.60	—	.75	10,000	25.0	—	6.50
N10P	—	2.50	—	1.25	5,000	25.0	—	5.25
Q1	—	1.00	—	1.00	8,000	23.0	3MO	8.50
Q2	—	2.00	—	1.50	6,000	23.0	3MO	7.50
WS	—	1.50	—	.75	5,500	25.0	3MO	5.50
		or						
		4.00						

note: 1 MS = 1 Mil Sapphire tip; 1 MO = 1 Mil Osmium tip; 2 MO = 2 Mil Osmium tip; 3 MS = 3 Mil Sapphire tip; 3 MO = 3 Mil Osmium tip; DO = Dual tip 1 Mil Osmium and 3 Mil Osmium. Symbols indicate needles furnished.

# Audax

**Pickups for facsimile Reproduction**

*"The Standard by Which Others Are Judged and Valued"*

## POLYPHASE reproducers

*In One Single Magnetic Unit 33-1/3—45—78 rpm*

### POLYPHASE LIST PRICES

**D-L-6 CHROMATIC HEAD**, for all lateral records, **MICRO DIAMOND** and a standard **Sapphire**. ..... \$69.50

*(The price of the new Chromatic is the cost of the L-6 plus the regular price of a Diamond)*

**L-6 Head**—for all lateral records with two genuine **SAPPHIRE** jewels..... \$34.50

**R-2 Head**—for all lateral records with two genuine **SAPPHIRE** jewels..... \$24.50

**VL-9 Vertical Lateral Head**— (**SAPPHIRE** jewels) \$69.50

*\* Sapphires may be replaced with AUDAX DIAMONDS at any time.*

### RECORD CHANGER ADAPTERS

For Garrard Changer (Plug-in)..... \$4.50

For Webster Changer (Plug-in)..... \$4.50

### POLYPHASE REPLACEMENT STYLI

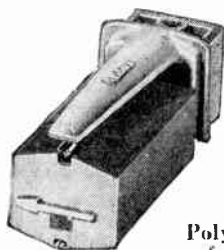
Sapphire—Micro or Standard ..... \$ 3.50

Diamond—standard—CHROMATIC ..... \$25.00

Diamond—microgroove—CHROMATIC ..... \$35.00

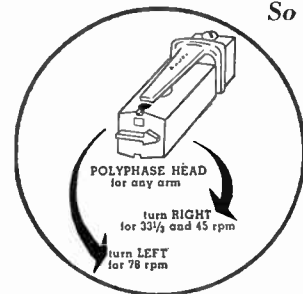
Diamond—Vertical ..... \$35.00

Sapphire—Vertical ..... \$ 6.00



Polyphase Head for any arm

*So simple*



- One, single magnetic unit and one low point-pressure for all discs.
- Replaceable Sapphire (or diamond).
- Response 20 to over 10,000 cps.
- Needle-talk practically nil.\*
- Near-infinite compliance.
- Tracking phenomenal.
- Flexible plug-in connectors.
- Listening Quality — Superb.

By merely inserting the desired styli, the POLYPHASE makes possible any of the following combinations:

1. Microgroove and 78 rpm
2. Both Microgroove
3. Both 78 rpm
4. Microgroove and lateral transcriptions
5. 78 rpm and lateral transcriptions
6. Both for lateral transcriptions

\*See "**ELECTRONIC PHONO FACTS**"

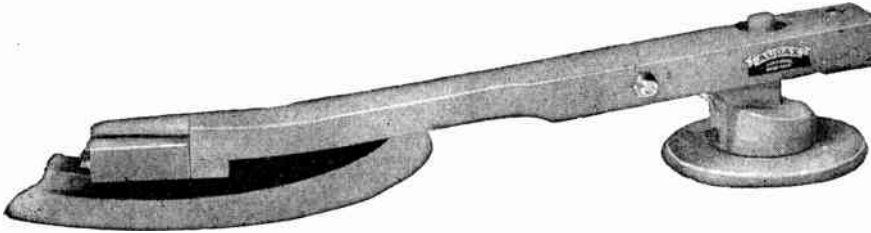
# Audax

## Cutters and Tone Arms

*"The Standard by Which Others Are Judged and Valued"*

# COMPASS-PIVOTED tone-arms

*unquestionably, the simplest and most efficient arms yet devised.*



#16 arm—(#12 same style) for use with any current model AUDAX Reproducer.

- Only **3** parts.
- Highest tracking efficiency.
- No restraint to stylus travel.
- Frontal oscillations nil.
- No springs.
- No fatigue.
- Maintains original point-pressure permanently — regardless of climatic changes.
- Greatest possible distance between stylus and vertical pivots.

	<i>turntable center to end of arm</i>	LIST
#12 Arm to 12" disc.....	10"	\$23.00
#16 Arm to 16" disc.....	13-9/16"	\$33.00
STUDIO Arm to 16" disc.....	18½"	\$65.00

## HIGH FIDELITY CUTTERS

AUDAX CUTTER H-5 — Substantially FLAT to 10,000 cycles. Distortion about 1.2% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms.

List Price \$185.00

AUDAX CUTTER H-4 — Substantially FLAT to 8,000 cycles. Distortion about 1.7% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms.

List Price \$125.00

AUDAX CUTTER H-3 — Substantially FLAT to about 7500 cycles. Distortion about 2.1% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 4000 ohms.

List Price \$83.00



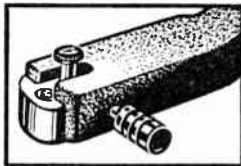
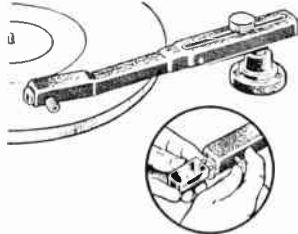
*AUDAX Cutters are readily interchangeable on most recording machines*

# CLARKSTAN

FINE ELECTRONIC & INDUSTRIAL EQUIP.

## BEST FOR LP MICROGROOVE AND STANDARD DISCS

**MODEL 213** — The new Clarkstan 12" record arm offers the best in standard disc and microgroove reproduction. Heavy aluminum casting eliminates audible resonance point. The slide-in cartridge holder allows instantaneous mounting of all types of standard cartridges. Silver-plated, spring loaded plungers maintain positive electrical contact without necessity of soldering. Quick acting weight adjustment is positive and accurate for change from microgroove to standard records. Arm has adjustable height, fits all standard turntables. Vertical roller bearing and thrust ball bearing minimize cramping — no mechanical bias on the pickup. Finish grey wrinkle and brushed chrome. Net price arm only \$18.90.



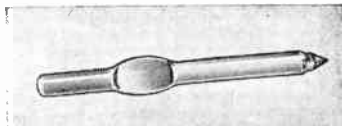
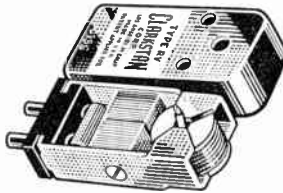
**MODEL 213G** — Same arm slotted to accommodate G.E. cartridge RPX-050. Net price arm only \$18.90.

**MODEL 212** — 16" Transcription arm. This high quality professional arm is built on same proven engineering principles as the above Model 213. Has slide-in cartridge holder and quick adjusting weight for accurate needle force. Accommodates both LP microgroove and standard records — any size up to 17" diameter. Overall length of arm is 14 3/8". Has adjustable height for all turntable conditions. Vertical roller bearings and ball thrust bearings eliminate mechanical bias on the pickup. Attractively finished in grey wrinkle and brushed chrome. Net price arm only \$19.90.

**MODEL 212G** — Same arm slotted to accommodate G.E. cartridge RPX-050. Net price arm only \$19.90.

### WIDE RANGE RV PICK-UP

**MODEL 201** — Clarkstan RV wide range variable reluctance cartridge for best reproduction of LP microgroove and standard records. Instantaneously replaceable and interchangeable needles. Frequency velocity responsive to above 12,000 cps. Needle force 5-7 grams for LP microgroove, as low as 10 grams for conventional records. Output 60 millivolts. High impedance — 5 · 50 · 250 and 500 ohm models available. 1/2" mounting centers. Supplied with sapphire stylus. Specify .0012" for LP microgroove or .0030" tip radius for standard records .0015" .0022" .0025" tip radii also available. (Can also be supplied with diamond stylus of any of above tip radii. Net price (cartridge only with standard sapphire stylus) \$15.00.



Net Price Sapphire stylus only \$2.40.

### SAPPHIRE & DIAMOND STYLI

Extra styli (tubular shank) for Clarkstan Pickups:		
Sapphire No.	Diamond No.	Ball Point Radius
251.10	254.10	.0012"
251.15	254.15	.0015"
251.2	254.2	.0022"
251.5	254.5	.0025"
251.3	254.3	.003"

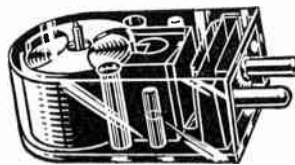
Diamond stylus only \$18.00.

### CLARKSTAN MAGNETIC PICKUP

**MODEL 204 "RV-Jr."** variable reluctance pickup has a removable and replaceable stylus. It weighs only one-half ounce and plays all popular makes of record changers having standard mounting holes 1/2" between centers. It is 1 1/2" overall length. This magnetic pickup with balanced armature is velocity responsive (flat ± 2 db) from 50 cps to 10,000 cps. It delivers .030 volt from the average record.

# 204 "RV-Jr." Cartridge only (with 1 sapphire needle).....Net price \$5.40

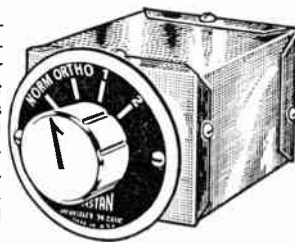
# 204D "RV-Jr." Cartridge only (with 1 diamond needle).....Net price \$21.00  
(Specify whether .0012" or .0030" radius needle desired.)



### FOUR-POSITION EQUALIZER

**MODEL 221** — Clarkstan 4-position equalizer. A high impedance input and output — adjustable network, without amplification, for use with magnetic pick-ups. Has one position for correct NAB or orthacoustic roll-off required for finest reproduction of LP microgroove records. Also two positions for sharp high frequency cutoff for standard records. Will give proper response when used in normal high gain microphone input of amplifier. Turn-over frequency is 500 cps. Panel mounting on 2 1/2" centers, 3/8" diameter center hole. Furnished with Clarkstan hand machined superfine knob and attractive dial plate. Net price \$12.60.

(All prices subject to change without notice.)



### MICROSCOPE GROOVE ANALYZER

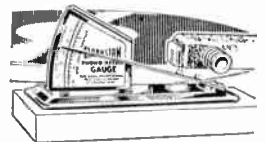
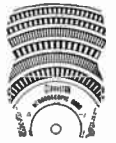


**MODEL 231** — Low-cost, medium power microscope with built-in light and reticle. Designed expressly for the phono record recorder. The illumination is optimum for observing the condition of the groove and the number of lines per inch and depth of cut. Has flat field, excellent optics — can be used with glasses (eyepoint is 1" above top). Both 20x and 40x provided in one microscope. Reticle for direct measurement by .0020". Complete with lacquered wooden carrying case with sliding cover. Focusing is accomplished by means of friction sliding tube. Is easy and positive. Net price \$22.50.

### STROBOSCOPIC CARD #610

FOR 33-1/3 RPM  
45 RPM AND 78 RPM

**MODEL 610** — New stroboscopic card for checking turntable speed of microgroove and standard records. Includes replaceable punch-out for new 1 1/2" center hole for 45 RPM records. Printed on quality enameled stock. Net price \$0.15.

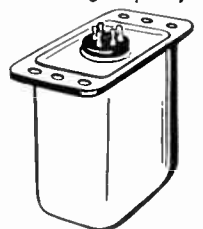


### NEEDLE FORCE GAUGE

**MODEL 301** — Clarkstan Gauge for phono needle force. This professional device has a calibrated dial to read in grams for use with LP microgroove records. Easily read to less than 1 gram. Also has scale in ounces. Net price \$1.50.

### PICK UP-TO-LINE TRANSFORMER

**MODEL 225** — Clarkstan pick-up-to-line transformer. A high quality transformer to be used wherever the signal is to be introduced to 30/50, 200/250, 500/600 ohm lines. May also be used as a line to grid transformer.



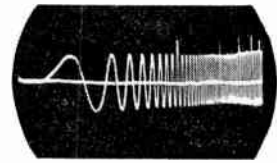
Net price \$19.50.

# CLARKSTAN

FINE ELECTRONIC & INDUSTRIAL EQUIP.

## REPRODUCTION AND TEST EQUIPMENT

### AUDIO SWEEP FREQUENCY TRANSCRIPTION



The Sweep Frequency Transcription is a new method of making instantaneous frequency response runs. It has been designed with all correction factors included in the original recording, therefore, no charts or graphs are needed. Before the development of the Sweep Frequency Transcription, the tone record was used for frequency response measurements on playback systems. This method was both time consuming and laborious. If adjustments were required, a new frequency run was required after each adjustment. Now all that is needed is a cathode ray oscilloscope and a Sweep Frequency Transcription for instantaneous response measurements. Only a few quick adjustments on the equalizer circuits and the job is done. For complete frequency checking of all broadcast transmission equipment and components for production testing of phonographic reproducers, filter networks, audio amplifiers, preamplifiers, tone control systems and components.

## AUDIO SWEEP FREQUENCY GENERATOR



**MODEL 125** — Clarkstan Audio Sweep Frequency Generator. A Clarkstan development for testing the behavior of audio and other alternating electrical apparatus with respect to frequency and associated phenomena. The generator operates in the audio range from 40 cps. to 10,000 cps. The complete frequency range is regularly recurrent so that the signal may be used in conjunction with an oscilloscope. The sweep frequency is governed by 20 synchronizing pulses per second. Provides an instantaneous evaluation of the performance of amplifiers at various settings of tone control and pick-up correction

networks, wire recorders, film recorders, broadcast and aircraft receivers, motion picture sound equipment, loud speakers, microphones, transformers, filters, pickups, pre-amplifiers and cutting heads. Net price Model 125 complete with scanning disc \$165.00.

**MODEL 130.1** — Scanning disc, 40 cps. to 10 kc. disc only. \$12.20 net price.

**MODEL 130.2** — Scanning disc 40 cps. to 7500 cps. disc only. \$12.20 net price.

## GRAPH SHEETS

Four extremely useful tools for the audio engineer. These specially designed graph sheets save endless time:

**601** — Reactance-Freq. Graph. The elements of reactance, capacitance, and inductance all related in one simple graph. Net price \$1.00 pad of 50 sheets.

**602** — dbm — Impedance Graph. The four variables: power (W), voltage (V), current (ma), and Impedance or Resistance ( $\Omega$ ) are acquainted in such a manner that given any two of these electrical quantities the other two may be graphically determined. A decibel scale in dbm (decibels below or above 1 milliwatt) parallels the power ordinate. Net price \$1.00 pad of 50 sheets.

**603** — Attenuator-Design Graph. In this universal pad design chart here presented for the first time, the resistance in ohms for each branch of the pad may be determined by multiplying the values found at the lower horizontal scale by the impedance of the line into which the pad is to be inserted. It covers balanced and unbalanced T and Pi pads. Net price \$1.00 pad of 50 sheets.

**604** — Semi-log, 3-cycle Graph. Designed expressly for the audio range. It has the unique virtue of starting at 20 cps. and covering three logarithmic cycles to 20,000 cps. On the vertical scale are 10 divisions per inch over 7 inches. Net price per pad 50 sheets \$1.00.



## CLARKSTAN KNOBS

Attractive one-piece knobs accurately machined from DURAL add the professional appearance to control panels. All knobs have fluted sides and have screw-type mounting for round or flat shafts to fit standard 1/4" shafts. Back of all knobs recessed 3/4" dia. by 5/64" deep to accommodate panel bushing nut. Supplied with or without pointer.

Model	Knob Dia.	Height	Net Price
275-1B	1"	5/8"	.90
275-12B	1 1/4"	21/32"	.96
275-2B	1 1/2"	11/16"	.99
275-3B	2"	3/4"	1.53
275-4B	2 1/2"	13/16"	1.77

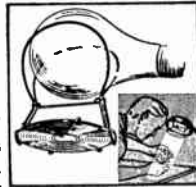
## ALPHA COUNTER

This newly developed nuclear instrument is a practical tool for nuclear physicists, assayers, etc. An optical instrument which gives a clear visual statistical count of alpha particles from any source. Complete with quencher, carrying case, radioactive samples and instructions for use. Net price: \$5.00.



## Light Concentrator

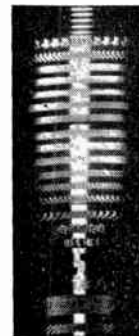
Provides bright spot illumination for close work. Lens clips easily on regular 40 to 100 watt frosted bulb, concentrating light in a 4" diameter at 12" from bulb. Steps up light intensity by 5 times. A Fresnel type lens 1/8" thick by 2 1/2" dia., does the work of a much thicker ordinary type lens. Effective focal length 2 1/2". Net \$1.00 each.



## OTHER CLARKSTAN PRODUCTS

Industrial Microscope for inspection work in shops, laboratories. Rubber Hardness Gauge to measure the Shore (Durometer) hardness of all rubber and other elastomers. Accurately measures rubber hardness within any of the commercial manufacturing tolerances.

## STEADY STATE FREQUENCY RECORDS



A series of new test records in which all the information for the engineer is annotated for both the cutting and reproduction. In recording these records harmonic distortion was kept to the lowest possible figure. Extreme care throughout the processing cycle was used. Careful reproduction, using the latest techniques insures exact duplication of the original recordings in each pressing.

**MODEL 2005** — Steady State Frequency Record, 12" Vinylite, 78.26 RPM 50 cps. to 10,000 cps. flat recording (1 side only). Net price \$3.90.

**MODELS 2001S & 2002S** — Microgroove Steady State Frequency Record, 12" Vinylite, 33-1/3 RPM, 50 cps. to 10,000 cps. one side NAB, other side flat recording. Net price \$3.90.

**MODEL 101** — Intermodulation Test Record, 12" Vinylite, 33-1/3 RPM, standard groove, 1/4 ratio, 7 KC and 100 cps. (1 side only). Net price \$3.90.

(All prices subject to change without notice.)

**PACIFIC TRANSDUCER CORP., Los Angeles 64, California**  
(formerly CLARKSTAN CORP.)

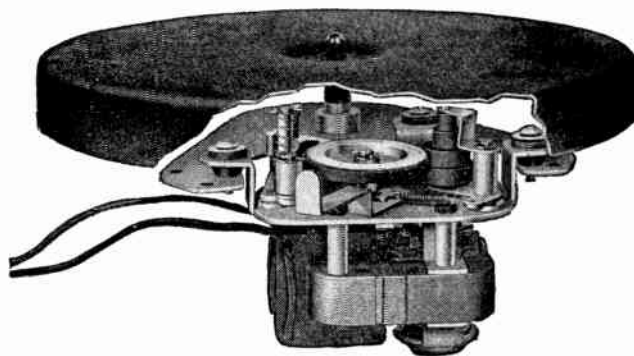
# alliance

## PHONOMOTORS

### New 3-Speed Phonomotors for Record Players

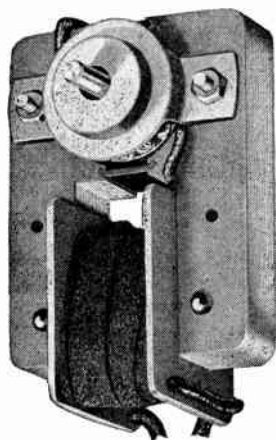
Drive  $33\frac{1}{3}$ , 45, and 78.26 r.p.m. Records

The new Alliance 3-speed record player Phonomotors, Models JPT8 and JPT9, are so advanced in design that mechanical operation is unexcelled! There are no rubber bands or belts to slip, snap, distort, or stretch . . . no needle shafts to indent tires under stall. A totally new motor assures minimum rumble, hum, and unequalled speed regulation! Motor has minimum height — no external fan — electronically dynamic balanced rotor — new vibration reduction mounting! Driving mechanism assures unimpaired performance at all speeds — has fewer moving parts! These units are furnished with 8" or 9" O.D. turntables designed for records with either the conventional or the RCA  $1\frac{1}{2}$ " diameter center holes. A removable center disc is provided to fit the  $1\frac{1}{2}$ " diameter center holes. This disc is reversible and will go on either way. Its height is designed for ease of record handling.



**PHONOMOTOR MODELS JPT 8 AND JPT 9**  
(with 8" and 9" O.D. turntables, respectively).

**NOMINAL RATING**— $33\frac{1}{3}$  or 45 r.p.m. for 5 gram stylus force and 78.26 r.p.m. for 10 gram stylus force with 117 volts, 60 cycles, 0.3 amps., and  $14\frac{1}{2}$  watts input.



**MOTOR MODEL MS**

### Powr-Pakt Model MS Motor

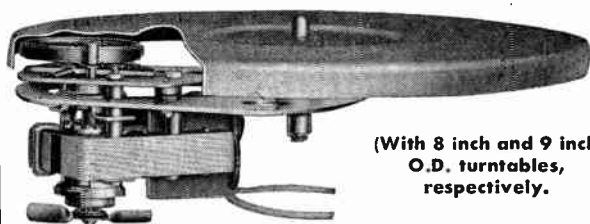
The Alliance Powr-Pakt Model MS motor is suitable for driving toys or other light loads. It is an adaptation of the quiet, smooth running motor which is used to power the Models MPS8, MPS9, and MPS10 Phonomotors. It measures  $3\frac{1}{8}$ " x 2" x

$1\frac{3}{4}$ " not including the  $\frac{7}{16}$ " long shaft extension which has an  $\frac{11}{64}$ " diameter. Rotation is clockwise facing the shaft extension. Its self aligning bearings are of the porous bronze oilless type.

**NOMINAL RATING**—2800 r.p.m. at full load with 117 volts, 60 cycles, 0.3 amps., and 16 watts input. More detailed specifications are available upon request.

### SINGLE SPEED

### 78 R.P.M. Phonomotor



(With 8 inch and 9 inch  
O.D. turntables,  
respectively).

This model MP8 Phonomotor is practically regarded as a standard power source! Operates on 110 or 220 volts, is made for 50 or 60 cycles, 16 watts input. Has no gears—runs at an even speed—has smooth, quiet, positive friction-rim drive. Ample proportioned bearings with large oil reserves assure long life. Motor and idler plate are shock mounted to minimize vibration transfer to turntable and motor board. Forced ventilation gives cool operation—the slip-type fan avoids any possible injury. Mounting plate maintains correct turntable height, regardless of mounting board thickness.

# V-M tri-o-matic RECORD CHANGERS

## TRI-O-MATIC\* RECORD CHANGERS

New modern styling keynotes the 1952 line of V-M tri-o-matic record changers, with smooth, curved surfaces for a sleek luxurious appearance. Designed for maximum consumer appeal, the 1952 tri-o-matic record changers and phonographs retain all the popular features that have made "V-M tri-o-matic" the fastest-selling record changer and phono line on the market. Changer in maroon with gold plastic accessories.

### V-M TRI-O-MATIC FEATURES

COMPLETELY AUTOMATIC OPERATION, ALL RECORDS — 33-1/3, 45, 78 rpm., 7", 10" and 12". POSITIVE INTERMIX, 10" and 12" records of same speed.

AUTOMATIC TONE ARM SETDOWN. ALL SIZE RECORDS — 7", 10", 12" — no controls necessary.

POSITIVE RECORD PROTECTION — Records are LOWERED — NOT DROPPED — on spindle shelf, and flat air cushion dropped to turntable.

COMPLETELY JAMPROOF. SIMPLE, CENTRALIZED CONTROLS. DUAL-NEEDLE, REVERSIBLE CARTRIDGE.

UNDERWRITERS APPROVED — Entire machine Underwriter's Approved, mechanically and electrically.

The V-M tri-o-matic 951 (Model 956 less base) is an easily installed replacement unit, for modernizing to three speeds, that fits all standard cabinets. Pre-cut wood mounting boards are also available. Minimum mounting space — 13-13/16" wide x 12 1/4" long x 7 1/4" overall height. Shipping weight 11 1/4 lbs.

The V-M tri-o-matic 956 is the Model 951 mounted on a metal base, as a wired changer for playing through any standard radio or TV set. Complete with 6-foot A.C. cord and 4-foot sound cord and plugs. Shipping weight 14 1/4 lbs.

V-M tri-o-matic Models 951 GE and 956 GE (not shown) are especially designed for the High-Fidelity trade and features four-pole motor, muting switch, and G.E. Variable Reluctance Cartridge, plus all standard V-M tri-o-matic features listed above.

### V-M TRI-O-MATIC PHONOGRAPHS, with *Siesta Switch*

The V-M tri-o-matic amplified line has always found wide acceptance with music lovers, and the new Siesta Switch has added all the more to their popularity. After the last record plays, everything shuts off, including the amplifier! Models 920 and 972 also have an appliance plug in the base for use with a lamp; when last record plays, the lamp shuts off, too!

V-M tri-o-matic Model 920 Record Changer attachment. The lowest-priced three-speed automatic record changer on the market. Plays through any radio or TV set. Beautiful Mahogany plastic base. Has SIESTA SWITCH and plug in for radio. Shipping weight 9 1/4 lbs.

V-M tri-o-matic 972 — A versatile, good-looking Phonograph that can be used in any room in the house — wherever records are played. Plugs into any AC outlet. Has smooth, functional styling that blends with any furnishings. Has all tri-o-matic features (see above). Overall size, 13" x 8 1/2" x 11 1/2"; shipping weight 18 1/4 lbs. Maroon with gold plastic accessories.

V-M tri-o-matic 985 Portable — Highly popular with teen-agers and those who like to take their music with them. Handsomely cased in mahogany wood-grain leatherette and equipped with a superb amplifying system that offers console-type sound reproduction (two-tube, plus Rectifier, Amplifier, and 4" x 6" Speaker). Has all tri-o-matic features (see above), SIESTA SWITCH, and Lazy-Lite — a button located below the Volume Control that lets you reject records without lifting the lid. Plugs into any AC outlet. Overall size 14 1/2" x 9" x 17", shipping weight 21 lbs.

### TRI-O-SPEED PHONOGRAPHS

The V-M tri-o-matic speed Model 150 plays all records, all sizes, all speeds (33-1/3, 45 and 78 rpm) manually. Has a beautiful wood-grain mahogany leatherette case and an outstanding amplifying system that reproduces faithfully the complete tonal range of any record (two tubes plus Rectifier, and 4" x 6" Speaker). Has free-floating Tone Arm, Dual-Needle Reversible Cartridge, and separate Tone and Volume Controls. Overall size 14 1/2" x 13" x 8", shipping weight 15 lbs.

### PORTABLE "PA" SYSTEM

Coming Soon — An 8 watt Portable PA system at a price that will please you and your customers.

\*T.M. Reg. U.S. Pat. Off.



MODEL 956

Model 951 equipped with steel base — rubber feet — phono cord and AC cord. Plugs into radio or TV set.



MODEL 920

Record Changer attachment that plays through any Radio or TV set. Mahogany Plastic base. Has SIESTA SWITCH and appliance plug.



MODEL 972

Complete self-contained phonograph, incorporating Model 951 changer, 2 tube (plus rectifier) amplifier, 4" x 6" speaker. Has SIESTA SWITCH and appliance plug.



MODEL 985

Portable phonograph using 950 record changer. Two tube (plus rectifier) amplifier, 4" x 6" speaker. Has SIESTA SWITCH and Lazy-Lite.



MODEL 150

Manual 3 speed phonograph. 2 tube plus rectifier, 4" x 6" speaker.



# V-M

## CORPORATION

Benton Harbor, Mich.



# Webcor<sup>®</sup>

*the established  
name for the ultimate  
in record changers and  
record changer chassis!*

**Model 101** For replacement or original installation. Automatically plays all 3 size—3 speed records. Velocity-trip mechanism provides fast, efficient record change. Easily installed. Size base plate: 13" x 13½". Mounting space: 14½" x 13½"; 6¾" above, 2¾" below mounting board. List price: \$47.50, West of Rockies: \$48.50.



Model 101-270 equipped with G.E. Variable Reluctance Pickup. List price \$49.50, West of Rockies: \$50.50.



Model 106-27 equipped for G.E. Variable Reluctance Pickup. List price: \$48.25; West of Rockies: \$49.25.

**Model 106** The ultimate for replacement or original installation. Gentle, push-off record change. Automatically plays all 3 size—3 speed records. Webcor "muting switch" silences speaker during change cycle. Size base plate: 14" x 14". Mounting space: 15" x 15"; 6½" above, 2¾" below mounting board. List price: \$52.75; West of Rockies: \$53.75.

**Model 102** Same as Model 101 automatic 3 size—3 speed Diskchanger, but mounted on a beautiful burgundy metal case. Plugs into present radio, TV, or amplifier to provide phono efficiency from any location. It blends with any interior, any furnishings from period to modern. List price: \$51.75, West of Rockies: \$52.95.



**Model 107** Same as Model 106 automatic 3 size—3 speed push-off Diskchanger, but mounted on a beautiful burgundy metal case. Plugs into present radio, TV or amplifier. List price: \$58.75, West of Rockies: \$60.00. Model 107-27 equipped for G.E. Variable Reluctance Pickup: Model 107-270 equipped with G.E. Variable Reluctance Pickup (RPX-050).

**Model 166** Portable push-pull 8 watt amplifier in handsome sturdy carrying case complete with 10" P.M. speaker. Ideal for use with Diskchanger or as P.A. system. A perfect mate for Model 105 Diskchanger. Sensitive tone and volume controls. Separate microphone and phono controls to permit mixing. List price: \$68.75, West of Rockies: \$69.75.



**Model 105** Same as Model 101 automatic 3 speed—3 size Diskchanger, but in a beautiful, sturdy carrying case. Perfect mate for Model 166 portable amplifier. Connects to radio, TV or amplifier. List price: \$66.50, West of Rockies: \$68.50.

*All music sounds better  
on a Webcor*



Manufactured by  
**WEBSTER-CHICAGO CORPORATION**

Chicago 39, Illinois



# Smooth Power

ELECTRIC PHONO MOTORS

RECORDING MOTORS

TAPE-DISC RECORDING ASSEMBLIES

HOME-RECORDING AND PHONOGRAPH ASSEMBLIES

## TAPE-DISC RECORDING ASSEMBLY

### MODEL 250

115 volts a. c., 60 cycles

List Price, \$79.50

When connected with the proper amplifier, the Model 250 performs the following functions:

- RECORDS TAPE FROM RECORDS
- RECORDS DISCS FROM TAPE
- RECORDS MICROPHONE ON TAPE
- RECORDS RADIO ON DISC
- RECORDS MICROPHONE ON DISCS
- RECORDS RADIO ON TAPE
- PLAYS BACK BOTH TAPE AND DISCS
- PLAYS ANY 78 R.P.M. RECORDS

#### TAPE RECORDING FEATURES:

One hour recording time.

Dual track.

Fast forward and reverse.

Permanent magnet erase head.

Turntable acts as flywheel, giving constant tape speed.

Designed for use with 5" reels.

Tape speed 3¾" per second.

Designed for use with either plastic or paper base tape.

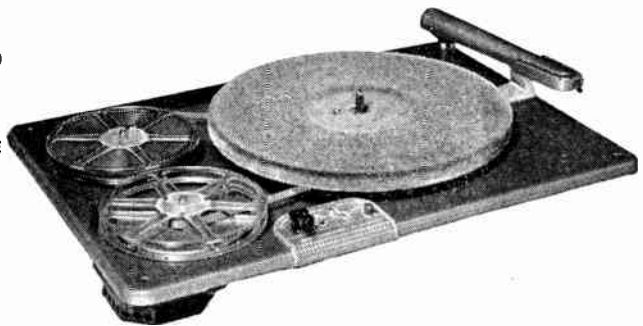
Automatically shuts off at end of tape playback.

No tape threading — Merely place tape around turntable — Automatically drops into correct position.

Due to ingenious clutch and drive mechanism, impossible to throw tape.

Mechanical interlock eliminates any possibility of accidentally erasing tape.

Equipped with a switch for recording head electrical interlock.



Plays 78 R.P.M. recorded discs and all 78 R.P.M. commercial records. When pivot of arm is lifted it snaps into recording position, engages lead screw, and insures proper angle for cutting stylus.

Merely push arm down for playback.

Simple to interchange cutting stylus and playback needle.

Dimensions: Width 12 ¼", Length 17 ½", Depth below mounting plate 4". Equipped with G.I. smooth power, dynamically balanced four-pole motor. Net weight 10 ½ lbs. Shipping weight 14 lbs.

#### DISC RECORDER AND PLAYBACK FEATURES:

Cuts records up to 10" in diameter at 78 R.P.M.

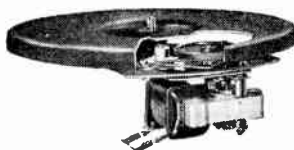
# THE GENERAL INDUSTRIES COMPANY, ELYRIA, OHIO

# G GENERAL INDUSTRIES G

## *Smooth Power* PHONOGRAPH MOTORS, TAPE-DISC RECORDER AND DISC RECORDERS

Suitable for every phonograph instrument where low cost, dependable performance, compactness, light weight and quietness of operation are important considerations. GI phonomotors are even in speed and have ample power to play 10" and 12" records. Fan cooling permits use in partially closed cabinets. Designed to comply with Underwriters' Laboratories' requirements.

### CONSTANT SPEED ELECTRIC PHONOMOTORS

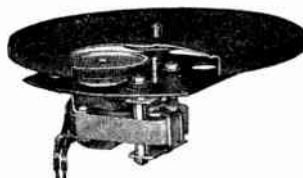


**Model MX Model MX-3  
Model MX-45**

- MODEL MX** — 78 R. P. M. . . . . List Price, \$8.60
  - MODEL MX3** — 33-1/3 R. P. M. . . . . List Price, 9.90
  - MODEL MX45** — 45 R. P. M. . . . . List Price, 9.90
- 115 volts a. c., 60 cycles**

Rim drive, 2-pole motor with novel idler arrangement insuring quiet operation. Motor is also insulated from mounting plate to eliminate vibration. Turntable shaft revolves with turntable, and is grooved for turntable clip. Novel bearing construction insures rigid and permanent alignment of motor shaft. Oilless bearings. Furnished with 9" turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 1/8"; Width—2 1/4"; Depth—2 1/4" below mounting plate.  
Packed in individual cartons. Shipping weight—4 lbs.



**Model LX Model LX-3  
Model LX-45**

- MODEL LX** — 78 R. P. M. . . . . List Price, \$7.40
  - MODEL LX3** — 33-1/3 R. P. M. . . . . List Price, 8.70
  - MODEL LX45** — 45 R. P. M. . . . . List Price, 8.70
- 115 volts a. c., 60 cycles**

Rim drive, 2-pole motor. Rubber insulated from both mounting plate and turntable for quiet operation. Turntable shaft revolves with turntable, and is grooved for turntable clip. Furnished with 9" turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 1/2"; Width—2"; Depth—2" below mounting plate.  
Packed in individual cartons. Shipping weight—4 lbs.

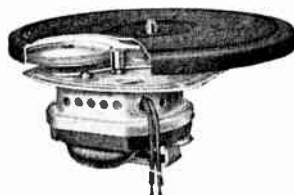


**Model LC**

- MODEL LC** — 78 R. P. M. . . . . List Price, \$6.35
- 115 volts a. c., 60 cycles**

A low-priced 78 R.P.M. 2-pole, rim drive motor suitable for installation where size and cost are prime factors. Furnished with 8" turntable and mounting plate ready for installation.

Dimensions: Length—3 1/8"; width—2"; depth—1 1/8" below mounting plate.  
Packed in individual cartons. Shipping weight—4 lbs.

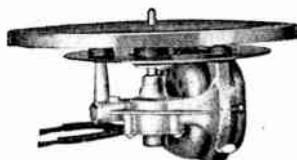


**Model RX Model RX-3  
Model RX-45**

- MODEL RX** — 78 R. P. M. . . . . List Price, \$11.05
  - MODEL RX3** — 33-1/3 R. P. M. . . . . List Price, 12.85
  - MODEL RX45** — 45 R. P. M. . . . . List Price, 12.85
- 115 volts a. c., 60 cycles**

Rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for quiet operation. Driving pulley, idler and turntable are positively aligned in one plane for efficient performance. Turntable shaft revolves with turntable and is grooved for turntable clip. Furnished with 9" turntable and complete with mounting plate, ready for installation.

**EXTRA FOR 10" TURNTABLE (RX ONLY), 20 CENTS EACH**  
Dimensions: Length—4 1/8"; Width—3 3/8"; Depth—2 5/8" below mounting plate.  
Packed in individual cartons. Shipping weight—5 lbs.



**Models CX & CX3**

- MODEL CX** — 78 R. P. M. . . . . List Price, \$15.50
  - MODEL CX3** — 33-1/3 R. P. M. . . . . List Price, 17.40
- 115 volts a. c., 60 cycles**

Gear drive, 4-pole motor. Fully enclosed, with silent, helical-cut gears running in oil bath within the sealed housing. Patented combination rubber turntable drive sleeve and record centering tip insure mechanical and electrical insulation between turntable and motor. Furnished complete with mounting plate, ready for installation; available with 9" turntable.

**EXTRA FOR 10" TURNTABLE, 30 CENTS EACH**  
Dimensions: Length—4 1/4"; Width—4 1/8"; Depth—3 1/8" below mounting plate.  
Packed in individual cartons. Shipping weight—6 lbs.

# G GENERAL INDUSTRIES G

## *Smooth Power* PHONOGRAPH MOTORS, TAPE-DISC RECORDER AND DISC RECORDERS



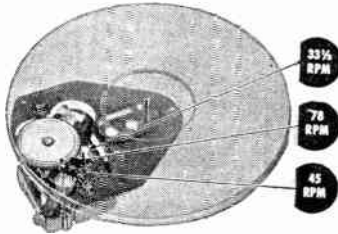
**Model RM4 Model RM4-3  
Model RM4-45**

- MODEL RM4** — 78 R. P. M. . . . . **List Price, \$17.35**  
**MODEL RM4-3** — 33-1/3 R. P. M. . . . . **List Price, 19.20**  
**MODEL RM4-45** — 45 R. P. M. . . . . **List Price, 19.20**  
**115 volts a. c., 60 cycles**

Heavy duty, rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for exceptionally quiet operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin in turntable permits playing standard records without adjustment. Efficient performance is assured by positive alignment of driving pulleys, idler and turntable in one plane. Furnished with 10" weighted turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 3/8"; Width—3 3/4"; Depth—2 1/8" below mounting plate. Packed in individual cartons. Shipping weight—9 lbs.

## THREE-SPEED PHONOGRAPH MOTORS



**Model TS**

- MODEL TS** — 45, 78, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

A novel 45-78-33 1/3 R.P.M. rim drive, 2-pole motor. Very compact. Employs two identical Neoprene belts for 45 and 33 1/3 R.P.M. speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 8" or 9" turntable, using same mounting plate. A 45 R.P.M. record adaptor and a speed indicator dial are furnished with each motor.

**List Price, \$11.50**

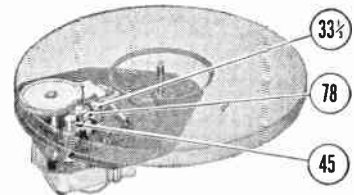
Dimensions: Length—3 1/8"; Width—2 1/4"; Depth—2 3/8" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.

- MODEL TR** — 45, 78, 33 1/3 R. P. M. . . . . **115 volts a. c., 60 cycles**

Deluxe three-speed rim drive, 2-pole motor. Turntable speeds of 33 1/3, 45 and 78 R.P.M. are secured through three separate pulleys running on oil-impregnated bearings and mounted on a turret plate. By means of a simple lever, the desired pulley is brought into contact with the idler wheel. The two pulleys not in contact with the idler wheel remain stationary. Symmetrical electrical and mechanical design results in minimum stray field and maximum performance. Ingenious locking device holds turret plate firmly in driving position at any of the three speeds. Available with 8" or 9" turntable. A 45 R.F.M. record adaptor and speed indicator dial are furnished with each motor.

**List Price, \$12.10**

Dimension: Length—3 1/8"; Width—2 1/4"; Depth—2 3/8" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.



**Model TR**

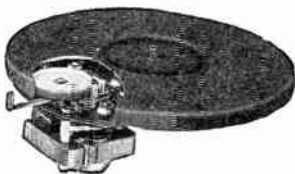
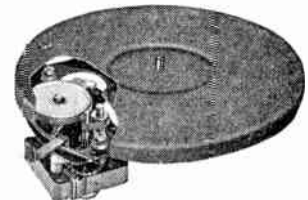
## DUAL-SPEED PHONOGRAPH MOTORS

- MODEL DS** — 45, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

A novel 45-33 1/3 R.P.M. rim drive, 2-pole motor. Very compact. Employs a Neoprene belt for the 33 1/3 R.P.M. speed. 45 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 8" or 9" turntable, using same mounting plate.

**List Price, \$11.15**

Dimensions: Length—3 1/8"; Width—2 1/4"; Depth—2 3/8" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.



- MODEL DM** — 33-1/3, 78 R. P. M. • **MODEL DE** — 45, 78 R.P.M. **115 volts a. c., 60 cycles**

Novel and ingenious rim drive, 2-pole motors. Very compact. Employs a Neoprene belt for slow speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 9" turntable.

**List Price, \$11.15**

Dimensions: Length—3 1/8"; Width—2 1/4"; Depth—2 3/8" below mounting plate. Furnished complete with 9" turntable and mounting plate ready for installation. Shipping weight—4 lbs.

[DUAL SPEED PHONOGRAPH MOTORS . . . CONTINUED ON NEXT PAGE]

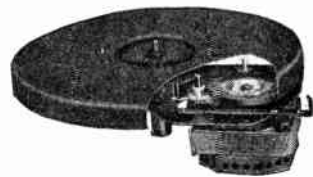
# G GENERAL INDUSTRIES G

## *Smooth Power* PHONOGRAPH MOTORS, TAPE-DISC RECORDER AND DISC RECORDERS

### DUAL-SPEED PHONOGRAPH MOTORS . . . (continued)

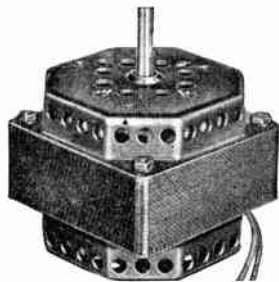
**MODEL DR** — 78, 33-1/3 R. P. M. • **MODEL DZ** — 78, 45 R. P. M.  
**MODEL DV** — 45, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

Deluxe rim drive, 4-pole motors with a simple and positive mechanism for shifting from one speed to the other. Speed change is accomplished by means of an external push-pull lever. An ingenious mechanism raises and lowers the entire idler assembly, disengages the idler wheel from the two-diameter motor shaft and moves the idler wheel from one diameter to the other. At the slow speed the idler wheel engages the small diameter of the motor shaft; at the fast speed it engages the large diameter. **List Price, \$19.80**



Dimensions: Length—6"; Width—5 1/2"; Depth—2 1/2" below mounting plate. Furnished complete with 10" turntable and mounting plate ready for installation. Shipping weight—6 1/2 lbs.

### TAPE, WIRE AND DISC RECORDING MOTORS



Heavy duty 4-pole, shaded pole induction motors. 1/70 H.P. Free speed: 1740 R.P.M. Maximum running torque: 12 ounce-inches.

Features include: A locating and locking arrangement for both top and bottom covers which assures high accuracy in alignment of rotor within the stator bore; new air intake; dual cooling fans and self-aligning, oil-impregnated sleeve bearings.

These high torque motors are used in practically all tape, wire and disc recorders now being manufactured. **List Price, \$13.25**

Dimensions: Length—3 3/8"; Width—3 3/8"; Depth 3" below mounting plate; Shaft diameter—1/8"

**115 volts a. c., 60 cycles**

### HOME RECORDING AND PHONOGRAPH ASSEMBLIES

**MODEL GI-R85L** — LP, 78 and 33-1/3 R. P. M.  
with conversion spring for changing the 33-1/3 R. P. M. speed to 45 R. P. M.

**MODEL GI-R90L** — 78 & 33-1/3 R. P. M. —  
Standard

**115 volts a. c.,  
60 cycles**



Model GI-R90L is the standard model which has been in the GI line for several years. It cuts 120 lines per inch, and plays back records with the standard needle pressure.

The Model GI-R85L incorporates a dual purpose pickup cartridge and an excellent and simple adjustment for playing the LP records and standard records. It cuts 160 lines per inch. In a separate envelope is furnished a conversion spring for changing the 33 1/3 R.P.M. speed to 45 R.P.M. with mounting instructions printed thereon.

Both models cut records up to 10" diameter . . . play records up to 12" diameter. To shift motor from one speed to the other, merely turn the speed change dial. Beautiful walnut wood grain on steel base plate. Streamline plastic trim on pickup and cutter arm attractively engraved with legends "Reproducer" and "Recorder". Turntable recessed into well in base plate. Merely lower cutting arm over record disc to start recording. Convenient, depth-of-cut adjustment. Dynamically-balanced, rim drive, 4-pole motor. Compensating switch operated by speed change dial.

**MODEL GI-R85L** — LP . . . . **List Price, \$53.50**  
**MODEL GI-R90L** — STANDARD . **List Price, 49.50**

Assembly includes dual speed motor; 10" weighted turntable; crystal cutter; crystal pickup; compensation switch; pickup and cutter arm rests; drawn steel base plate with formed down edges.

Above prices include crystal cutter.  
 For (M41-10) magnetic cutter add \$2.00 each.  
 Dimensions: Base plate—15" wide; 11 1/2" front to back; height above lower edge of base plate—2 3/4"; depth below lower edge of base plate—3 3/8". Packed in individual cartons. Shipping weight—17 lbs.

#### MASTER JR. SPRING MOTOR

Plays two 10" selections from one winding. Exceptionally quiet and uniform in speed. Turntable is held in place by turntable-holding clip. Furnished with 9" turntable, winding crank and escutcheon; turntable brake; dial and pointer speed regulator; mounting screws

and washers. Dimensions: Length—5 3/8"; Width—4 3/8"; Depth—2 1/8" from top surface of casting to bottom.  
**MODEL: MASTER JR.** — 78 R. P. M. **List, \$11.10**

Single Spring Type. Price includes 9" turntable and parts.

RECORD  
PLAYING  
EQUIPMENT

The World's Finest

GARRARD



## 3 SPEED MANUAL RECORD PLAYER



Minimum cabinet dimensions - 12" left to right; 13" front to rear; 2 3/4" clearance above and 3 3/4" clearance below the top of motor board.

Model M - AC Model  
Dual voltage motor  
100/130 and 200/250,  
60 cycles. (50 cycle  
bushing available)

Model MC - Same  
as Model M, but  
complete with Dual  
Stylus Turnover  
Crystal Cartridge.

Here, at a moderate price, is the manual record playing machine perfected by Garrard for record enthusiasts who demand perfection in playing performance and who prefer to play one record at a time. The Model M adjusts precisely to all speeds, 33 1/3, 45 and 78 RPM, and is particularly desirable for those whose library of long-playing records is extensive.

*Simple, Foolproof Operation! The unit is started by moving tone arm to right . . . shuts off automatically at end of record.*

The Model M is identical to the renowned 3-speed Garrard Triumph Record Changer, Model RC80 (details of which will be found on the inside pages), with the exception of the record changing mechanism. It therefore retains all the advantages of tested, sturdy Garrard "watch-type" construction and precision parts.

Featuring a *four-pole heavy duty motor* with armature balanced in operation, the Model M runs silently and evenly . . . without hum or speed variation. The heavily weighted turntable eliminates rumble and insures flywheel action. Here, as on the Model RC80, will be found Garrard's exclusive true-tangent tone arm which tracks silently and gives genuine "floating" response, eliminating "drag" and reducing record groove wear.

The Model M is equipped with interchangeable plug-in heads of universal design. It will therefore accommodate virtually any crystal or magnetic cartridge, including the Audak, Pickering and GE twist models.

A special disk is supplied with the Model M so that 45 RPM records can be easily played without the necessity of plugging up the large center hole on each individual record.



GARRARD SALES CORPORATION

NEW YORK 13, N. Y.

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Radio's Master - 17th Edition

E-33

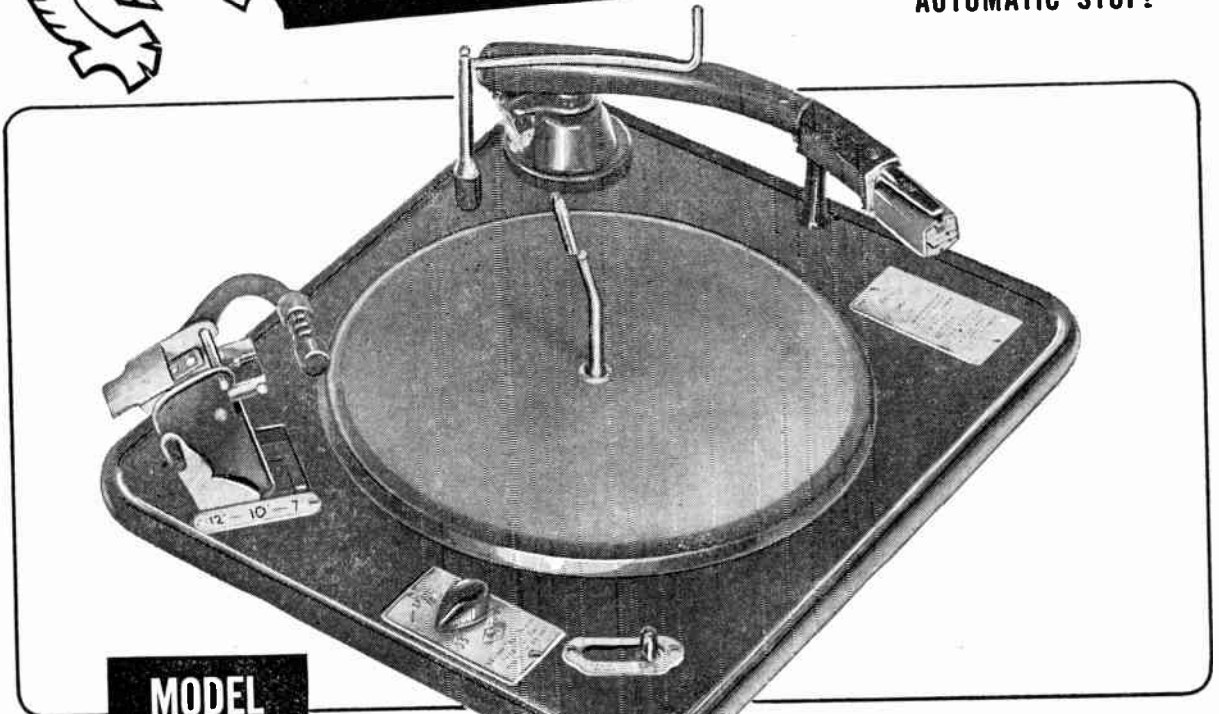


The World's Finest

GARRARD  
"Triumph"

# 3-SPEED RECORD CHANGER

FULLY AUTOMATIC  
WITH  
AUTOMATIC STOP!



**MODEL  
RC-80**

Minimum cabinet dimensions - 15 1/2" left to right; 13 3/4" front to rear; 5 3/4" clearance above and 3 1/2" clearance below the top of motor board.

**RC-80** - AC Model Dual voltage motor 100/130 and 200/250 volts, 60 cycles. (50 cycle bushing available) Less cartridge.  
**RC-80-C** - Same as RC-80 but complete with Dual Stylus Turnover Crystal Cartridge.

**RC-80-DC** - Same as RC-80, but for Direct Current only.  
**RC-80-C/DC** - Same as RC-80-DC, but complete with Dual Stylus Turnover Crystal Cartridge.

Introducing several ingenious innovations in 3 speed record changers, the RC80, nevertheless, retains the watch-like custom construction which has made Garrard acclaimed by music lovers the world over.

The Garrard "Triumph" plays all types of records now in use, 33 1/3-45-78 rpm, regardless of diameter (7"-10"-12") or size of spindle hole. Once records are placed on the player and simply settings made, action is completely automatic, with unfailing switch-off at the end of the last record. Tone arm is automatically returned to rest position.

The RC80 changer is surprisingly simple in operation. It has one turntable, one tone arm, one set of switches. But over-simplification has been avoided in the interests of quality and standards of performance. Certain features found for many years in Garrard instruments have been retained because good basic engineering demands them.

For example, record changing is accomplished by the same tried-and-true pusher-type platform mechanism proven best in previous Garrard models.

45 rpm records are played exactly as intended by the manufacturer. A special spindle is provided with each changer to accommodate these records. No "spiders" or artificial inserts are necessary.

The Garrard RC80 is equipped with interchangeable plug-in heads of universal design. It will therefore accommodate virtually any crystal or magnetic cartridge, including the Audak, Pickering and GE twist models.

The "Triumph" is heavily built for long, rugged service.

It cannot sag or warp. Repairs and adjustments can be made inexpensively on parts which, in most other machines, would require expensive replacement in their entirety.



**GARRARD SALES CORP.**

**NEW YORK 13, N. Y.**

**HEAVY DRIVE SHAFT:**  
A unique feature! Exclusive with Garrard!  
Drive shaft for 33 1/2 rpm and 45 rpm is heavy, thus obtaining more consistent quality at critical low speeds. Wows and wavers eliminated.

**TRIPLE SPEED SWITCH:**  
Speed changes are clearly marked, easily made. The RC-80 plays 33 1/2, 45 and 78 rpm. Records are placed on the player and simple settings made. Action is then completely automatic, including automatic shut-off after last record of any size.

**CONVENIENT START-STOP-REJECT LEVER:**  
Start, stop and reject lever are combined and located conveniently away from tone arm.

**PUSHER TYPE PLATFORM:**  
Adjusts simply to 7"-10"-12" records regardless of diameter or size of spindle hole.  
No record changing mechanism has been developed to equal the performance of the precision pusher platform. For records with standard center holes, the pusher platform is the only method that gives positive gentle record operation.

**PULL-AWAY IDLER WHEEL:**  
Avoids flattening of drive wheel when changer is not operating.

**AUTOMATIC STOP:**  
Ensures positive and unfolding action at end of any type record.

**BALANCE-MOUNTED TONE ARM:**  
Parallel lift tone arm construction guarantees true tangent tracking. Disturbing resonance eliminated.



**INTERCHANGEABLE PLUG-IN HEADS:**  
Carefully engineered to accommodate user's choice of crystal or magnetic cartridges for standard and micro-groove reproduction, such as Astatic, Pickering, Audak and GE twist models.



**WEIGHTED TURNTABLE:**  
RC-80 turntable is heavily weighted to give flywheel action so that any variations in the drive motor are not reflected in record reproduction. No turntable rumble.

**HEAVY DUTY SILENT 4-POLE MOTOR WITH ABSOLUTELY NO RUMBLE:**

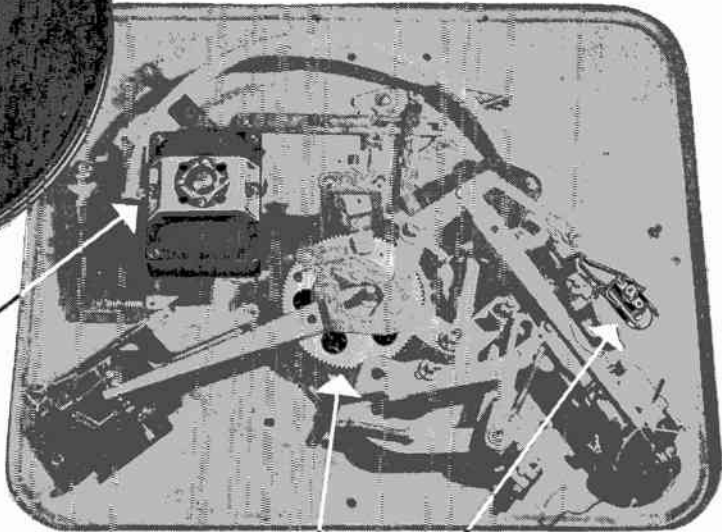
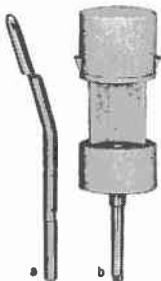
Speed maintained throughout a wide variation in line voltage. There is no appreciable speed variation operating unit "cold" with a full load or "hot" with one record, regardless of weight, thickness or diameter of records.

**IMPORTANT!**

Only a 4-pole motor can assume no hum when used with sensitive magnetic pickups.

**TWO INTERCHANGEABLE SPINDLES:**

Easily inserted, the two Garrard Spindles accommodate all records as they were made to be played. (If user prefers one spindle can be used throughout simply by plugging center hole of 45 rpm records.) a: Typical Garrard spindle for standard center holes. b: Easily inserted wide spindle, for 45 rpm records, remains stationary when record is played. Only a small collar revolves, assuring longer center hole and record wear.



**PRECISION GROUND GEARS:**  
Perfectly meshed to insure constant smooth action and years of service.

**MUTING SWITCH:**  
No sound while changer operates on run-in or run-off grooves. Continuity of music undisturbed by noises.

**WATCH-LIKE CONSTRUCTION:**  
All parts are precision made, fastidiously assembled and simple to adjust.

A complete stock of replacement parts is readily available to all Garrard owners.

**SIMPLE INSTALLATION:**

Mounting holes are identical with former Garrard models, so that replacement is very simple. Unique spring suspension.



**FROM TOP TO BOTTOM... Every feature tested for finest performance. Manufactured to highest engineering standards under rigid quality control.**



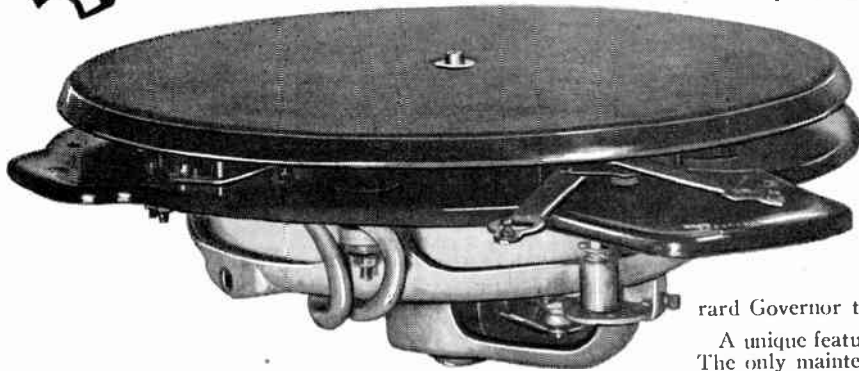
**GARRARD SALES CORP.**

**NEW YORK 13, N. Y.**





**GARRARD**  
**MULTI-SPEED TRANSCRIPTION TURNTABLE**  
**MODEL 201B/5**  
**Governor-controlled motor!**



The Garrard 201B/5 variable speed motor is the latest version of the famous 201V unit, as produced for the U. S. Navy and the British Admiralty.

The 201B/5 is a continuously variable motor, governor-controlled and adjustable to all speeds between 25 rpm and 90 rpm. It is equipped with speed regulating levers and marked with indicated positions so that precise settings can be easily made at 33 $\frac{1}{3}$ , 45 and 78 rpm.

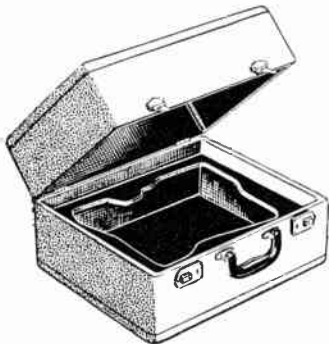
The unit is set on an extension arm so that 16" transcription records can be properly speed-controlled.

Ideal for use where a tor is required. It is a continuous variable motor, self-starting, induction type unit, and is fitted with the patented Garrard Governor to insure perfect regularity.

A unique feature is its "one shot lubrication." The only maintenance required is to sparingly lubricate the main bearings in the gears through the single oiling point, which is located in the top of the center spindle.

Model 201B/5 — Continuously variable AC Model Dual voltage motor 110/130 and 200/250 volts, 40/60 cycles.

**GARRARD CARRYING CASE**



This De Luxe unit is fabricated of seasoned wood and covered with a fine parchment-type material. Sewn leather edges run completely around the case. The hardware used is the very finest durable brass and it has two locking snaps. Easily carried, this unit is ideal for portable installations for use in the home where one does not need the record or playing equipment out unless it is in actual use with solid mounting board or cutout for RC80 Changer.

**GARRARD MOUNTING BOARD**



Strong, durable  $\frac{5}{8}$ " Gumwood, smooth sanded and cut out for the RC80. Unfinished surface, for easy staining.

**GARRARD WOOD BASE**



Wood base of finest veneer, cut to fit Garrard Changers or type M player. Smoothly joined, attractively finished in dark mahogany.

**GARRARD SALES CORPORATION**

**NEW YORK 13, N. Y.**

# Gray

RESEARCH

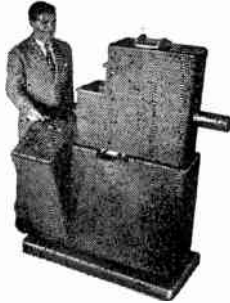
Networks and independent stations everywhere recommend and approve Gray professional equipment for broadcast station use. Such broad acceptance is not unwarranted. The products

here mentioned are designed and engineered by audio and video specialists . . . incorporate highest quality and serviceability . . . are rightfully leaders in the industry.

... for the finest equipment for AM-FM-TV station use

## Gray TELOP (TElevision Optical Projector)

Makes PROFITS GROW for TV Stations. The Gray Telop projects low-cost, easily produced TV 'commercials.' Without keystoning, any two photos, titles, slides, etc., or small objects may be broadcast with superimposition, lap dissolve or fade-out. Four optical openings. Strip material may be used horizontally or vertically with Stages #2 and #3. (For full details write for Bulletin T-101.)



## Gray STAGE #2

Attaches to three optical openings of the Telop. Accommodates roll stock vertically to televise commentary or the commercial in the same way movie introductions are projected.



## Gray STAGE #3

Attaches to optical openings of the Telop. New ticker tape fed from 8-mm reels is projected on any part of the screen, top to bottom, horizontally. May be used with test pattern or other commercial.



## Gray TV CAMERA TURRETS

Enable a Single Camera to Serve up to 8 Projectors.

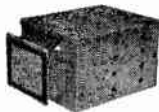
### MODEL 556

Centered on a rugged 'square' pedestal, requires a minimum of space. Heavy duty ball bearings. Rotates 360°.



## Gray LIGHT BOX for Transparencies

Provides back lighting for Telop use.



## Gray REVERSE READING CLOCK

For use where reversal is required. Designed to permit superimposing of the commercial or other copy.



## Gray MULTIPLEXER Model 600

A precision arrangement of mirrors for operation of pairs of projectors simultaneously into a single TV camera or individually into two separate cameras. Enables a greater number of projectors to be used with fewer highly expensive TV cameras.



## Gray TRANSCRIPTION ARMS



### NEW Viscous-Damped

### Model 108-B Arm

For all records - 33 1/3, 45 and 78 r.p.m. Radically new suspension development on the viscous damping principle for perfect tracking of records and elimination of tone arm resonances. Instant cartridge change with automatic correct stylus pressure. Solves all transcription problems. IDEAL FOR LP RECORDS. For Pickering and GE cartridges.

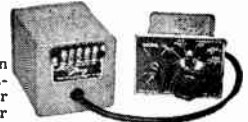
## Gray Model 106-SP Arm



Designed to meet strictest requirements of modern highly compliant pickup cartridges. Three cartridge slides furnished enable GE 1-mil, 2 1/2-mil or 3-mil cartridges or Pickering cartridge to be slipped into position in a jiffy. No tools or solder! Superb reproduction of 33 1/3, 45 or 78 r.p.m. records. Low vertical inertia, precisely adjustable stylus pressure.

## Gray EQUALIZERS

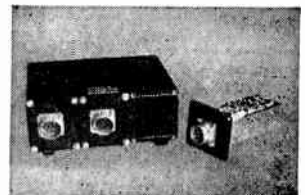
MODEL 602 EQUALIZER has been specially engineered to provide constant velocity frequency response for both conventional and LP records. Four steps-flat, transcriptions, good records, poor records. Gray Equalizers used as standard professional equipment by broadcast stations.



MODEL 603 - Has 5 control positions. For both GE and Pickering cartridges.

## Gray MILITARY PRODUCTS

Illustration shows typical airplane controls made for Hamilton Standard, Division of United Aircraft Corporation. Other military developments and products include video indicators, intricate mechanisms, trainers, electronic-mechanical development contracts.



Please write for bulletins describing the above equipment.

# GRAY RESEARCH

and Development Co., Inc., 598 Hilliard St., Manchester, Conn.



Division of the GRAY MANUFACTURING COMPANY—Originators of the Gray Telephone Pay Station and the Gray Audograph

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Radio's Master—17th Edition

E-37

# RECOTON *Always faithful* Replacement Needles

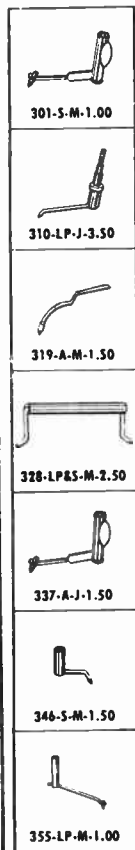
**NO DUPLICATION!**  
Of the same needle under another number! Keeps your inventory down.

**SIMPLE CONSECUTIVE MODEL NUMBERS!**  
As 301, 302, 303 etc.

**INVENTORY CONTROL!**  
A separate inventory control card for each number — more sales with less stock.

**COMPLETE INFORMATION!**  
All the information is on the card the needle is mounted on.

Replacement Needles for Cartridges of  
**ASTATIC**  
**AMERICAN MICROPHONE**  
**COLUMBIA**  
**CROSLEY**  
**ELECTRO-VOICE**  
**GENERAL ELECTRIC**  
**MAGNAVOX**  
**PHILCO**  
**RCA**  
**SEEBURG**  
**SHURE**  
**SONOTONE**  
**WEBSTER-CHICAGO**  
**WEBSTER ELECTRIC**  
and many others



CAT. No.	POINT MATERIAL	POINT SIZE	PRICE
301	Osmium	Standard	\$1.00
302	Jewel	Standard	1.50
303	Jewel	Micro Groove	1.50
304	Osmium	Standard	1.00
305	Osmium	Standard	1.00
306	Jewel	Standard	1.50
307	Osmium	Micro Groove	1.50
308	Jewel	Micro Groove	3.50
309	Jewel	Standard	3.50
310	Jewel	Micro Groove	1.60
311	Osmium	Standard	1.50
312	Jewel	Standard	2.50
313	Osmium	Twin Point	4.00
314	Osmium	Twin Point	5.50
315	Osmium	Micro Groove	1.50
316	Osmium	Micro Groove	1.00
317	Jewel	Micro Groove	2.50
318	Osmium	Micro Groove	1.50
319	Osmium	All Groove	1.50
320	Osmium	Micro Groove	1.00
321	Osmium	Standard	1.00
322	Osmium	Micro Groove	1.00
323	Osmium	Twin Point	4.00
324	Jewel	Standard	2.25
325	Osmium	Twin Point	2.50
326	Osmium	Standard	1.50
327	Osmium	Twin Point	2.50
328	Osmium	Twin Point	2.50
329	Osmium	Standard	1.50
330	Osmium	Micro Groove	1.50
331	Osmium	Twin Point	2.50
332	Jewel	Twin Point	3.50
333	Jewel	Standard	2.50
334	Jewel	Micro Groove	2.50
335	Osmium	All Groove	1.50
336	Osmium	All Groove	1.00
337	Jewel	All Groove	1.50
338	Osmium	All Groove	1.00
339	Osmium	All Groove	1.00
340	Jewel	All Groove	1.50
341	Osmium	Micro Groove	1.00
342	Osmium	Standard	1.00
343	Jewel	Micro Groove	1.50
344	Jewel	Standard	1.50

CAT. No.	POINT MATERIAL	POINT SIZE	PRICE
345	Osmium	Standard	1.50
346	Osmium	Standard	1.50
347	Osmium	Micro Groove	1.50
348	Osmium	Standard	1.50
349	Jewel	Micro Groove	2.50
350	Jewel	Standard	2.50
351	Osmium	All Groove	1.50
352	Jewel	All Groove	2.50
353	Jewel	Twin Point	3.50
354	Osmium	Standard	1.00
355	Osmium	Micro Groove	1.00
356	Osmium	All Groove	1.00
357	Osmium	Standard	1.00
358	Osmium	Micro Groove	1.00
359	Jewel	Standard	1.50
360	Jewel	Micro Groove	1.50
361	Osmium	Standard	1.50
362	Osmium	Micro Groove	1.50
363	Osmium	Standard	1.50
364	Osmium	Micro Groove	1.50
365	Osmium	All Groove	1.50
366	Jewel	Standard	3.50
367	Jewel	Micro Groove	3.50
368	Jewel	Twin Point	5.95
369	Jewel	Transcription	3.50
370	Jewel	Micro Groove	1.50
371	Jewel	Standard	1.50
372	Jewel	All Groove	1.50
373	Jewel	Micro Groove	1.50
374	Jewel	Standard	1.50
375	Jewel	All Groove	2.50
376	Jewel	Standard	pr. 2.50
377	Jewel	Micro Groove	pr. 2.50
378	Osmium	All Groove	1.00
379	Jewel	All Groove	1.50
380	Osmium	Standard	1.50
381	Osmium	Micro Groove	1.50
382	Osmium	All Groove	1.50
2412R	Osmium	Standard	1.00
2512R	Osmium	Standard	1.50
2512MGR	Osmium	Micro Groove	1.50
2712R	Osmium	All Groove	1.00
2812R	Jewel	All Groove	1.50
2912R	Jewel	All Groove	2.50

Standard for 78 RPM Recordings Micro Groove for 33 1/3 and 45 RPM  
All Groove for 78, 33 1/3 and 45 RPM  
Twin Point: one point for 78 RPM, other point for 33 1/3 and 45 RPM

For complete information regarding Replacement Needles, Refer to Recoton Simplified Reference Guide. **ASK YOUR DISTRIBUTOR — OR WRITE US — IT'S FREE!**



\* Reg. U.S. Pat. Off.

**RECOTON No. 31512 FOR RCA 45 RPM PLAYER**

List Price  
1 needle to card.....\$ 1.50  
12 to display card..... 18.00

**RECOTON No. 30312 FOR COLUMBIA AND DECCA LP PLAYERS**

List Price  
1 needle to card.....\$ 1.50  
12 to display card..... 18.00

**RECOTON No. 31912 MUTED STYL'S FOR ALL 3 SPEEDS**

List Price  
1 needle to card.....\$ 1.50  
12 to display card..... 18.00

**REPLACEMENT NEEDLE KIT No. 250**

Recoton Replacement Needles are precision made of the finest materials by Recoton's skilled craftsmen. Expertly designed to fit all popular cartridges — Recoton's famous phonocdes incorporate the most advanced developments in the acoustical field — guarantee full tonal range and longer life.

List Price  
No. 150—Replacement Cabinet containing 1 needle each of Cat. No. 301 through No. 314.....\$ 37.10  
No. 550—Replacement Cabinet containing 2 needles each of Cat. No. 301 through 379 and including 2 each of 2412R, 2512R, 2512 MGR, 2712R, 2812R, 2912R .....\$317.60



**ASK FOR OUR NEW SIMPLIFIED REFERENCE GUIDE**

# RECOTON\*

*Always faithful*

# Phoneneedles



**SUPEROSMIUM No. 2412**  
Recoton's fine permanent-type needle made of the finest osmium alloys. Micro-tested and factory sealed for precision results. Good for up to 5,000 performances free of surface noise and hiss. Exceptionally gentle to records.

List Price  
No. 2412—1 needle to a plastic box ..... \$ 1.00  
12 to a display card 12.00



**NYLON PHONEEDLE\* No. 2512**  
Recoton's precision-made nylon needle provides up to 6,000 enjoyable plays. Unconditionally guaranteed with shock absorbing action. Contains surface noise filter which eliminates needle scratches. Has handy jewel box and record cleaning pad and a fine velvet brush for keeping records clean.

List Price  
No. 2512—1 needle to a plastic box ..... \$ 1.50  
12 to a display card 18.00  
No. 2512—MG for 33-1/3 and 45 RPM Recordings



**PRIMUS SAPPHIRE NEEDLE No. 2612**  
Versatile... popular priced... ideal for every kind of electrical player including automatic changers. Features special wire-type grip to allow greater flexibility permitting needle to follow modulation track of record faithfully. Fine sapphire point eliminates surface noise, minimizes record wear. Reproduces entire tonal range; good for up to 10,000 fine plays.

List Price  
No. 2612—Each needle ..... \$ 2.50  
12 to a carton ..... 30.00  
No. 2612—MG for 33-1/3 and 45 RPM Recordings

## CUTTING STYLI

**SAPPHIRE CUTTING NEEDLES**  
Factory Tested and Sealed

Superbly crafted; equipped with finest sapphire point. For professional use.

List Price  
No. 5\*—Brass shank, packed in wooden container ..... \$ 5.50  
No. 7\*—Dural shank, packed in wooden container ..... \$ 7.25

\* Available in "Long Shank"; specify with order LS after catalog number. No. 7 also available for Microgroove cutting. Specify No. FMG when ordering.



No. 5

No. 7

### STEEL CUTTING NEEDLES

Crafted of the highest-grade steel alloy to cut smooth grooves with low surface noise level. Finished with careful precision, polished to mirror-like sheen for accurate recordings. HAND-LAPPED for extra efficiency.

List Price  
5 needles to a card ..... \$ 1.50  
No. 1060—12 cards to a display card ..... 18.00

### STELLITE CUTTING NEEDLES

Designed for professional use, these high-grade cutting needles have a special patented finish that cuts and polishes groove of disc at same time. Equipped with Dural shank, can be depended upon for noiseless, high-fidelity performances. Will improve any recorder; recommended for slow-speed recordings.

List Price  
Cat No. 11—Stellite Cutting Needle, packed in individual cards ..... \$ 2.00  
Cat No. 1112—12 cards to a display card ..... 24.00

### PRECISION-TURNED CUTTING STYLI

Made in Switzerland

These steel cutting styli are precision turned of finest Swedish steel alloys. They are diamond-dust hand-lapped for cutting smooth grooves with extremely low surface noise and minimum background.

List Price  
Each stylus packed in individual container ..... \$ .50  
No. 2330—30 containers to a master carton ..... 15.00  
No. 2330M—30 containers on a display card ..... 15.00

### SUPERIOR RECOTON No. 1S

Recoton's famous popular-priced steel needle, precision turned in Switzerland, made of Swedish surgical steel. Fine reproduction and elimination of surface noise. Good for 12 to 15 plays.

List Price  
No. 1S—Package of 25 needles (25c each) to an envelope.  
50 envelopes to carton... \$12.50



### OSMIUM TIPPED FEATHER-LITE NEEDLE No. 2124

Recoton's new osmium tipped bent shank phoneneedle. Permanent type construction... plays up to 2500 perfect performances. Fine value for needle of this quality!

List Price  
No. 2124—1 needle to package... \$ .50  
24 packages to a display card ..... 12.00



## ALL GROOVE NEEDLES

### No. 2712 SUPEROSMIUM UNIVERSAL 3-SPEED OSMIUM TIPPED

Recoton's fine permanent-type needle made of the finest osmium alloys. Micro-tested and factory sealed for precision results. Good for up to 5,000 performances, lowest surface noise and hiss. Exceptionally gentle to records.

List Price  
No. 2712—1 needle to a card... \$ 1.00  
12 to a display card... 12.00



### No. 2812 ULTRA UNIVERSAL 3-SPEED SAPPHIRE

Popular-priced sapphire-tipped needle featuring high-level performance at low-level cost. Quality crafted... micro-tested, factory-sealed for fine results. Up to 6,000 faithful plays with minimum surface noise and record wear. Remarkable value!

List Price  
No. 2812—1 needle to a card... \$ 1.50  
12 to a display card 18.00



**MAGNETIC RECORDING TAPE** for all Tape Recorders. RECOTON Magnetic Recording Tape comes on sturdy six spoke plastic reels which turn true and resists warping. RECOTON Magnetic Recording Tape is constant output controlled, 65 DB Dynamic Range with minimum background, eliminating rumble and even microscope irregularities! Wide Bias latitude results in high uniform output and low distortion without critical bias adjustment. RECOTON Magnetic Recording Tape is easy to erase and is guaranteed for thousands of recordings and playbacks.

Cat No.	Oxide-Base	Winding Oxide	Length In Feet	Size of Plastic Reel	List Price
1112A	Red Plastic	In	1250	"	\$5.50
1112B	Red Plastic	Out	1250	"	5.50
116A	Red Plastic	In	625	"	3.50
116B	Red Plastic	Out	625	"	3.50

**HOME RECORDING DISCS**  
Perfect for home, commercial and educational use, these popular recording discs are preferred for their excellent reproductive quality, long life, absence of surface noise. Each disc is smooth cutting, uniformly coated and free from warpage. Carefully inspected at every point of manufacture.

**RED LABEL — ALUMINUM BASE** (per carton)  
List Price  
8 1/2" packed 100 to a carton (35c each) ..... \$40.00  
8 1/2" packed 50 to a carton (70c each) ..... 25.00  
10" packed 50 to a carton (70c each) ..... 40.00  
12" packed 25 to a carton (90c each) ..... 25.00

**GREEN LABEL — THIN ALUMINUM BASE** (per carton)  
List Price  
8 1/2" (100 blanks packed to a carton) ..... (.25 ea.) \$30.00  
8 1/2" (100 blanks packed to a carton) ..... (.35 ea.) 40.00  
10" (100 blanks packed to a carton) ..... (.55 ea.) 60.00



## RECOTON CORPORATION

NEW YORK 11, N. Y.

\* Reg. U.S. Pat. Off.



A complete line of professional quality magnetic recording tape—on plastic or paper base, with red or black oxide coating, permitting matched performance in any tape recorder.

Audiotape is precision manufactured to the same exacting standards of quality and uniformity which have characterized Audiodiscs for the past decade—your assurance of maximum fidelity, uniformity, frequency response, and freedom from background noise and distortion.

	Length	Reel	Coating	TYPE No.		List Price	
				Oxide Out	Oxide In		
PLASTIC BASE	150 ft.	3" Plastic	Red Oxide	150	151	\$ 0.85	
	300 ft.	4" Plastic	Red Oxide	350	351	1.60	
	600 ft.	5" Plastic	{ Black Oxide Red Oxide	{ 640 650	{ 641 651	3.50	
	1250 ft.	7" Plastic	{ Black Oxide Red Oxide	{ 1240 1250	{ 1241 1251		
	2500 ft.	{ Std. NAB Hub 10 1/2" Alum. Reel	{ Red Oxide Red Oxide	{ 2550H 2550R	{ 2551H 2551R	{ 10.00 12.85	
	5000 ft.	{ St. NAB Hub 14" Alum. Reel	{ Red Oxide Red Oxide	{ 5050H 5050R	{ 5051H 5051R	{ 20.00 26.00	
	1000 meters (3300 ft.)	Std. NAB Hub	Red Oxide	3350H	3351H	13.00	
	PAPER BASE	150 ft.	3" Plastic	Red Oxide	120	121	0.70
		300 ft.	4" Plastic	Red Oxide	320	321	1.25
		600 ft.	5" Plastic	{ Black Oxide Red Oxide	{ 600 620	{ 601 621	2.25
1250 ft.		7" Plastic	{ Black Oxide Red Oxide	{ 1200 1220	{ 1201 1221		
2500 ft.		{ Std. NAB Hub 10 1/2" Alum. Reel	{ Red Oxide Red Oxide	{ 2520H 2520R	{ 2521H 2521R	{ 6.50 9.35	
5000 ft.		{ St. NAB Hub 14" Alum. Reel	{ Red Oxide Red Oxide	{ 5020H 5020R	{ 5021H 5021R	{ 13.00 19.00	

Audiotape can also be supplied in any desired width, for special recording applications.



#### AUDIO SELF-TIMING LEADER TAPE

This 1/4" wide leader and timing tape is made of a durable white plastic material which is easily marked with pencil or ink to identify selections. Will outlast paper tapes many times over. The words "Audiotape" are spaced 7 1/2" apart, providing accurate timing at all standard speeds.

Per Box ..... List Price \$ .60

AUDIOTAPE is cut by a superior straight line slitting process which makes it track and wind absolutely flat.

AUDIOTAPE has no curl—lies flat on the magnetic head without increased tension, giving better frequency response and more uniform motion.

AUDIOTAPE has exceptionally low surface friction—reduces wear on heads.

AUDIOTAPE has definitely superior dispersion of oxide particles—no lumps, no bumps. This can be checked with any good microscope.

AUDIOTAPE is completely free from any tendency to stick, layer to layer. Unwinds uniformly, no tendency to create wows.

AUDIOTAPE coating is specially formulated to give strong adherence of the oxide to the base.

AUDIOTAPE is designed to give maximum signal to noise ratio.

AUDIOTAPE has excellent high frequency response.

AUDIOTAPE has low distortion.

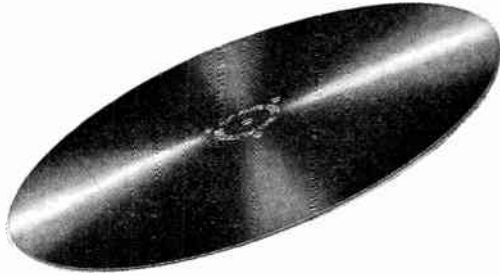
AUDIOTAPE has no low-frequency modulation noise.

AUDIOTAPE has unequalled uniformity—within the reel, and from reel to reel. No magnetic weak spots that can cause fluctuations in output.

**AUDIOTAPE is guaranteed SPLICE-FREE in both 1250 and 2500 foot sizes, plastic base.**

**audiodiscs and audiopoints** are listed on the following page.

# audiodiscs®



## For truly fine recording and reproduction

For more than a decade, Audiodiscs have consistently maintained their position of eminent leadership in every field of instantaneous disc recording. A survey of radio stations completed in Jan. 1952 shows that, in actual use, Audiodiscs lead all other makes by a 3-to-1 margin.

A superior lacquer coating, applied to the mirror-smooth aluminum base by a patented process, gives these outstanding advantages: maximum uniformity of coating, permanent resistance to humidity, longer stylus life, freedom from audible background scratch, long playback life, brilliant frequency response, and freedom from deterioration with age.

Type	Diameter	List Price per Disc	Box Contains		
<b>RED LABEL Audiodiscs</b> for professional use. Exceed the most exacting demands for highest quality professional recordings. The finest discs obtainable. Aluminum base. Double sided. Embossed labels.	8"	\$0.90	25		
	10"	1.25			
	12"	2.05			
	16"	3.75			
<b>SINGLE FACE RED LABEL Audiodiscs.</b> Same quality as double sided Red Label Audiodiscs, listed above.	12"	\$1.65	25		
	16"	2.95			
<b>YELLOW LABEL Audiodiscs</b> for general use. High uniform quality. The popular choice for all general purpose recording. Aluminum base. Double sided. Yellow paper labels.	8"	\$0.75	25		
	10"	1.00			
	12"	1.65			
	16"	2.95			
<b>REFERENCE LABEL Audiodiscs.</b> Provide maximum economy for test cuts, filing, reference recordings, auditions and equipment adjustments. Aluminum base. Double sided. White paper labels.	10"	\$0.85	25		
	12"	1.25			
	16"	2.25			
<b>BLUE LABEL Audiodiscs</b> for amateur use. Same high quality lacquer as professional discs, but on thinner aluminum base. Ideal for schools, homes, and general amateur use. Double sided. Blue paper labels.	6 1/2"	\$0.40	50		
	8"	.55			
	10"	.80			
<b>MASTER Audiodiscs.</b> The outstanding choice of professional recordists for use where pressings are to be made. Give fine results with either silvering or gold sputterings. Aluminum base. Double sided or single face.	Double Sided	12"	\$2.60	25	
		13 1/4"	3.35		
		17 1/4"	5.60		
	Single Face	12"	\$2.05		25
		13 1/4"	2.35		
		17 1/4"	4.10		

Prices slightly higher in Pacific Coast and Southwestern Areas.



### AUDIODISC CHIP-CHASER

A simple but perfect solution to the thread removal problem in recording. The felt-lined wiper blade is set on the disc before starting the recording. The Chip-Chaser automatically and infallibly brushes the thread toward the center, winding it up on the overhead post or drive pins, as the case may be.

List Price { for 16" turntables, \$6.25  
for 12" turntables, \$5.00



### "HOW TO MAKE GOOD RECORDINGS"

A complete, authoritative and non-technical handbook on all phases of disc recording—materials, equipment and techniques. Contains 140 pages, profusely illustrated with photographs, charts and diagrams. Includes a glossary of recording terms. Now in its 9th printing. List price \$2.00

# audiopoints®

microscopically matched  
recording and playback  
styli

The complete line of Audiopoints covers the full range of recording and playback needs—for professional as well as general use. Audiopoints are made by skilled craftsmen, and conveniently packaged in cards, boxes or envelopes.

## RECORDING AUDIOPPOINTS



**SAPPHIRE No. 14**—long recognized as the finest recording stylus made. Short or long dural shank, and 87° or 70° included angle.

List Price—\$7.25  
(Resharpening cost, 89°—\$3.25)  
(Resharpening cost, 70°—3.75)

**SAPPHIRE No. 202**—a high-quality professional stylus. Short or long brass shank.

List Price—\$5.25  
(Resharpening cost—\$2.60)

**SAPPHIRE No. 20**—specially designed for professional microgroove recording. Short or long dural shank.

List Price—\$7.25  
(Resharpening cost—\$3.25)

**STELLITE No. 34**—a favorite with many professional and non-professional users. Short or long shank. 87° included angle.

List Price—\$1.75  
(Resharpening cost—\$0.85)

**DIAMOND LAPPED STEEL No. 50**—most practical and economical stylus for non-professional use.

List Price—3 for \$1.00

## PLAYBACK AUDIOPPOINTS



**SAPPHIRE No. 113**—meets the requirements of the most critical professional recordists. Straight dural shank.

List Price—\$6.50  
(Resharpening cost—\$2.25)

**SAPPHIRE No. 123**—for professional use with microgroove recordings.

List Price—\$2.00  
(Resharpening cost—\$1.00)

**"RED CIRCLE" SAPPHIRE No. 103**—for professional use with instantaneous recordings or vinyl transcriptions. Straight dural shank.

List Price—\$2.00  
(Resharpening cost—\$1.00)

**"RED CIRCLE" SAPPHIRE No. 303**—same as No. 103, except with bent dural shank. Ideal for phonograph records.

List Price—\$2.00  
(Resharpening cost—\$1.00)

**STEEL TRANSCRIPTION NEEDLE No. 151**—finest steel needles made. 100% shadowgraphed to assure perfection of every needle.

List Price—100 for \$1.25  
20 for \$0.25

## RESHARPENING SERVICE

Established years ago, our Resharpening Service materially reduces the over-all cost of using sapphire and stellite Audiopoints. Each resharpened point is disc-tested. Special cards and envelopes are available for returning Audiopoints for resharpening.



# THE RECORDISC CORP.

395 BROADWAY, NEW YORK 13, N. Y. • CABLE ADDRESS: RECORDISC, NEW YORK, N. Y.

EXPORT DEPT.: ROYAL NATIONAL COMPANY, INC., 89 BROAD STREET, NEW YORK

## WORLD-FAMOUS HOME RECORDING BLANKS

### ORANGE LABEL

Popular composition base disc . . . a party favorite! Heavy and firm, it will take punishment, yet it is coated carefully with our standard RECORDISC surface compound. The acme of amateur transcription blanks.

### PURPLE LABEL

Lightweight aluminum base disc with heavyweight selling power! The lowest-priced high-quality disc with an inexpensive .012 aluminum base, designed for amateurs desiring semi-professional reproduction.

### RED LABEL

High-fidelity, volume selling disc with .021 aluminum base. Coated with flawless RECORDISC compound. Professional quality in smaller sizes for those who want the finest. Professional nitrate coating.

### "GM" LABEL

Available in the three larger sizes only, these discs are made on heavy .021 aluminum base, coated with critically selected compound. Precision-made, and minutely inspected, they are guaranteed for perfect performance and long use.

### MAGNETIC RECORDING TAPE

Precision-manufactured on a specially designed machine, RECORDISC recording tape features high tensile strength for longer life, even coating for high frequency response and controlled slitting for trouble-free winding.

### Super-Tone RECORDING WIRE

RECORDISC's stainless steel recording wire is the product of extensive research — delivers ultra-high fidelity, easy erasing qualities and outstanding durability. Wound on RMA-standard spools.

## LIST PRICES †

### RECORDING WIRE

LENGTH	PRICE
¼ Hour	\$2.00
½ Hour	3.00
1 Hour	5.00
Empty spool, 75c	

CODE:  
P—Plastic Base  
K—Kraft Base  
IW—Inside Winding of Oxide  
OW—Outside Winding of Oxide  
625—625 ft. length  
1250—1,250 ft. length

### RECORDING TAPE

STYLE NO.	DESCRIPTION	SIZE REELS	LIST PRICE
PIW-625	625 Ft. Plastic Base, Oxide In	5"	\$3.50
PIW-1250	1250 Ft. Plastic Base, Oxide In	7"	5.50
POW-625	625 Ft. Plastic Base, Oxide Out	5"	3.50
POW-1250	1250 Ft. Plastic Base, Oxide Out	7"	5.50
KIW-625	625 Ft. Kraft Base, Oxide In	5"	2.25
KIW-1250	1250 Ft. Kraft Base, Oxide In	7"	3.50
KOW-625	625 Ft. Kraft Base, Oxide Out	5"	2.25
KOW-1250	1250 Ft. Kraft Base, Oxide Out	7"	3.50

ALL TAPES SUPPLIED ON 6-SPOKE POLYSTERENE REEL

## RECORDING DISCS

LABEL	BASE	6 ½"	8"	10"	12"
ORANGE	Bond	25c	35c	50c	
PURPLE	Aluminum	30c	40c	60c	
RED	Aluminum	40c	50c	80c	\$1.00
"GM"	Aluminum		80c	\$1.00	\$1.25

### Precision-Perfect Professional Recording Discs

Designed for broadcasting stations and recording studios. Years of costly research and the valuable experience gained as the world's largest producer of home recording blanks have been combined to produce the perfect professional recording disc . . . possessing a fidelity heretofore thought impossible. Each blank guaranteed for five full years.

## LIST PRICES †

	10"	12"	16"
2 ★ ★ STAR precision-processed, double-face	\$1.15	\$2.00	\$3.15
3 ★ ★ ★ STAR perfectly flawless, double-face	\$1.40	\$2.40	\$3.95



### STEEL STYLUS (CHROME PLATED)

A fine economy stylus that gives excellent service during its recording life of approximately one hour. Shiny chrome-plate on hardened steel. Packed in protective cards. LIST PRICE: **3 for \$1**



### SPECIAL QX-5

A precision-made stylus made of processed and tempered steel . . . with an expensive filter cutting point and recessed shank. Smooth easy cutting for those who seek a fine but non-fragile recording tip. LIST PRICE: **75¢**

## RECORDISC

### RECORDING STYLUS

Best Suited

for

Best Recordings



### STELLITE STYLUS

Carefully machined of special, hardened metal alloy . . . less fragile than costly sapphire styli. Recommended for less experienced recording operators. Packed one to a protective card. LIST PRICE: **200**



### SAPPHIRE STYLUS

A specially lapped sapphire point on each stylus cuts clean shiny grooves with less surface noise than any similar stylus. As much as 10 hours of recording time . . . can be sharpened as many as 15 times. Packed in individual jewel box. LIST PRICE: **650**

# Walco PLAY BACK Needles



## Walco "400" Floating Jewel Sapphire\*



List price  
**WS-400 . . . . \$2.50**  
**WS-400-2,**  
 All-groove . . . . **2.50**  
**400MGs,**  
 Microgroove . . . . **2.50**

## Walco "400" RUBY\* JEWEL



List price  
**WR-400 . . . . \$2.00**

The Walco "400" needles are beautifully packaged and are available 12 to a counter display card or in cartons of 12. All Walco needles are available with microgroove (1 mil) points for LP records.

## Walco "400" PRECIOUS METAL



List price  
**WA-400 . . . . \$1.50**  
**WA-400-2,**  
 All-groove . . . . **1.50**  
**400MGA,**  
 Microgroove . . . . **1.50**

## Walco ENCORE



List price  
**WA-100 . . . . \$1.00**  
**WA-100-2**  
 All-groove . . . . **1.00**  
 Exceptionally fine, precious metal tipped needle, priced for volume sales.  
**Carded 12 to display card**

## Walco GROOVE MASTER



List price  
**WA-150 . . . . \$ .50**

High-fidelity needle tipped with precious metal alloy. Hand-painted with filter type shank.

**Carded 2 doz. to display card**

## Walco SAPPHIRE\* MUTED STYLUS for Shure 30 cartridges



List price  
**WA-30S . . . . \$1.50**  
**WA-30MGs,**  
 Microgroove . . . . **1.50**

Deluxe metal foil and cellophane window package.

**Carded 12 to display card**

## Walco ALLOY MUTED STYLUS for Shure 30 cartridges



List price  
**WP-30 . . . . \$1.00**  
**WP-30MGA,**  
 Microgroove . . . . **1.00**

Deluxe metal foil and cellophane window package.

**Carded 12 to display card**

## Walco TRU-TRAC SAPPHIRE\*



List price  
**WN-50,**  
 Bent shank . . . . **\$1.00**  
**WN-55,**  
 Straight shank . . . . **1.00**

Far older type phanos with heavier pick-ups. Hand-polished sapphire\* with notched dural shanks.

## Walco COIN MACHINE NEEDLES



### SA-2

**Precious metal**  
 An all-purpose, long life coin machine needle of superior quality.



### WS-900 SAPPHIRE\*

For light weight tone arms in new coin phonographs. Rated at an extremely high number of plays.

Prices of above on request

\*synthetic

Copyright 1951  
 Electrovox Company, Inc.,  
 East Orange, New Jersey.

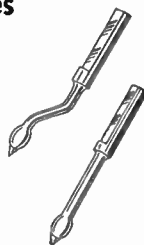
**Walco Needles are used as Original Equipment by Leading Manufacturers**

## Walco DIAMOND Needles



List price  
**WD-90,**  
 Bent shank . . . . **\$12.50**  
**WD-95,**  
 Straight shank . . . . **12.50**

In plastic, transparent case, handsomely boxed, with written guarantee. Packaged like the exquisite product that it is. The finest, longest lasting needle made. Costs less per play than any other Walco needle.



## Walco CUTTING Needles



List price  
**WC-25 SAPPHIRE\* . . . \$6.00**  
 Hand lapped, precision ground.  
**WC-20 STELLITE . . . . 2.00**  
 Long life, hand-polished stylus,  
**WC-30 STEEL, card of 5 . . 1.00**  
 For finer home recording.



This insignia indicates needles available with Diamond Tip

**IMPORTANT NOTICE!** Walco model numbers also indicate specifications as follows: A—Alloy S—Sapphire (Syn.) MG—MicroGroove AG—All-Groove TP—Twin Point Thus the suffix AGS means All-Groove Sapphire, MGA means MicroGroove Alloy (metal), etc.

★ Walco REPLACEMENT NEEDLES ★							
CARTRIDGE MFG'S. NEEDLE NO	ILLUSTRATION	WALCO NEEDLE NO	LIST PRICE	CARTRIDGE MFG'S. NEEDLE NO.	ILLUSTRATION	WALCO NEEDLE NO.	LIST PRICE
ASTATIC T-(M) ASTATIC T-33 (M)		W-1A W-1MGA	\$1.00 1.00	R.C.A. 72345 and 39863		W-425	\$3.00
ASTATIC Q-(M) ASTATIC Q-33 (M) ASTATIC Q-AG (M)		W-2A W-2MGA W-2AGA	1.00 1.00 1.00	R.C.A. 74068		W-42MG5	2.00
ASTATIC Q-(J) ASTATIC Q-33 (J) ASTATIC Q-AG (J)		W-25 W-2MG5 W-2AG5	1.50 1.50 1.50	R.C.A. 39449 and 75046 R.C.A. 38448 and 75045		W-43A W-43MGA	1.50 1.50
ASTATIC G-78 (M) ASTATIC G-(M) ASTATIC G-AG-(M)		W-3A W-3MGA W-3AGA	1.00 1.00 1.00	R.C.A. 75497 R.C.A. 75496		W-44A W-44MGA	1.50 1.50
ASTATIC G-78 (J) ASTATIC G-(J) ASTATIC G-AG (J)		W-35 W-3MG5 W-3AG5	1.50 1.50 1.50	R.C.A. 75497 R.C.A. 75496		W-445 W-44MG5	3.00 2.00
ASTATIC U-78 (M) ASTATIC U-(M)		W-4A W-4MGA	1.00 1.00	ELECTRO-VOICE O-3 ELECTRO-VOICE O-1 ELECTRO-VOICE O-2		W-20A W-20MGA W-20AGA	1.50 1.50 1.50
ASTATIC U-(J) ASTATIC U-78 (J)		W-4MG5 W-45	1.50 1.50	ELECTRO-VOICE S-3 ELECTRO-VOICE S-1 ELECTRO-VOICE S-2		W-215 W-21MG5 W-21AG5	2.50 2.50 2.50
ASTATIC C-3 (M) ASTATIC C-1 (M)		W-19A W-19MGA	1.00 1.00	ELECTRO-VOICE O-13 ELECTRO-VOICE S-13		W-22TPA W-22TP5	2.50 3.50
ASTATIC C-3 (J) ASTATIC C-1 (J)		W-195 W-19MG5	1.50 1.50	SHURE BROS. TURNOVER CARTS TURNOVER CARTS.		W-29A W-29MGA	1.00 1.00
ASTATIC D-(M) ASTATIC D-33 (M) ASTATIC D-AG (M)		W-6A W-6MGA W-6AGA	1.00 1.00 1.00	SHURE BROS TURNOVER CARTS TURNOVER CARTS		W-295 W-29MG5	1.50 1.50
ASTATIC A-1 (M) ASTATIC A-3 (M) ASTATIC A-AG (M)		W-5MGA W-5A W-5AGA	1.00 1.00 1.00	SHURE BROS A-62A A-63MG A-66U		W-30A W-30MGA W-30AGA	1.00 1.00 1.00
ASTATIC A-1 (J) ASTATIC A-3 (J) ASTATIC A-AG (J)		W-5MG5 W-55 W-5AG5	1.50 1.50 1.50	SHURE BROS A-61A A-65MG A-67U		W-305 W-30MG5 W-30AG5	1.50 1.50 1.50
WEBSTER- ELECTRIC F-14		W-9TPA	2.50	SHURE BROS. A-52A A-53MG A-56U		W-31A W-31MGA W-31AGA	1.00 1.00 1.00
WEBSTER- ELECTRIC A-35 A-15		W-105 W-10MG5	2.50 2.50	SHURE BROS P-81 D		W-37AG5	1.50
WEBSTER- ELECTRIC A-30 A-10		W-11A W-11MGA	1.50 1.50	PHILCO 45-1597		W-30A	1.00
WEBSTER- ELECTRIC Q-1		W-12A	1.50	PHILCO 45-1651		W-305	1.50
WEBSTER- ELECTRIC A-2		W-13AGA	1.50	PHILCO 45-1613		W-45MGA	1.00
WEBSTER- ELECTRIC C-9		W-14AGA	1.50	PHILCO 45-1613 PHILCO-COLUMBIA		W-45MG5	1.50
WEBSTER- ELECTRIC Q-2		W-15A	1.50	PHILCO 35-2693		W-46TPA	2.00
WEBSTER- ELECTRIC F-16-3 F-16-1		W-16A W-16MGA	1.50 1.50	PHILCO 45-9589		W-46TP5	3.50
WEBSTER- ELECTRIC F-15-3 F-15-1		W-17A W-17MGA	1.50 1.50	PHILCO 45-1596		W-485	2.25
WEBSTER- ELECTRIC F-7		W-18MGA	1.50	MAGNAVOX 560102		W-50A	1.00
WEBSTER- ELECTRIC G-3 G-1 G-2		W-23A W-23MGA W-23AGA	1.50 1.50 1.50	MAGNAVOX 560138		W-51TPA	2.50
WEBSTER- ELECTRIC F-10 F-10-1		W-30A W-30MGA	1.00 1.00	MAGNAVOX 560153-2		W-52TPA	2.50
				WEBSTER- CHICAGO NE-215		W-60TPA	3.00
				WEBSTER- CHICAGO NE-316		W-63TPA	3.00
				WEBSTER- CHICAGO NE-317		W-63TP5	4.00
				GENERAL ELECTRIC RPJ-010		W-66TP5	5.95
				GENERAL ELECTRIC RPJ-001		W-675	3.50
				GENERAL ELECTRIC RPJ-005		W-67MG5	3.50

# Walco DIAMOND NEEDLES

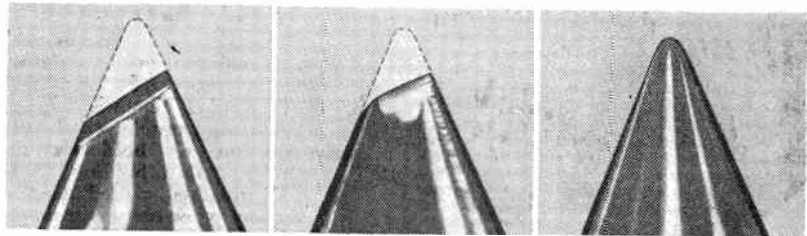
(SEE CHART  
ON OPPOSITE PAGE)

are available for the following *Cartridges*

NEEDLE	ASTATIC CARTRIDGES	NEEDLE	R.C.A. CARTRIDGES
W-2D W-2MGD	QT-J; QT2-J; QT3-J; LQD; LQD-1 series; CAC-78-J QT-33-J; CQ-J; LQD; LQD-1 series; CAC-J; CAC-W-J	W-42D	70338; 70339; 72551; 9890; 39919; 39550; 38598; 70332; 39851
W-2AGD W-3MGD W-3D W-3AGD W-4MGD W-4D W-5MGD W-5D W-5AGD W-19D W-19MGD	CQ-AG-J; CAC-AG-J GC-J; GC-1J; MG-J GC-78-J; MG-78-J GC-AG-J; MG-AG-J U-J U-78-J AC, ACD series; AC-J; AC-C-J; ACD-J AC-78J; AC-C-78J AC-AG-J MD-3; MD-6J MD-1; MD-5J	W-42MGD W-44D W-44MGD	74067; 74625 75475 75475
NEEDLE	WEBSTER ELECTRIC CARTRIDGES	NEEDLE	PHILCO CARTRIDGES
W-10D W-10MGD	A1, A8 A1 thru A6, A8	W-30D W-45MGD W-46TPD or W-46DS W-48D	35-2671-1 45-1609; 45-1612 76-4649 Dynamic Reproducer
NEEDLE	ELECTROVOICE CARTRIDGES	NEEDLE	MAGNAVOX CARTRIDGES
W-21D W-21MGD W-21AGD W-22TPD or W-22DS	12, 32; 42; 96; 96-T 14, 34; 44; 96; 96-T 33; 33-B; 43; 33-4 16; 16TT; 22TT	W-51TPD or W-51DS W-52TPD or W-52DS	560101 560151-2
NEEDLE	SHURE CARTRIDGES	NEEDLE	WEBSTER CHICAGO CARTRIDGES
W-29D } W-29MGD }	{W-22AB-T; W-22A; W-22AB; WC22AB; P76V; P76AFV; P77V; P72V PC72V; P76AV; P77AV	W-63TPD or W-63DS	21P404; V-45
W-30D	{W60A; W60B; W61B; W60HS; P30; P30B; P70; P74AD; P76; P76AF, P70A; P75A	NEEDLE	GENERAL ELECTRIC CARTRIDGES
W-30MGD	{W-21AF; WC31AR; P72; P73; P75; P73A; W66B; W26B; W26A; P37A; P37C; P71; P71B; P71C; P81; P81A; P81C	W-66TPD or W-66DS W-67D W-67MGD	RPX-050; RPX-047 RPX-040 RPX-041
W-30AGD	P81D	<b>LEGEND:</b> the letters following the model numbers indicate specifications as follows: D — 3.0 mil diamond (for 78 RPM) MGD — 1.0 mil diamond (for 33 1/3 and 45 RPM*) AGD — 2.0 mil diamond (for all grooves, all speeds) TPD — Twin Point Diamond, 3.0 mil and 1.0 mil (for 78, 33 1/3 and 45 RPM) DS — 1.0 mil diamond and 3.0 mil sapphire (for 78, 33 1/3 and 45 RPM)	

## Walco DIAMOND NEEDLES COST LESS PER PLAY THAN ANY OTHER KIND!

Because WALCO DIAMOND NEEDLES take a perfectly smooth, "ball point" polish and because of the hardness of diamond, keep that polish, the need for further needle replacement is eliminated. Use WALCO DIAMOND NEEDLES wherever economy of operation, perfect reproduction, and longest record life are a consideration.



LP OSMIUM TIP after 15 hours use. Note the contour of the needle when new. This needle will permanently injure vinyl record surfaces if continued in use.

LP SAPPHIRE TIP after 75 hours use. Faithful reproduction is no longer possible at this stage and this needle should be replaced as soon as possible.

LP DIAMOND TIP after 500 hours. Because of the astonishing hardness of diamond (90 times harder than sapphire), no wear is evident. This needle can be used to play hundreds of additional records with perfect safety.

**SPECIFY Walco AND BE SURE OF THE FINEST NEEDLES AT LOWEST COST**

No first class audio system can possibly maintain the high fidelity response possible of it with a worn needle in the tone arm. Install a WALCO DIAMOND needle for the ultimate in unvarying high fidelity.

# Miller

# Replacement

## Phonograph Needles



MILLER  
NEEDLES are  
Individually  
Carded

The M. A. Miller Mfg. Co. is a prime manufacturer supplying needles to the most prominent radio and cartridge manufacturers . . . also in position to supply replacement needles . . . to meet your most exacting needs.

Each needle is attractively packaged in color code for quick identification; blue card for 78 RPM; red for Microgroove; green for all-groove or dual needles.

## Dealer Counter Dispenser



Holds 48 to 60 individual carded needles for easy reference. Sturdy plywood construction, bright red enamel finish with yellow trim. Has transparent acetate cover to protect your needles.



## MASTER COUNTER DISPENSER

Saves time . . . makes sales . . . makes profits . . . simplifies inventory, takes advantage of limited counter space. Colorful, durable wood construction to hold six file drawers, each holding 48 to 60 individual carded needles. Acts as "your silent salesman".

## MILLER MANUAL

Handy, 48 page illustrated booklet plus cover, gives complete summary of Miller Replacement Needles with installation diagrams. Also includes presentation of cartridges to which Miller Needles are adapted; reference material; data, etc. Available upon request.



### How to Utilize the MILLER Replacement Needle Chart

To determine the specific needle used in any player, it is necessary to first inspect the cartridge in the record player tone arm. Note the cartridge brand name and serial number or letter. This is easily accomplished by lifting the tone arm and reading the numbers stamped on the cartridge.

Now locate the group of needles, i.e., Astatic, Shure, Electro-Voice or other brand. The cartridge identification shown opposite the caption "manufacturer's cartridge series" will then identify the exact needle required. It is now only necessary to determine whether you desire a sapphire or metal tip as indicated by the code letter "M" for metal and "S" for sapphire and the tip size as indicated for microgroove, standard, or all-groove.

The MILLER REPLACEMENT NEEDLE ILLUSTRATED CHART is designed to make your sales and inventory easier.

**NOTE:** All Miller replacement needles listed with the jewelled (Syn.) tip are available with Diamond Styli upon request.

M. A.  
**Miller** MANUFACTURING CO.

The Miller Manual is a "must" for every serviceman.

1169 East 43rd Street, Chicago 15, Illinois  
4th & Church Streets, Libertyville, Illinois

# M. A. Miller Phonograph Replacement Needles

Mfr's Code	I ASTATIC (AST)					II WEBSTER CHICAGO (WC)		III WEBSTER ELECTRIC FEATHERIDE (WE)				
	T	Q	G	U	A	NE 214-316	Q1	Q2	Q3	A	F16	F14
<b>MILLER Replacements</b>												
<b>Point Description:</b>	<b>MILLER Catalog Number</b>					<b>MILLER Cat. No.</b>		<b>MILLER Catalog Number</b>				
Micro-groove (M) Standard 3 Mil (M) Micro-groove (S) Standard 3 Mil (S) All-groove (M) All-groove (S) Dual Tip (M)	A11(M) A13(M)	A21(M) A23(M) A21(S) A23(S)	A31(M) A33(M) A31(S) A33(S)	A41(M) A43(M) A41(S) A43(S)	A61(M) A63(M) A61(S) A63(S)		WE13(M)	WE23(M)	WE31(M) WE33(M) WE31(S) WE33(S)	WE41(M) WE43(M)		
Mfr's Cartridge Series	L-T	QT LQ CQ	GC	UJ, UM M-D (Substitute For C Needle)	AC AC-D	WC213 2 Speed 21-291 21-297	WC313 3 Speed 21-298	Q1	Standard Q2 All-groove Q3, A9 1 Mil-F13	A1, A8 Micro-groove A (1 to 7)	F15 F16	F14 (1 to 4)
	IV SHURE (SH)			V ELECTRO-VOICE (EV)				VI COLUMBIA (COL)		VII G-E		
<b>Mfr's Code</b>	A63MG* A62A A66U†		A65MG* A61A A67U†		O	S	OO-D	SS-D	M102	RPI-005* RPI-001 RPI-006± RPI-010		
<b>MILLER Replacements</b>												
<b>Point Description:</b>	<b>MILLER Catalog Number</b>			<b>MILLER Catalog Number</b>				<b>MILLER Catalog Number</b>		<b>MILLER Catalog Number</b>		
Micro-groove (M)* Standard 3 Mil (M) Micro-groove (S)* Standard 3 Mil (S) All-groove (M) † All-groove (S) † Dual Tip (M) Dual Tip (S)	P31(M) P33(M)		P41(S) P43(S)		E11(M) E13(M)	E21(S) E23(S)	E213(S)	E313(M)	E413(S)	Col 11(S) Col 21(S)	GE 21 (S) GE 23 (S)	GE 213 (S) GE 113 (S)
Mfr's Cartridge Series	Standard—P30, P57, P70, P74, P76, P77, P79, P85, P86, P88, P89, P94, PN30, W22, W23, W40, W41, W42, W60, W61, W65. Micro-groove—P73, P74AD, P76, P77, P79, W21, W22. All-groove—P37, P71, P81, W26.			Standard M12, H12, L12 Micro 14, 22, L14, 34 All-groove I30		Standard M12S, H12S, L12S Micro 14S, 22S, 34	16TT 22TT	16TT 26TT	45-1609 Model 101	CQJ Models 102 103 104	DUAL RPX-050 Micro & A.G. RPX-041 Std. & A.G. RPX-040	
	VIII RCA			IX PHILCO (PH)			X MAGNAVOX (MA)					
<b>Mfr's Code</b>	74068* 72345	75045* 75046	75496* 75497	DYN	COL	DUAL	560101	560138				
<b>MILLER Replacements</b>												
<b>Point Description:</b>	<b>MILLER Catalog Number</b>			<b>MILLER Catalog Number</b>			<b>MILLER Catalog Number</b>					
Micro-groove (M)* Standard 3 Mil (M) Micro-groove (S) Standard 3 Mil (S) Dual Tip (M) Dual Tip (S)	RC11(S) RC13(S)	RC21(M) RC23(M)	RC31(M) RC33(M)	PH13(S)	PH21(M) PH21(S)	PH313(M) PH313(S)	M13(M)	M213(M)				
Mfr's Cartridge Series	Standard—70338, 70339, 70332, 72551, 9890, 39919, 39550, 38598, 39851. Micro-groove—74067		135-1	Dynamic Reproducer	45-1609	76-4649	560101	For 560151G3, Type M313(M)				

**CODE** \* Micro-groove 1 mil tip  
**SYMBOLS:** † All-groove tip  
 (M) indicates precious Metal tip  
 (S) indicates Sapphire tip  
 Note: Needle Tip, Size Identified by Color  
 1 Mil Micro-groove Red  
 2 Mil All-groove Green  
 Truncated Blue  
 (D) Indicates diamond tip which will be furnished on request for any jewel tipped needle.

**LIST PRICES OF MILLER REPLACEMENT NEEDLES**

	Osmium	Osmium Dual	Sapphire (Syn.)	Sapphire Syn. Dual	Diamond	Diamond Dual
Astatic	\$1.00	—	\$1.50	—	\$20.00	—
Columbia	—	—	1.50	—	20.00	—
Electro-Voice	1.50	\$2.50	2.50	\$3.50	20.00	\$40.00
General Electric	—	—	3.50	5.95	27.50	49.95
Magnavox	1.50	2.50	—	3.50	—	40.00
Philco	1.50	2.50	—	3.50	—	40.00
RCA	1.50	—	{1.60 (.001) 3.45 (.003)}	—	20.00	—
Shure	1.50	—	2.50	—	20.00	—
Webster-Electric	1.50	2.50	2.50	—	—	—
Webster-Chicago	—	4.00	—	—	—	—

**M. A. MILLER MFG. CO.** 1169 EAST 43rd STREET, CHICAGO 15, ILLINOIS  
 Manufacturers of World's Largest Line of Long Life Playback and Recording Needles

# Carillon Dynamic PHONOGRAPH NEEDLES



Individually boxed in transparent plastic container with sliding tight-fitting lid. Needle is mounted on colorful "butterfly" holder.

Cat. # 1600-N  
list per needle \$2.50



Eye - appealing, multi-colored display card with one "bonus" needle mounted to produce volume at "point of sale". Almost indestructible needle of nylon and spring wire; bumper absorbs shock.



Available With  
3 Size Radii for:

- 33 1/3-45 RPM Cat. # 1600 N (MG)
- 33 1/3-45-78 RPM Cat. # 1600 N (AG)
- 78 RPM Cat. # 1600 N List \$2.50

**Six Free With Each Dozen**

**Carillon Dynamic NEEDLES** are mounted in pilfer-proof, locked-in metal containers.

### Cat. # 581-S—SAPPHIRE JEWEL (Syn.)

The finest quality jewel-tipped needle with the long-life your customers demand. Designed for lighter tone arms. ....List \$2.00

- \*Cat. # 581-S (MG) .....List 2.00
- \*Cat. # 581-S (AG) .....List 2.00
- \*Cat. # 581-R, with Ruby tip .....List 2.50



### Cat. # 580—OSMIUM ALLOY NEEDLE

High fidelity, minimum record talk. Has duraluminum offset shank for softer tone. Highest quality osmium alloy tip .....List \$1.50

- \*Cat. # 580 (MG) .....List 1.50
- \*Cat. # 580 (AG) .....List 1.50



### Cat. # 560—PRECIOUS METAL NEEDLE

Extremely long-life needle with highest attainable fidelity. Offset shank provides brilliant tone with minimum record surface noises. ....List \$1.00

- \*Cat. # 560 (AG) .....List 1.00



### PRECIOUS METAL ALLOY NEEDLE

#### Cat. # 550

A fine quality needle at a price to please. ....List \$0.50



### MILLER NEEDLES are displayed to SELL!

This typical display card illustrates how each easel display card has individual pilfer-proof locked-in metal containers.



### COMBINATION DISPLAY CARD

Attractive, colorful card with 14 needles from 50c to \$2.50 list price, for the price of 13 needles.

Here is a "bonus" offer. ....List \$17.00

### CUTTING NEEDLES

#### Cat. # 543

Finest alloy tool steel; microscopically ground, will cut approximately twenty-five six inch records.

List 3 for \$1.05



#### Cat. # 542

Stellite . . . fine recording stylus; provides excellent results; hand-finished tip; cuts about five hundred six inch records. ....List \$1.50



★ ALL CARILLON DYNAMIC NEEDLES are of finest quality . . . available in proper tip radius for standard 78RPM or micro-groove (MG) or for all-groove (AG) records. When ordering, be sure to specify the tip radius if you desire MG or AG.

Manufacturers of the World's Largest Line of Long-Life Recording and Playback Records

**M. A. Miller Manufacturing Co.**  
1165-69 East 43rd Street • Chicago 15, Illinois

# DUOTONE DIAMOND NEEDLES

CARTRIDGE	ILLUSTRATION	DUOTONE NEEDLE NO.	POINT SIZE	POINT MATERIAL	PRICE
Astatic Q		AS3	.003	Diamond	<b>\$20.00</b>
Astatic Q 33		AS4-LP	.001	Diamond	
Astatic Q		AS4-A	.002 All Groove	Diamond	
Astatic U		AS7	.003	Diamond	
Astatic U		AS7-LP	.001	Diamond	
Astatic C		AS8	.003	Diamond	
Astatic C		AS8-LP	.001	Diamond	
Astatic A-3(J)		AS9	.003	Diamond	
Astatic A-1(J)		AS9-LP	.001	Diamond	
Astatic A-AG(J)		AS9-A	.002 All Groove	Diamond	
Audak		AUS	.003	Diamond	<b>22.50</b>
		AUS-LP	.001	Diamond	
Duotone		36D	.003	Diamond	<b>20.00</b>
Duotone		36D-LP	.001	Diamond	
Duotone		36DA	.002 All Groove	Diamond	
Electro-voice S-3		ES23	.003	Diamond	<b>20.00</b>
Electro-voice S-1		ES24-LP	.001	Diamond	
Electro-voice S-13		ES22	.003	Diamond	
Electro-voice S-13		ES22-DS	.001	Diamond	
			.003	Sapphire	<b>22.50</b>
General Electric RPJ-001		GE3	.003	Diamond	<b>22.50</b>
General Electric RPJ-005		GE1-LP	.001	Diamond	
General Electric RPJ-006		GEA	.002 All Groove	Diamond	
General Electric RPJ-010		GED	.001	Diamond	
General Electric		GEDS	.003	Diamond	
Magnavox 560138		MAS17	.001	Diamond	<b>50.00</b>
Magnavox		MASD17	.003	Diamond	
			.001	Diamond	
			.003	Sapphire	<b>25.00</b>
Philco-Columbia 45-1613		CS6-LP	.001	Diamond	<b>20.00</b>
Philco-Columbia 35-2693		PHS15	.001	Diamond	
Philco-Columbia		PHS15-DS	.003	Diamond	
Philco 45-1596		*PHS14	.001	Diamond	
			.003	Sapphire	<b>22.50</b>
RCA 39863		RS7	.003	Diamond	<b>20.00</b>
RCA 74068		RS8-LP	.001	Diamond	
RCA 75497		RS11	.003	Diamond	
RCA 75496		RS11-LP	.001	Diamond	
				.001	
Shure A61A		MSS	.003	Diamond	<b>20.00</b>
Shure A63-MG		MSS-LP	.001	Diamond	
Shure A66U		MSS-A	.002 All Groove	Diamond	
Shure A52A		SHS	.003	Diamond	
Shure A53MG		SHS-LP	.001	Diamond	
Shure A56U		SHS-A	.002 All Groove	Diamond	
				.001	
Webster-Chicago NE215		WO-13	.001	Diamond	<b>50.00</b>
Webster-Chicago NE316		WO11	.003	Diamond	
Webster-Chicago		Combination above	.001	Diamond	
			.003	Sapphire	
Webster-Racine A-3S		WES28	.003	Diamond	<b>20.00</b>
Webster-Racine A-1S		WES29-LP	.001	Diamond	

# DUOTONE REPLACEMENT NEEDLES

Cartridge Mfg. and Their Needle No.	Duotone Needle No.	Cartridge Number	Point Material	Point Size	Price	Cartridge Mfg. and Their Needle No.	Duotone Needle No.	Cartridge Number	Point Material	Point Size	Price
Astatic Q(M)	AO1	QT-M, QT2-M, QT3-M, LQD, LQD-1	Osm.	Stand.	\$1.00	RCA-Part # 39863.72315	*RS7	70338, 70339, 72551, 39919, 212X1, 9800 (Magic Tone Cell) 39550	Jew.	Stand.	\$3.50
Astatic Q(J)	*AS3	QT-J, QT2-J, Q23-J, LQD, LQD-1	Jew.	Stand.	1.50	38449, 75016	RO7	74067, Improved Type, 74625	Osm.	Stand.	2.00
Astatic Q-33(M)	AO1-LP	QT33-M, CQ-M, LQD, and LQD-1 Series	Osm.	Micro Groove	1.00	RCA-Part # 74068	*RS8-LP		Jew.	Micro Groove	2.50
Astatic Q-33(J)	*AS4-LP	QC-J (New Model)	Jew.	Micro Groove	1.50	RCA-Part # 75045	RO9-LP	74067, 74625	Osm.	Micro	1.50
Astatic Q-(A-G)(J)	AS4-A	LQD-1 CQ, AG-M, CQ, AG-J	Jew.	All Groove	1.50		RO10	75475	Osm.	Stand.	2.00
Astatic D(M)	AO2	LT2, LTD Series, MD, LT3-D, LT4-D, LT4-D1	Osm.	Stand.	1.00	RCA-Part # 135-1, 75497	RO10-LP	75475	Osm.	Micro	2.00
Astatic D-33(M)	AO2-LP	LT3-D, LT4, LT4-D, LT4-D1	Osm.	Micro Groove	1.00	RCA-Part # 75496	RS11	75475	Jew.	Stand.	3.50
Astatic D-(A-G)(M)	AO2-A	LT3-D, LT4, LT4-D, LT4-D1	Osm.	All Groove	1.00	RCA-Part # 75497	RS11-LP	75475	Jew.	Micro Groove	2.50
Astatic G-78(M)	AO5	GC7-J, GC8-M, MG78-J, MG78-M	Osm.	Stand.	1.00	RCA-Part # 75496	MSO	P30, P70, P74-AD, P76, P76-AF, P77-S, P76-AFV, P77-AV, W22-AB, W23-A, W23-AB, W60-A, W60-B, W60-IB, W60-IP, W61-B, W65-B, P70-A.	Osm.	Stand.	1.50
Astatic G(M)	AO5-LP	GC-J, GC-M, GC1-J, GC-1M, MG-J, MG-M	Osm.	Micro Groove	1.00	Shure A-62A	*MSS		Jew.	Stand.	2.50
Astatic G-AGM	AO5-A	GC-AG-M, MG-AG-M	Osm.	All Groove	1.00	Shure A-61A	MSO-LP	P37-A, P75-A, P73, P72-V, P76-AV, P76-AFV, P77-AV, Also Turn Over, Admiral 409-A11	Osm.	Micro	1.50
Astatic G-AG(J)	AS5-A	GC-AG-J, MG-AG-J	Jew.	All Groove	1.50		*MSS-LP		Jew.	Micro	2.50
Astatic U-78(M)	AO7	U78M	Osm.	Stand.	1.50	Shure A-63 Mg.	MSO-A	Admiral 409-A13 P71, P71-B, P71-C, P81, P81-AD, P81-C, P37, P37-C, P37-A, P81-A, W26-A, W66-A, W26-B, W66-B	Osm.	All Purpose Truncated Tip	1.50
Astatic U-78(J)	AO7-LP	U-M	Osm.	Micro Groove	1.00	Shure A-63 Mg.	MSS-A	P81-A, W26-A, W66-A, W26-B, W66-B	Osm.	All Gr.	1.50
Astatic U(M)	AS7-LP	U-J	Jew.	Micro Groove	1.50	Shure A-66U	SS-A	W-7590	Jew.	All Gr.	2.50
Astatic U(J)	AO8	MD-3	Osm.	Stand.	1.00	Shure A-66U	WO13	21P247, 21P402, 21P403	Osm.	Twin Point	4.00
Astatic C-3(M)	AS8	MD-3	Jew.	Stand.	1.50	Shure A-66U	WO12 (Nylon)	21P247, 21P402, 21P403 (Nylon)	Osm.	Twin Point	4.50
Astatic C-3(J)	AO8-LP	MD-1	Osm.	Micro Groove	1.00	Sonotone Sonotone	WO11	21P404	Osm.	Twin Point	4.00
Astatic C-1(M)	AS8-LP	MD-1	Jew.	Micro Groove	1.50	Webster-Chl. 3-Sp. Ch. NE-215	WEO17	M1	Osm.	Stand.	1.50
Astatic C-1(J)	ANS10	1-J	Jew.	Stand.	2.50	Webster-Chl. 3-Sp. Ch. NE-215	WEO18	F14, F14-1, F14-2, F14-3	Osm.	Twin Point	2.50
Astatic 1J Nylon	AO11	LT1-M, LT2-M, LT3-M	Osm.	Stand.	1.00	Webster-Chl. 3-Sp. Ch. NE-316	*WES28	A8, A1	Jew.	Stand.	2.50
Astatic T(M)	AO11-LP	LT33	Osm.	Micro Groove	1.00	Webster-Chl. 3-Sp. Ch. NE-316	*WES29 LP	A1, A8, A6, A3, A5, A4	Jew.	Micro Groove	2.50
Astatic T33(M)	AMO	S1, S1-A, S2, S2-A	Osm.	Stand.	1.50	Webster-El. M	WEO20	A1-M, A1-M1, A5-M, A6-M	Osm.	Stand.	1.50
Am.-Micro-S-1	AMO1	C3	Osm.	Stand.	1.50	Webster-El. A10	WEO20 LP	A1-M, A1-M1, A2-M, A6-M	Osm.	Micro Groove	1.50
Am.-Micro-CO-3	AMO2-A	C1, C2	Osm.	All Groove	1.50	Webster-El. A9	WEO31-A	A9-M	Osm.	All Groove	1.50
Am.-Micro-CO-2	AMO1-LP	C1, C2	Osm.	Micro Groove	1.50	Webster-El. Q1	WEO22	Q1	Osm.	Stand.	1.50
Am.-Micro-CO-1	CRO	145749	Osm.	Stand.	2.50	Webster-El. Q2	WEO26	Q2	Osm.	Stand.	1.50
Crosley 145720	EO19	M12, H12, L12	Osm.	Stand.	1.50	Webster-El. F7	WEO27	Q2, F7-1, F13, F7-2	Osm.	Micro Groove	1.50
Elec.-Voice O-3	EO19-LP	14, 22, L14, 34	Osm.	Micro Groove	1.50	Webster-El. C9	WEO21-A	C9	Osm.	All Groove	1.50
Elec.-Voice O-1	ESOA25	130-33	Osm.	All Groove	1.50	Webster-El. A2	WEO-A30	Q3, A9, F13	Osm.	All Groove	1.50
Elec.-Voice O-2	ES25-A	130-33S	Jew.	All Groove	2.50	Webster-El. F16-3	WEO32	F16, F16-1, F16-2	Osm.	Stand.	1.50
Elec.-Voice O-2	*ES23	M12S, H12S, L12S	Jew.	Stand.	2.50	Webster-El. F16-1	WEO32 LP	F16, F16-1, F16-2	Osm.	Micro Groove	1.50
Elec.-Voice S-3	*ES24-LP	14S, 22S, 34S	Jew.	Micro Groove	2.50	Webster-El. F15-3	WEO33	F15, F15-1	Osm.	Stand.	1.50
Elec.-Voice S-1	EO21	16TT, 22TT	Osm.	Twin Point	2.50	Webster-El. F15-1	WEO33 LP	F15, F15-1	Osm.	Micro Groove	1.50
Elec.-Voice O-13	ES22	16TT, 22TT	Jew.	Twin Point	3.50	Webster-El. F10	WEO	F10, F11, F11-1	Osm.	Stand.	1.50
Elec.-Voice S-13	MAO16	Magnavox 560101	Osm.	Stand.	1.50	Webster-El. F10-1	WES-LP	F10, F11, F11-1	Jew.	Micro Groove	2.50
Magnavox 560102	MAS17	Magnavox 560133	Osm.	Stand & Micro Groove	2.50	Webster-El. G3	WEO34	G3-M	Osm.	Stand.	1.50
Magnavox 560138	CO5-LP	15-1609, 45-1612	Osm.	Micro Groove	1.50	Webster-El. G1	WEO34 LP	G1-M	Osm.	Micro Groove	1.50
Philco-Col. 45-1613	*US6-LP	15-1609, 45-1612	Jew.	Micro Groove	2.00	Webster-El. G2	WEO34-A	G2-M	Osm.	All Groove	1.50
Philco-Col. 45-1613	*PHS14	Philco-Dynamic Repr. 76-1622	Jew.	Stand.	2.25	Webster-El. WS	WEO35	WS	Osm.	Stand.	1.50
Philco 45-1596	PHO16	35-2671	Osm.	Stand.	1.50	Webster-El. A7	WEO35 LP	AJ4	Osm.	Micro Groove	1.50
Philco 45-1597	PHS16	35-2671	Jew.	Stand.	2.50	Duotone	36	For any set screw pick-up made for All Purpose records	Jewel		2.50
Philco 45-1651	PHO15	76-4649	Osm.	Twin Pt. Stand & Micro Gr.	2.50	Duotone	36-D	For any light weight cartridge. Made for All Purpose use—using set screw for removal	Diamond		20.00
Philco-3 Sp. 35-2693	PHS15	Philco-Dynamic Repr. 76-4649	Jew.	Twin Pt. Stand & Micro Gr.	3.50						

# DUOTONE

# REPLACEMENT NEEDLES '52 Supplement

CARTRIDGE MFG. AND THEIR NEEDLE NO.	ILLUSTRATION ACTUAL SIZE	DUOTONE NEEDLE NO.	CARTRIDGE NUMBER	CARTRIDGE ILLUSTRATION AND INSTRUCTIONS	POINT MATERIAL	POINT SIZE	PRICE		
Astatic A-3(M)		AO9	AG78, ACD Series	<b>AC SERIES</b> 	Osmium	Standard	<b>\$1.00</b>		
Astatic A-3(J)		AS9			Jewel	Standard	1.50		
Astatic A-1(M)		AO9-LP	AC, ACD Series		Osmium	Micro Groove	1.00		
Astatic A-1(J)		AS9-LP			Jewel	Micro Groove	1.50		
Astatic A-AG(M)		AO9-A			AC-AGM, AC-AG-J		Osmium	All Groove	1.00
Astatic A-AG(J)		AS9-A					Jewel	All Groove	1.50
Audak		AUS	R-2, R-6		Jewel	Standard	3.50		
		AUS-LP	R-2, R-6		Jewel	Micro Groove	3.50		
General Electric RPJ-001		GE3	RPX-040, RPX-041, RPX-046		Jewel	Standard	3.50		
General Electric RPJ-005		GEI-LP	RPX-040, RPX-041, RPX-046		Jewel	Micro Groove	3.50		
General Electric RPJ-006		GEA	RPX-050, RPX-047		Jewel	All Groove	3.50		
General Electric RPJ-010		GED			Jewel	Twin Point	5.95		
Magnavox 560138 560153		MAS18	Magnavox 560138		Jewel	Standard & Micro Groove	3.50		
Seeburg		SESI-LP	MRN, A-25162	Seeburg coin phonograph. Uses 2 needles mounted in opposite directions.	Jewel	Micro Groove	2.50		
Shure A52-A A53-MG A56-U A52-A A53-MG A56-U		SHO	WC33-B W31-AR, WC31-AR W36-B, WC36-B		Osmium	.003	1.50		
A52-A A53-MG A56-U		SHO-LP			Osmium	.001	1.50		
A52-A A53-MG A56-U		SHO-A	Osmium		All Groove	1.50			
A52-A A53-MG A56-U		SHS	WC33-B W31-AR, WC31-AR W36-B, WC36-B		Jewel	.003	2.50		
A52-A A53-MG A56-U		SHS-LP	Jewel		.001	2.50			
A52-A A53-MG A56-U		SHS-A	Jewel		All Groove	2.50			
Webster-Chicago NE316		WS11	21P404		Jewel		5.00		



**PERMO**

# CONVENTIONAL NEEDLES

**PERMO, INC.**  
CHICAGO 26, ILLINOIS



## THE MICRO-POINT

A-311—The combination of Shielded Jewel Tip, bent shank design and careful matching of needle to record characteristics insures finest reproduction with longest record and needle life. The Micro-Point is specifically designed for use with 33½ and 45 R.P.M. Vinylite Records.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
A-311	.001" Shielded Jewel	33½ & 45	\$ 1.50
311-C8	Display Card of 8		\$12.00



## THE STANDARD JEWEL

C-312—The combination of Shielded Jewel Tip, bent shank design and careful matching of needle to record characteristics insures finest reproduction with longest record and needle life. The Standard Jewel is specifically designed for use with 78 R.P.M. Records.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
C-312	.003" Shielded Jewel	78	\$ 1.50
312-C8	Display Card of 8		\$12.00



## THE COMPROMISE

B-310—This needle was designed for use in record players that use one needle for all three speeds: 33½, 45 and 78 R.P.M. It should only be used where the compromise point is specified by the equipment manufacturer in relation to the design of the phono cartridge, tone arm and player.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
B-310	.0021" Compromise Permometal	33½, 45 & 78	\$ 1.00
310-C8	Display Card of 8		\$ 8.00
310-C12	Display Card of 12		\$12.00



## CUTTING STYLUS

D-366—Permo's highest quality cutting stylus for all standard groove recordings. A real value for those who prefer a fine quality record cutting stylus. Stock No. D-366. List Price \$1.50.



## THE VINYL

C-323—Deluxe version of standard output needle with special vinyl dampener and Permometal Tip, provides many features of the highest price needles. Standard frequency characteristics, output, and life.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
C-323	.003" Permometal	78	\$ .75
323-C8	Display Card of 8		\$ 6.00
323-C12	Display Card of 12		\$ 9.00



## THE NYLON

C-325—The combination of the offset design with nylon damped spring action provides unusual lateral and vertical compliance with excellent tracking at low needle pressures. This gives low output with extended range frequency characteristics and long life for both needle and records.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
C-325	.003" Permometal	78	\$ 1.25
325-C8	Display Card of 8		\$10.00
325-C12	Display Card of 12		\$15.00

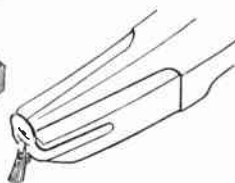
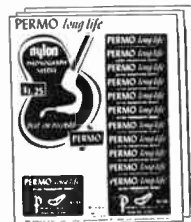
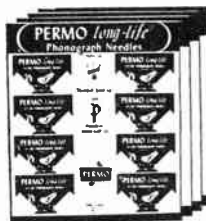


## THE PERMOTONE

C-370—Best money value in the Industry. Permometal Tip has standard frequency characteristics, output, and life. For use with 78 R.P.M. records.

Stock No.	Radius of Tip And Tip Material	For R.P.M. Record Speed	List Price
C-370	.003" Permometal	78	\$ .50
370-C8	Display Card of 8		\$4.00

## C-8 DISPLAY CARDS C-12 DISPLAY CARDS



## PERMO RECORD BRUSH

Makes records sound better by removing dust. Easily attached to all types of tone arms. Individually packaged, 12 to the Counter-Display Carton.

Stock No. 700. List Price \$ .50 ea.



PERMO

SPECIAL TYPE NEEDLE  
MERCHANDISING SERVICE

PERMO, INC.  
CHICAGO 26, ILLINOIS

## DISPLAY AND RE-ORDER FEATURES

1



### INDIVIDUAL NEEDLE PACKAGE

*Uniform Size Packages* for all special type needles provide complete interchangeability in display, stock and shipping containers.

#### *Individual Packages Color Coded—*

RED—1 Mil Tip for Micro-Groove Records.  
GREEN—Compromise Tip for All Three Speeds.  
BLUE—3 Mil Tip for 78 R.P.M. Records.

2



### "12 IN 1" DISPLAY BOX

*This Basic Box* of 12 individually packaged replacement needles is an excellent display box or a practical storage unit for reserve stock. Box fits both the "36 in 1" display case and the "40 Dozen in 1" display cabinet.

3



### "36 IN 1" DISPLAY CASE HAS MANY FEATURES:

#### *Eye-Catching Display Merchandiser—*

Black and yellow colors on case plus the red, blue and green needle packages compel customer attention.

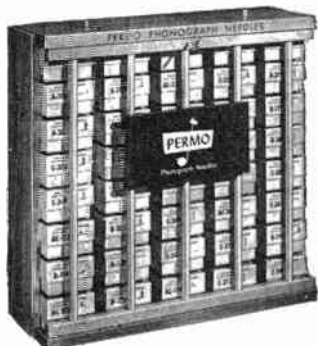
#### *Flexible Stock Arrangement—*

Arrange your stock to suit yourself in numerical order, order of turn-over, order of usage, or any way that suits your type of trade.

#### *Re-Order File Built-in—*

Just set up your initial stock as you want it. Tear off and deposit the re-order tickets as needles are sold. Staple the re-order tickets to a purchase order and your stock of Permo needles will be automatically maintained.

4



### "40 DOZEN IN 1" DISPLAY CABINET

*3 Display Cabinets* provide a place for up to a dozen of every special type needle in the line with a few extra spaces for future releases.

Use them in the sales department, in the service department, or in the shipping department.

They hang on the wall, sit on the counter, fit in your shelves, or stack on top of each other.

Any way you use them, these display cabinets will attract attention to Permo needles and to your efficiency.

**PERMO**

**SPECIAL TYPE NEEDLE  
MERCANDISING SERVICE**

**PERMO, INC.**  
CHICAGO 26, ILLINOIS

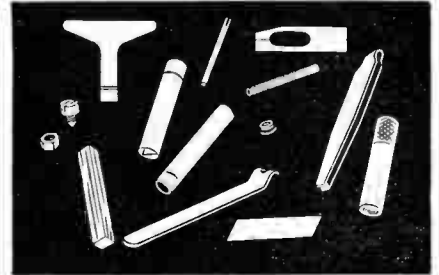
**SALES AND SERVICE FEATURES:**

**1**



**INDIVIDUAL NEEDLE PACKAGE**

Permo supplies various accessories for different needles to make installation easy. Panel contains illustrations of wrenches, removal tools and other accessories supplied.



**2**

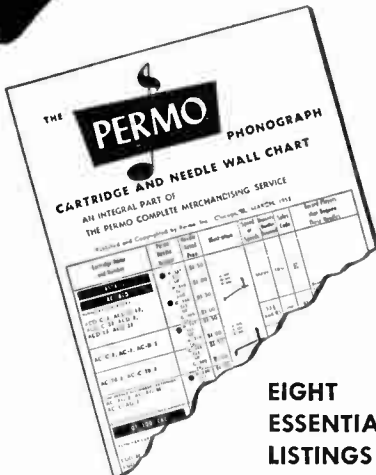
**CARTRIDGE INFORMATION  
AND RE-ORDER TICKET**

The cartridge number or numbers the needle "fits" is supplied on each PERMO needle package. That important information is printed on a removable label which is also a re-order ticket to insure correct ordering to keep stock complete.



**3**

**CARTRIDGE TO  
NEEDLE WALL CHART**



**EIGHT  
ESSENTIAL  
LISTINGS**

1. Cartridge name and numbers
2. Permo needle numbers
3. Retail prices of needles
4. Needle illustrations
5. Record player speeds
6. Quantity of needles used
7. Sales movement code
8. Record players using needles

**4**

**NEEDLE  
CORRELATION  
AND CROSS  
REFERENCE CHART**

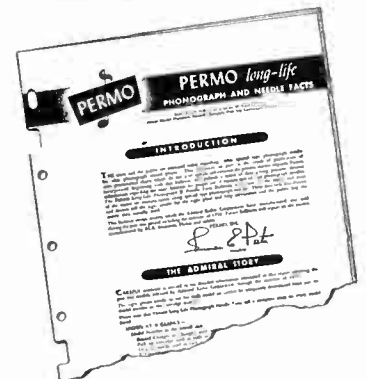
Tabular listings on competitive phonograph needles (and the complete Permo needle selection) for quick, easy reference. Chart includes complete information on needle catalog numbers.



**5**

**PHONOGRAPH AND NEEDLE FACTS**

Complete application information. The "facts" about getting the right needle for the right place. These "Facts" supply the model number of the overall set; the number of the record changer or changers; the number of the pickup cartridge or cartridges; the number of the needle or needles, used as original equipment, and the number of the PERMO Replacement needle.





# SPECIAL TYPE REPLACEMENT NEEDLES

# PERMO, INC.

CHICAGO 26, ILLINOIS

CARTRIDGE ORIGINATOR'S NAME AND NEEDLE NUMBER	PERMO NEEDLE NUMBER	PERMO LIST PRICE	FIGURE NUMBER	TYPES OF RECORDS PLAYED	PERMO TIP MATERIAL	SALES CODE	DIAMOND TIPS AVAILABLE
<b>AMERICAN MICROPHONE CO.</b>							
A-478(M)	C-391	\$1.50	13	78	PERMOMETAL		
CO-1(M) & CS-1(J)	A-387	1.50	11	33 1/2 & 45	PERMOMETAL		
CO-3(M) & CS-3(J)	C-389	1.50	11	78	PERMOMETAL		
CO-17-RD(M) & CS-17(J)	B-390	1.50	12	33 1/2, 45 & 78	PERMOMETAL		
<b>ASTATIC CORP.</b>							
A-1(M)	A-319	1.00	4	33 1/2 & 45	PERMOMETAL	E	◆
A-1(J)	A-347	1.50	3	33 1/2 & 45	SHIELDED JEWEL	E	◆
A-3(M)	C-309	1.00	4	78	PERMOMETAL	E	◆
A-3(J)	C-348	1.50	3	78	SHIELDED JEWEL	E	◆
A-AG(M)	B-321	1.00	4	33 1/2, 45 & 78	PERMOMETAL	F	◆
A-AG(J)	B-349	1.50	3	33 1/2, 45 & 78	SHIELDED JEWEL	F	◆
C-1(M)	A-354	1.00	21	33 1/2 & 45	PERMOMETAL		
C-1(J)	A-356	1.50	20	33 1/2 & 45	SHIELDED JEWEL		
C-3(M)	C-353	1.00	21	78	PERMOMETAL		
C-3(J)	C-355	1.50	20	78	SHIELDED JEWEL		
D(M)	C-341	1.00	5	78	PERMOMETAL	E	◆
D-33(M)	A-343	1.00	5	33 1/2 & 45	PERMOMETAL	F	◆
D-AG(M)	B-342	1.00	5	33 1/2, 45 & 78	PERMOMETAL	F	◆
G(M)	A-304	1.00	7	33 1/2 & 45	PERMOMETAL	G	◆
G(J)	A-332	1.50	6	33 1/2 & 45	SHIELDED JEWEL	G	◆
G-78(M)	C-331	1.00	7	78	PERMOMETAL	G	◆
G-78(J)	C-330	1.50	6	78	SHIELDED JEWEL	G	◆
G-AG(M)	B-326	1.00	7	33 1/2, 45 & 78	PERMOMETAL	G	◆
G-AG(J)	B-334	1.50	6	33 1/2, 45 & 78	SHIELDED JEWEL	G	◆
M-5(M)	AA-404	* 2.25 SET	23	33 1/2 & 45	PERMOMETAL		
M-5(J)	AA-403	* 3.25 SET	22	33 1/2 & 45	SHIELDED JEWEL		
M-6(M)	CC-406	* 2.25 SET	23	78	PERMOMETAL		
M-6(J)	CC-405	* 3.25 SET	22	78	SHIELDED JEWEL		
NYLON(M) & NYLON(J)	C-301	1.50	17	78	SHIELDED JEWEL		
O(M)	C-308	1.00	9	78	PERMOMETAL	E	◆
O(J)	C-327	1.50	8	78	SHIELDED JEWEL	E	◆
O-33(M)	A-357	1.00	9	33 1/2 & 45	PERMOMETAL	E	◆
O-33(J)	A-305	1.50	8	33 1/2 & 45	SHIELDED JEWEL	E	◆
O-AG(M)	B-329	1.00	9	33 1/2, 45 & 78	PERMOMETAL	F	◆
O-AG(J)	B-328	1.50	8	33 1/2, 45 & 78	SHIELDED JEWEL	F	◆
T(M)	C-344	1.00	10	78	PERMOMETAL	F	◆
T-33(M)	A-421	1.00	10	33 1/2 & 45	PERMOMETAL		
U(M)	A-359	1.00	19	33 1/2 & 45	PERMOMETAL	F	◆
U(J)	A-361	1.50	18	33 1/2 & 45	SHIELDED JEWEL	F	◆
U-TR(J)	D-368	1.50	18	TRANSCRIPTION	SHIELDED JEWEL		
U-78(M)	C-358	1.00	19	78	PERMOMETAL		
U-78(J)	C-360	1.50	18	78	SHIELDED JEWEL		
<b>ELECTRO-VOICE</b>							
O-1(M)	A-337	1.00	25	33 1/2 & 45	PERMOMETAL	F	◆
S-1(J)	A-339	1.50	24	33 1/2 & 45	SHIELDED JEWEL	F	◆
O-2(M)	B-307	1.00	25	33 1/2, 45 & 78	PERMOMETAL	F	◆
S-2(J)	B-346	1.50	24	33 1/2, 45 & 78	SHIELDED JEWEL	F	◆
O-3(M)	C-340	1.00	25	78	PERMOMETAL	F	◆
S-3(J)	C-345	1.50	24	78	SHIELDED JEWEL	F	◆
O-13(M)	AC-367	2.00	16	33 1/2 & 45	PERMOMETAL	F	◆
S-13(J)	AC-369	3.00	14	33 1/2 & 45	SHIELDED JEWEL	F	◆
SO-13(J & M)	AC-333	2.50	15	33 1/2 & 45	SHIELDED JEWEL	F	◆
<b>GENERAL ELECTRIC</b>							
RPJ-001(J)	C-409	3.50	58	78	SHIELDED JEWEL	G	◆
RPJ-005(J)	A-407	3.50	58	33 1/2 & 45	SHIELDED JEWEL	G	◆
RPJ-006(J)	D-408	3.50	58	TRANSCRIPTION	SHIELDED JEWEL		
RPJ-007(J & J)	DA-417	5.95	59	33 1/2 & 45	SHIELDED JEWEL		
RPJ-010(J & J)	AC-410	5.95	59	TRANSCRIPTION	SHIELDED JEWEL	G	◆
RPJ-013(D & J)	AC-422	31.00	60	33 1/2 & 45	SHIELDED JEWEL		
<b>MAGNAVOX</b>							
560102(M)	C-352	1.50	26	78	PERMOMETAL	G	◆
560146(M & M)	AC-350	2.50	28	33 1/2 & 45	PERMOMETAL	E	◆
560153(M & M)	AC-351	2.50	27	78	PERMOMETAL	E	◆
<b>PHILCO</b>							
35-2638(J)							
35-2661(J)							
45-1552-1(J)	C-317	2.25	31	78	SHIELDED JEWEL	F	◆
45-1596(J)							
45-9610(J)							
35-2678(M)							
45-1613(M)	A-316	1.00	30	33 1/2	PERMOMETAL	E	◆
45-9586(M)							
45-1650(J)	A-314	1.50	29	33 1/2	SHIELDED JEWEL	E	◆
45-9587(J)							
35-2693(M & M)							
45-9588(M & M)	AC-315	2.00	33	33 1/2 & 45	PERMOMETAL	E	◆
35-2693(M & M)							
45-9588(M & M)							
45-9589(J & J)	AC-313	2.50	32	33 1/2 & 45	SHIELDED JEWEL	E	◆

\*Matched Set, Upper and Lower Needles for Market Changers. Sales Code: (Turnover) "E" for Excellent, "G" for Good, "F" for Fair.  
 ◆Diamond Tip. Prices Quoted On Request.

**PERMO**

# SPECIAL TYPE REPLACEMENT NEEDLES

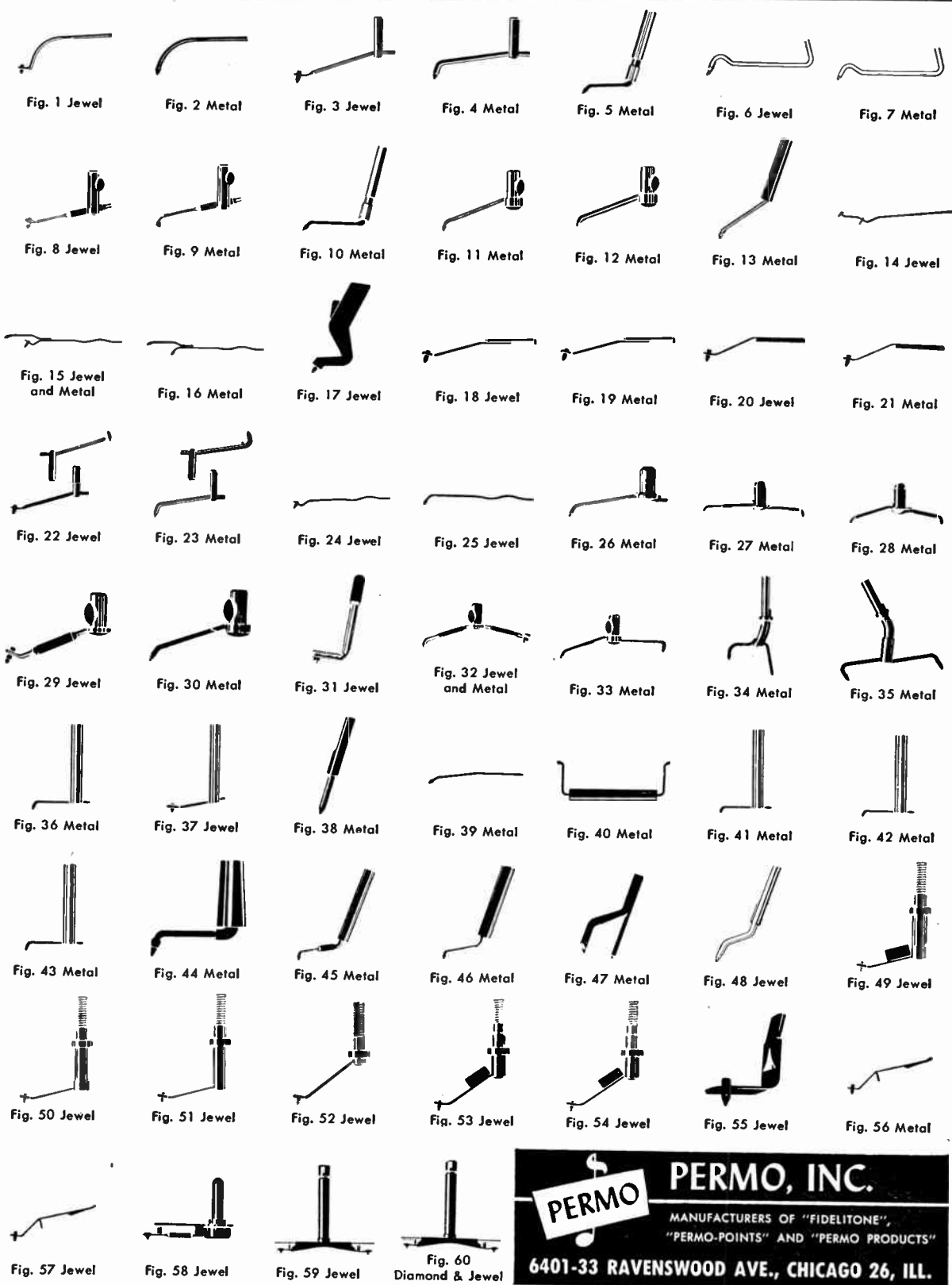
**PERMO, INC.**  
CHICAGO 26, ILLINOIS

CARTRIDGE ORIGINATOR'S NAME AND NEEDLE NUMBER	PERMO NEEDLE NUMBER	PERMO LIST PRICE	FIGURE NUMBER	TYPES OF RECORDS PLAYED	PERMO TIP MATERIAL	SALES CODE	DIAMOND TIPS AVAILABLE	
<b>PICKERING</b>								
S-20(J).....	D-411	\$1.50	55	.002" (TRANSCRIPTION)	SHIELDED JEWEL		◆	
S-25(J).....	D-412	1.50	55	.0025" (TRANSCRIPTION)	SHIELDED JEWEL		◆	
S-30(J).....	C-413	1.50	55	78	SHIELDED JEWEL		◆	
<b>RADIO CORP. OF AMERICA</b>								
38449(J).....	C-399	2.00	49	78	SHIELDED JEWEL	MMMMMM	◆	
39863(J).....	C-400	2.00	51	78	SHIELDED JEWEL		◆	
70915(J).....	C-399	2.00	49	78	SHIELDED JEWEL		◆	
72345(J).....	C-400	2.00	51	78	SHIELDED JEWEL		◆	
74068(J).....	A-396	2.00	50	45	SHIELDED JEWEL		◆	
74622(D).....	A-407	3.50	58	45	SHIELDED JEWEL		◆	
74818(J).....	A-398	2.00	52	45	SHIELDED JEWEL		◆	
74985(M).....	A-304	1.00	7	45	PERMOMETAL		◆	
75045(M).....	A-322	1.00	2	33 1/2	PERMOMETAL		◆	
75046(M).....	C-320	1.00	2	78	PERMOMETAL		◆	
75496(M).....	A-397	2.00	54	33 1/2	SHIELDED JEWEL		◆	
75497(M).....	C-401	2.00	53	78	SHIELDED JEWEL		◆	
75770(J).....	A-398	2.00	52	45	SHIELDED JEWEL		◆	
76323(M).....	A-319	1.00	4	45	PERMOMETAL		◆	
76374(M).....	A-322	1.00	2	45	PERMOMETAL		◆	
<b>SHURE BROS.</b>								
A52A(M).....	C-414	1.00	56	78	PERMOMETAL	TTTTTT	◆	
A52A WITH JEWEL TIP	C-420	1.50	57	78	SHIELDED JEWEL		◆	
A53MG(M).....	A-415	1.00	56	33 1/2 & 45	PERMOMETAL		◆	
A53MG WITH JEWEL TIP	A-418	1.50	57	33 1/2 & 45	SHIELDED JEWEL		◆	
A56U(M).....	B-416	1.00	56	33 1/2, 45 & 78	PERMOMETAL		◆	
A56U WITH JEWEL TIP	B-419	1.50	57	33 1/2, 45 & 78	SHIELDED JEWEL		◆	
A61A(J).....	C-318	1.50	1	78	SHIELDED JEWEL		◆	
A62A(M).....	C-320	1.00	2	78	PERMOMETAL		◆	
A63MG(M).....	A-322	1.00	2	33 1/2 & 45	PERMOMETAL		◆	
A64MG(M).....	A-311	1.50	48	33 1/2 & 45	SHIELDED JEWEL		◆	
A65MG(J).....	A-300	1.50	1	33 1/2 & 45	SHIELDED JEWEL		◆	
A66U(M).....	B-306	1.00	2	33 1/2, 45 & 78	PERMOMETAL		◆	
A67U(J).....	B-335	1.50	1	33 1/2, 45 & 78	SHIELDED JEWEL		◆	
<b>SONOTONE</b>								
W-7590-1(J).....	A-304	1.00	7	33 1/2 & 45	PERMOMETAL		GGGG	◆
	A-332	1.50	6	33 1/2 & 45	SHIELDED JEWEL			◆
	B-326	1.00	7	33 1/2, 45 & 78	PERMOMETAL			◆
W-7590-2(M).....	B-334	1.50	6	33 1/2, 45 & 78	SHIELDED JEWEL	◆		
	C-331	1.00	7	78	PERMOMETAL	◆		
W-7590-3(J).....	C-330	1.50	6	78	SHIELDED JEWEL	◆		
<b>WEBSTER — CHICAGO</b>								
NE-215(M & M).....	AC-336	2.00	34	{33 1/2 78	PERMOMETAL	G		
				{78 33 1/2 & 45	PERMOMETAL		G	
NE-316(M & M).....	AC-338	2.00	35	{78 33 1/2 & 45	PERMOMETAL			
<b>WEBSTER ELECTRIC — RACINE</b>								
A(J)AG.....	B-380	1.50	37	33 1/2, 45 & 78	SHIELDED JEWEL	FFFF		
A(M)AG.....	B-381	1.00	36	33 1/2, 45 & 78	PERMOMETAL			
A(J)1.....	A-376	1.50	37	33 1/2 & 45	SHIELDED JEWEL			
A(M)1.....	A-378	1.00	36	33 1/2 & 45	PERMOMETAL			
A(J)3.....	C-375	1.50	37	78	SHIELDED JEWEL			
A(M)3.....	C-377	1.00	36	78	PERMOMETAL			
A(J)M.....	A-423	1.00	38	33 1/2 & 45	PERMOMETAL			
C9(M)2.....	B-379	1.00	38	33 1/2, 45 & 78	PERMOMETAL		G	
F7P(M).....	C-392	1.00	45	78	PERMOMETAL			
F7P-2(M).....	C-393	1.00	46	78	PERMOMETAL			
F11(M)1.....	A-322	1.00	2	33 1/2 & 45	PERMOMETAL	EE		
F11(M)3.....	C-320	1.00	2	78	PERMOMETAL			
F13(M)1.....	A-394	1.00	46	33 1/2 & 45	PERMOMETAL			
F14(M & M).....	AC-371	2.00	40	{33 1/2 & 45 78	PERMOMETAL	F		
F15(M)1.....	A-302	1.00	41	33 1/2 & 45	PERMOMETAL			
F15(M)3.....	C-372	1.00	41	78	PERMOMETAL	GGG		
F16(M).....	C-303	1.00	42	78	PERMOMETAL			
F16(M)1.....	A-374	1.00	43	33 1/2 & 45	PERMOMETAL	G		
F16(M)3.....	C-373	1.00	43	78	PERMOMETAL			
F18(M)3.....	C-303	1.00	42	78	PERMOMETAL	GF		
G1(M).....	A-384	1.00	39	33 1/2 & 45	PERMOMETAL			
G2(M).....	B-385	1.00	39	33 1/2, 45 & 78	PERMOMETAL	F		
G3(M).....	C-383	1.00	39	78	PERMOMETAL			
M1(M).....	C-386	1.00	44	78	PERMOMETAL			
O1(M).....	C-392	1.00	45	78	PERMOMETAL			
O2(M).....	C-393	1.00	46	78	PERMOMETAL			
O3(M).....	B-395	1.00	46	33 1/2, 45 & 78	PERMOMETAL			
WS(M).....	C-382	1.00	38	78	PERMOMETAL			
<b>WILCOX - GAY</b>								
D-10(M & M).....	DB-424	2.50	47	{33 1/2, 45 & 78 (CUTTINGPOINT) 33 1/2, 45 & 78 (PLAYINGPOINT) 78	PERMOMETAL			
D-11(M & M).....	DC-425	2.50	47	{(CUTTINGPOINT) 78 (PLAYINGPOINT)	PERMOMETAL			

\*Matched Set, Upper and Lower Needles for Market Changers.  
◆Diamond Tip. Prices Quoted On Request.

Sales Code: (Turnover) "E" for Excellent, "G" for Good, "F" for Fair.

# Illustrations of PERMO SPECIAL TYPE PHONOGRAPH NEEDLES



**PERMO** **PERMO, INC.**  
 MANUFACTURERS OF "FIDELITONE",  
 "PERMO-POINTS" AND "PERMO PRODUCTS"  
 6401-33 RAVENSWOOD AVE., CHICAGO 26, ILL.

# PERMO RECORDING TAPE

PROFESSIONAL QUALITY  
FOR ALL USES

## THE LEADING TAPE IN THE AUDIO-VISUAL FIELD

The same long years of design, engineering and production experience that have made PERMO the world's largest and oldest maker of long life phonograph needles are your assurance of highest professional standards in Permo Recording Tape and Accessories.

Permo Recording Tape is packed 12 individually boxed reels to the carton. Plastic Reels are standard. Metal reels should be specified, if desired.



### PLASTIC BASE — Red Oxide Coating — Plastic Reels

CATALOG NUMBER		DESCRIPTION	LIST PRICE
INSIDE WIND	OUTSIDE WIND		
T-3PL-I	T-3PL-O	3-inch plastic reel containing 150 ft. of tape*	\$1.00 ea.
T-61-I	T-61-O	4-inch plastic reel containing 300 ft. of tape*	\$2.25 ea.
T-66-I	T-66-O	5-inch plastic reel containing 600 ft. of tape*	\$3.50 ea.
T-68-I	T-68-O	7-inch plastic reel containing 1200 ft. of tape*	\$5.50 ea.

\*Note: All reels packed in a sturdy album type box with indexing, logging, and filing features.

### PAPER BASE — Red Oxide Coating — Plastic Reels

CATALOG NUMBER		DESCRIPTION	LIST PRICE
INSIDE WIND	OUTSIDE WIND		
T-3PA-I	T-3PA-O	3-inch plastic reel containing 150 ft. of tape*	\$.75 ea.
T-62-I	T-62-O	4-inch plastic reel containing 300 ft. of tape*	\$1.75 ea.
T-86R-I	T-86R-O	5-inch plastic reel containing 600 ft. of tape*	\$2.25 ea.
T-88R-I	T-88R-O	7-inch plastic reel containing 1200 ft. of tape*	\$3.50 ea.

\*Note: All reels packed in a sturdy album type box with indexing, logging, and filing features.

### ACCESSORIES — Plastic and Metal Reels — Splicing Tape

CATALOG NUMBER	DESCRIPTION	LIST PRICE
T-3-PM	Empty 3-inch plastic reel for 150 ft. of Recording Tape*	\$.30 ea.
T-4-PM	Empty 4-inch plastic reel for 300 ft. of Recording Tape*	\$.50 ea.
T-5-PM	Empty 5-inch plastic reel for 600 ft. of Recording Tape*	\$.50 ea.
T-7-PM	Empty 7-inch plastic reel for 1200 ft. of Recording Tape*	\$.60 ea.
TM-35-PM	Empty 5-inch metal reel for 600 ft. of Recording Tape*	\$.90 ea.
TM-37-PM	Empty 7-inch metal reel for 1200 ft. of Recording Tape*	\$1.00 ea.
T-20-PM	Splicing Tape 100-inch roll, 1/2 inch wide, specifically designed for splicing recording tape	\$.35 ea.

\*Note: All empty reels furnished in a sturdy album type box.



**PERMO, INC.** 6401-33 Ravenswood Avenue • Chicago 26, Ill.

MANUFACTURERS OF "FIDELITONE", "PERMO POINT" AND "PERMO" PRODUCTS  
LONG-LIFE PHONOGRAPH NEEDLES, RECORDING TAPE AND WIRE, RECORD BRUSHES

# PERMO *Lubri-Lo* RECORDING WIRE

## The Quietest Magnetic Recording Wire Ever Produced!

BECAUSE—Permo Recording Wire combines a new low D-C noise wire with *Lubri-Lo*. Permo's exclusive wire lubrication process achieves new professional standards of high fidelity in wire recording. An improvement of fully 10 db. over competitive wires.



## PERMO RECORDING WIRE and ACCESSORIES

Catalog No.	Description	List Price
<b>RECORDING WIRE with PLASTIC LEADERS ATTACHED</b>		
160-36N	1 Hour Spool, 7,200 Ft. of Wire on Metal Spool	\$4.50
260-36N	1/2 Hour Spool, 3,600 Ft. of Wire on Metal Spool	2.75
360-36N	1/4 Hour Spool, 1,800 Ft. of Wire on Metal Spool ( 2 Nylon Leaders Included Loose in Each Box )	1.85
<b>RECORDING WIRE with NYLON LEADERS ATTACHED</b>		
160N-36	1 Hour Spool, 7,200 Ft. of Wire on Metal Spool	\$4.50
260N-36	1/2 Hour Spool, 3,600 Ft. of Wire on Metal Spool	2.75
360N-36	1/4 Hour Spool, 1,800 Ft. of Wire on Metal Spool ( 2 Plastic Leaders Included Loose in Each Box )	1.85
<b>ACCESSORIES</b>		
PM-121N7	Empty Metal Spool for Up to 1 Hour of Wire with 2 Plastic and 2 Nylon Leaders in Box	\$ .75
PM-125	Long Plastic Leader (17" Long)	Each .15
PM-122	Short Plastic Leader (6" Long)	Each .10
PM-123	3' Nylon Leaders per Pair	Pair .10

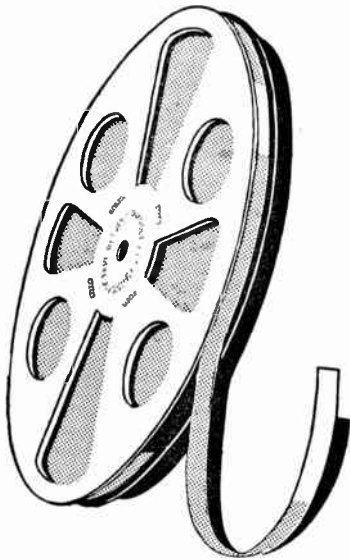
A convenient box designed for use as a wire album is supplied at no extra charge when wire is purchased 5 rolls at a time.



**PERMO, INC.** 6401-33 Ravenswood Avenue • Chicago 26, Ill.

MANUFACTURERS OF "FIDELITONE", "PERMO POINT" AND "PERMO" PRODUCTS  
LONG-LIFE PHONOGRAPH NEEDLES, RECORDING TAPE AND WIRE, RECORD BRUSHES





# REEVES Soundcraft

CONSTANT OUTPUT

## MAGNETIC SOUND-RECORDING TAPE

FOR ALL MAKES OF TAPE RECORDERS

- **CONSTANT OUTPUT** assured by new electronic monitoring method. The playback level of a continuously recorded tone during coating controls compensating adjustments to the coating machinery.
- **GREATER DYNAMIC RANGE**, high output with minimum background rumble results from combining the highly uniform oxide dispersion with tape surfaces specially polished in production to eliminate even microscopic irregularities.
- **HIGH FREQUENCY RESPONSE** of Soundcraft tape conforms to the standards set by the industry and, due to elaborate control methods, remains constant from one production lot to the next.
- **POLISHED SURFACE** of Soundcraft tape by a specially-developed buffing process insures maximum head life and eliminates the mechanical "squeal" caused occasionally by excessive tension of the tape on the heads.
- **HIGH OUTPUT** assured by Soundcraft's highly-engineered, uniform oxide dispersion giving maximum sensitivity.
- **LONG LIFE** for thousands of recordings and replays at high output is assured by complete erasability without special equipment and by Soundcraft's absolute adherence oxide coating.
- **LONG HEAD LIFE**. Low-friction oxide-coating vehicle covers each of the uniform-sized particles of oxide with a tough microscopic film that prevents any abrasive material from touching magnetic heads. This vehicle or binder, moreover, contains nothing that can rub off and gum head surfaces.
- **LONG STORAGE LIFE** is guaranteed by safety film type plastic and high tensile paper base materials. Under average indoor temperatures and humidities, Soundcraft tapes will not become brittle, stretch, or shrink.
- **HIGH ADHERENCE** of the coating to the base is effected by preprocessing the base material before coating. This method assures that Soundcraft oxide coating will neither flake nor rub off.
- **MECHANICAL UNIFORMITY** is assured by precision, rotary shearing of the wide stock into individual tapes and by the special coating formulation that prevents curling. Soundcraft tape tracks straight and winds flat.

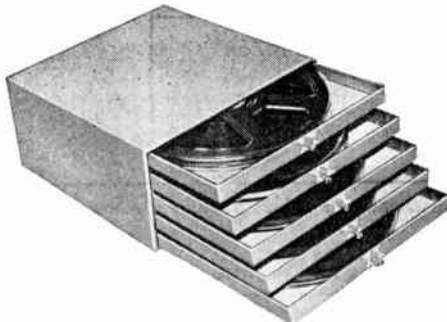
### PRICE LIST

#### PLASTIC BASE

TYPE	OXIDE WOUND	LENGTH	REEL	STD. PKG.	LIST
SPN 1	In	150'	3" Plastic	10	\$1.00
SPO 1	Out				
SPN 3	In	300'	4" Plastic	10	2.25
SPO 3	Out				
SPN 6	In	625'	5" Plastic	10	3.50
SPO 6	Out				
SPN 12	In	1250'	7" Plastic	10	5.50
SPO 12	Out				
SPN 25	In	2500'	Standard Aluminum NAB HUB		10.00
SPO 25	Out		Complete 10 1/2" Aluminum Reel		12.85
SPN 33	In	3300' (1000 Meters)	Standard Aluminum NAB HUB		13.00
SPO 33	Out				
SPN 50	In	5000'	Standard Aluminum NAB HUB		20.00
SPO 50	Out		Complete 14" Aluminum Reel		28.00

#### PAPER BASE

TYPE	OXIDE WOUND	LENGTH	REEL	STD. PKG.	LIST
RKN 1	In	150'	3" Plastic	10	\$ .75
RKN 1	Out				
RKN 3	In	300'	4" Plastic	10	1.75
RKO 3	Out				
RKN 6	In	625'	5" Plastic	10	2.25
RKO 6	Out				
RKN 12	In	1250'	7" Plastic	10	3.50
RKO 12	Out				
Empty Reels Individually Boxed			3" Plastic 4" Plastic 5" Plastic 7" Plastic 10 1/2" Complete Aluminum Reel		.30 .65 .65 .75 4.75



### REEVES SOUNDCRAFT TAPE CHEST

A PERMANENT FILING CABINET with five drawers, constructed of durable, lined boxboard, for 625' and 1250' size reels. Available in Plastic Base only.

(Standard Package: 2)

Type { SPNC 5 } for 5" reels (625 ft.).....List Price \$17.50  
 { SPOC 5 }

Type { SPNC 7 } for 7" reels (1250 ft.).....List Price \$27.50  
 { SPOC 7 }



REEVES

# Soundcraft



## FAMOUS NAME SOUND RECORDING DISCS

"THE BROADCASTING STATION STANDARD"

### 10 SOUNDRAFT FEATURES

- Greater dynamic range of Soundcraft discs exceeds highest broadcasting requirements.
- Inaudible surface noise. Soundcraft microscopically filters all impurities out of coating materials and dries wet coatings with conditioned, dust-free air.
- High-frequency response to 15,000 cps. Soundcraft coating formulation combines proper physical texture with wax-like low cutting-friction.
- Dependability from batch to batch regardless of season. The Soundcraft disc plant makes its own weather, eliminates mysterious humidity troubles.
- Uniform cutting for both conventional and micro-groove recording. Soundcraft discs, to minimize minute variations in groove depth, are manufactured with the flattest, smoothest, aluminum bases obtainable.
- Long stylus-life assured. Soundcraft coating purity and low-friction reduce stylus wear and eliminate recording failures from stylus damage.
- 1,000 or more playings. Soundcraft's sealed-in lubricant for low needle-friction reduces wear to the point where dust in grooves and needle quality are chief controlling factors.
- Long storage-life, recorded or new. Under normal conditions Soundcraft discs cut and play after years of storage.
- Improved diameter effects. Soundcraft's superior coating formula minimizes high frequency loss and actually lowers surface noise as diameter decreases.
- Easy-to-pick-up thread. The Soundcraft coating is compounded with an exclusive ingredient to make thread throw toward center, and to minimize static charge.

### DEALER PRICE LIST

#### The "PLAYBACK"

The standard broadcast-quality disc for all professional applications in radio stations, recording and motion picture studios. Physical and sound properties assure the finest quality of recorded sound.

Size	Standard Package	List Price Each
6 1/2"	20	.65
8"	20	.90
10"	20	1.25
12"	20	2.05
16"	20	3.75

#### The "PLAYBACK" — Single Face

The same quality as the "Playback" but intended for economy applications requiring the use for only one side. Both sides of the disc are coated, and the useable side is identified by the Soundcraft embossing.

Size	Standard Package	List Price Each
10"	20	1.00
12"	20	1.65
16"	20	2.95

#### The "AUDITION"

A double face disc, selected from the regular runs, suitable for less important station and studio applications, for schools, amateur, and better home recording. Paper labelled for greater convenience.

Size	Standard Package	List Price Each
6 1/2"	20	.55
8"	20	.75
10"	20	1.00
12"	20	1.65
16"	20	2.90

#### The "BROADCASTER"

A MASTER selection in instantaneous size; for vitally important and critical recordings. A premium product guaranteeing absolute perfection. Available only in double face type.

Size	Standard Package	List Price Each
10"	20	1.40
12"	20	2.20
16"	20	3.95

#### The "MAESTRO"

Oversize MASTER discs for originals in making phonograph records and transcriptions. Best available for either regular microgroove recording. Available either with standard one drive hole or with center hole only for 45 rpm masters. Processed regularly by all of the foremost phonograph record and transcription manufacturers.

#### THE "MAESTRO" — DOUBLE FACE

Size	Standard Package	List Price Each
12"	20	2.55
13 1/4"	20	3.40
17 1/4"	20	5.60

#### THE "MAESTRO" — SINGLE FACE

Size	Standard Package	List Price Each
12"	20	2.00
13 1/4"	20	2.40
17 1/4"	20	4.10





THERE IS A GRADE OF IRISH SOUND RECORDING TAPE FOR EVERY NEED AND PURPOSE.  
USE THE BEST GRADE SUITED FOR YOUR REQUIREMENTS!

STOCK NUMBER	DESCRIPTION	600 ft. REEL	1200 ft. REEL	2400 ft. NAB 10 1/2"
211RPA	GREEN-BAND (plastic base) Sensitive LONG LIFE. "SOFTERIZED"	List Price \$3.50	List Price \$5.50	List Price \$11.00
211BPA	GREEN-BAND (plastic base) BLACK OXIDE	3.50	5.50	11.00
205RPA	YELLOW-BAND (plastic base) UTILITY-STANDARD for general purpose, professional use	2.75	4.50	9.00
205RKA	YELLOW-BAND (Kraft base) same as 205RPA	2.25	3.50	7.00
200BKA	ORANGE-BAND (Kraft base) BLACK OXIDE	2.25	3.50	7.00
195RPA	BROWN-BAND Domestic (plastic base) RED OXIDE	2.25	3.50	7.00
195RKA	BROWN-BAND Domestic (Kraft base) RED OXIDE	1.75	2.50	5.00
195BPA	BLACK-BAND Domestic (plastic base) BLACK OXIDE	2.25	3.50	7.00
195BKA	BLACK-BAND Domestic (Kraft base) BLACK OXIDE	1.75	2.50	5.00

NOTE: 4,800 ft. lengths of ALL types may be supplied upon request.

#### EXPLANATION OF NOMENCLATURE — STOCK ITEMS

- RPA: Red oxide, plastic base, coating wound inside
- BPA: Black oxide, plastic base, coating wound inside
- BKA: Black oxide, Kraft base, coating wound inside
- RKA: Red oxide, Kraft base, coating wound inside

When it is required that active side of tape be wound outside, specify "B" in place of "A" as suffix, example: BKB would indicate Black Oxide, Kraft base, wound with active material outside.

MADE IN U. S. A. BY ORRADIO INDUSTRIES, INC., OPELIKA, ALABAMA

● PRICES SUBJECT TO CHANGE WITHOUT NOTICE ●

for professional-like recordings  
use the tape the professionals use...



REG. U.S. PAT. OFF.  
**SCOTCH**  
BRAND  
Sound  
Recording Tape

In radio stations and recording companies all over the country—where QUALITY sound recording is a must—you'll find "SCOTCH" Brand Sound Recording Tape being used exclusively. Test reels of "SCOTCH" Sound Recording Tape have lasted through more than 10,000 recording cycles—are still going strong.

Rigid manufacturing standards, continuous research and testing . . . analyzing . . . testing . . . analyzing . . . over and over again always adds up to the same answer. "SCOTCH" Brand Sound Recording Tape is the No. 1 sound recording tape on the market. Ask for it . . . look for it in the distinctive plaid decorated box. It costs no more and the brand name "SCOTCH" is your assurance of sound quality. Insist on "SCOTCH" Brand Sound Recording Tape.

"SCOTCH" Sound Recording Tape is available in the following sizes.

No. 101 (\*A or \*\*B) "SCOTCH" Brand Sound Recording Tape (Paper Base—Red Oxide Coating).

SIZE	LIST PRICE
1/4" x 150 ft. plastic reel . . . . .	\$0.75
1/4" x 300 ft. plastic reel . . . . .	1.75
1/4" x 600 ft. plastic reel . . . . .	2.25
1/4" x 1200 ft. plastic reel . . . . .	3.50

No. 111 (\*A or \*\*B) "SCOTCH" Brand Sound Recording Tape (Plastic Base—Red Oxide Coating) (This is a tape designed for the professional and more critical user.)

SIZE	LIST PRICE
1/4" x 150 ft. plastic reel . . . . .	\$ 1.00
1/4" x 300 ft. plastic reel . . . . .	2.25
1/4" x 600 ft. plastic reel . . . . .	3.50
1/4" x 1200 ft. plastic reel . . . . .	5.50
1/4" x 2400 ft. NAB hub . . . . .	11.00
1/4" x 2400 ft. NAB reel . . . . .	13.85
1/4" x 4800 ft. NAB hub . . . . .	22.00

\*A Magnetic Coating wound facing in.  
\*\*B Magnetic Coating wound facing out.  
All reels of tape are individually boxed.

"SCOTCH" Brand Splicing Tape No. 41

This is a special pressure-sensitive tape designed for splicing sound recording tape. It has a special white adhesive which will not ooze and cause sticky splices when spliced to sound recording tape. 1/2" x 100" length on metal utility dispenser . . . . . list price 29c

"SCOTCH" Brand Leader and Timing Tape No. 43

This is a tough 1/4" plastic treated paper tape that can be spliced to sound recording tape for protection, for cueing and exact timing. 1/4" x 150 ft. length . . . . . list price 50c  
Empty reels and boxes may also be purchased.

"SCOTCH" Sound Recording Tape has the lowest coefficient of friction of any sound recording tape. This means increased tape life, longer use of recorder heads and guide mechanisms. Tape glides smoothly past heads with no distortion, no oxide rub-off, absolutely no gumming of heads.

"SCOTCH" Sound Recording Tape can be stored for an indefinite time with no danger of physical distortion. No stickiness or layer to layer adhesion. Freedom from cupping and curling under extremes of temperature and humidity assures the user a tape with maximum fidelity—no loss in high frequency response due to poor head contact.

"SCOTCH" Sound Recording Tape No. 111 has the greatest tensile strength of any sound recording tape on the market. This added toughness and strongness means longer tape life.

"SCOTCH" Sound Recording Tape has extremely low modulation noise due to new processing and manufacturing techniques. Tape has an increased dynamic range or signal to noise ratio, i.e. the difference between the loudest and softest notes it is possible to record.

"SCOTCH" Sound Recording Tape is manufactured under rigid quality control and manufacturing standards. This insures tape that is always uniform within each reel and from reel to reel.

"SCOTCH" Sound Recording Tape will track perfectly and wind flat due to accurately controlled slitting standards and methods.

"SCOTCH" Sound Recording Tape has excellent frequency response. Laboratory tests show this is especially apparent at slower recording speeds.

"SCOTCH" Sound Recording Tape has the greatest sensitivity of any sound recording tape—this means increased performance on all tape recording machines.

"SCOTCH" Sound Recording Tape is attractively packaged in a rugged, handsome, hinged-type box with recording suggestions printed on the inside covers—ample space for labeling and indexing.

Made in U.S.A. by

**MINNESOTA MINING & MANUFACTURING COMPANY**

St. Paul 6, Minn.

# Chicago INSTRUMENTS

Since 1933 we have been manufacturing a quality line of test equipment. For high accuracy and rugged dependability, Chicago Instruments are without compare in the service field. They represent the greatest test equipment values on the market!

## ELECTRONIC MULTITESTER For TV and FM

The new Chicago Vacuum Tube Volt Meter is the Industry's Greatest Value! More Ranges — Greater Accuracy — Laboratory Quality — Exclusive Design.

- AC & DC Volts
- Output
- Ohms
- DC Milliamperes
- Capacitance

Precision calibrated 1% Multipliers. Capacitance and Milliampere ranges add versatility found only in instruments costing more than twice as much. Rotary Switching and one Zero adjustment for all ranges are designed for convenience. Exclusive slanted case front and big 5 1/2" meter offer new scale reading ease. Zero Center for TV and FM discriminator alignment. Size: 10" x 7" x 6". Shipping Weight: 10 lbs.

Model 504 VTVM Electronic Multitester. Complete with DC Probe and Test Leads. Net \$39.00



### MODEL 504 V.T.V.M. ACCESSORIES

Model P505 R.F. Probe: Extends AC range to 100 megacycles. Net \$5.00

Model P506 High Voltage Probe: Extends the DC Voltage range to 30,000 VDC. Net \$9.00

### RANGES

DC VOLTS: (7 ranges)  
0-5/10/50/100/500/1000/5000  
AC VOLTS: (7 ranges)  
0-5/10/50/100/500/1000/5000  
DECIBELS: —20 to +16  
OHMS: (6 ranges)  
0-1000/10K/100K/1 Meg/100 Meg/1000 Meg  
Ohms readings at center scale  
10/100/1000/10K/1 Meg/10 Meg

CAPACITANCE: (6 ranges)  
50 mmf to 5000 mmf  
.0005 mf to .05 mf  
.05 mf to 5 mf  
.5 mf to 50 mf  
5 mf to 500 mf  
50 mf to 5000 mf  
DC MILLIAMPERES (4 ranges)  
0-1/10/100/500



### PORTABLE BENCH-TYPE VOLT-OHM-MILLIAMMETER

Exclusive Design Slanted Case for Better Visibility

Multiplx Model 458A. Volt-Ohm-Ammeter. Net \$26.00

Modernized brown hammerloid finished case with flexible leather strap handle, featuring broader coverage. 1000 ohms per volt.  
Volts AC-DC: 0-2.5/10/50/250/1000/5000  
Milliamperes AC-DC: 0-1/10/100

Amperes: AC: 0.05/1/5/10  
Amperes: DC: 0-1/10  
Ohms Full Scale: 1000/200,000/2,000,000  
Ohms Center Scale: 50/2250/22,500  
Size: 10 1/8" x 6 3/4" x 5 1/2"

Multiplx Model 458. Volt-Ohm-Milliammeter. 1000 Ohms per volt. Net \$21.00  
Volts DC: 0-5/10/50/100/500/2000  
Volts AC: 0-12.5/25/125/250/1250  
Milliamperes: DC: 0-1/10/100  
Milliamperes AC: 0-2.5/25/250

Ohms Full Scale: 1000/200,000/2,000,000  
Ohms Center Scale: 50/2250/22,500  
Output: —5 to +55 Decibels  
Size: 10 1/8" x 6 3/4" x 5 1/2"

### PORTABLE VOLT-OHM-MILLIAMMETERS

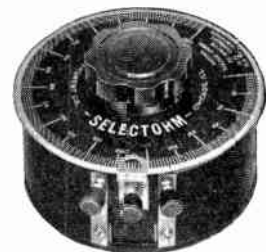


Portaplex Model 431A. 1000 Ohms per Volt. Aluminum Case with Grey Hammerloid Finish. Leather Strap Handle. Complete with Test Leads. Size 6 1/8" x 3 1/4" x 2 3/4". Net \$16.60

Volts AC-DC: 0-15/30-150/300/1500/3000  
Ohms Center Scale: 60/600/6000  
Amperes DC: 0-7.5

Ohms Full Scale: 0-10,000/100,000/1 meg.  
Portaplex Model 421D. 5000 Ohms per Volt. Aluminum Case and Cover with Grey Hammerloid Finish. Size: 6 1/8" x 3 1/4" x 3 1/4". Net \$20.00

Volts AC-DC: 0-4/10/40/100/400/1000  
Milliamperes DC: 0-4/40/100/400  
Ohms Full Scale: 0-10,000/100,000/1 Meg.  
Ohms Center Scale: 60/600/6000



### SELECTOHM CALIBRATED POTENTIOMETER

Model 501 Selectohm. Net \$7.50

100,000 Ohm 25 watt precision wire-wound, linear scale potentiometer is designed for a resistance substitute or for accurately calibrating resistance in a circuit. The Selectohm may be used as a decade box or in groups for quick set-ups as a divider network. It has many service and laboratory applications. Wire wound. Molded Bakelite. Protected windings. Precision laboratory construction throughout.

### DRY BATTERY TESTER



A counter type merchandising tester that indicates the condition of dry cells at a glance. The customer can see for himself. Boosts battery sales.

Model 471. Dry Batter Tester. Complete with Test Leads. Net \$16.00

Tests 1 1/2 Volt-10 Volt and 10 Volt to 150 Volt batteries under specified load. Big easy-to-read 5 1/2" rectangular meter.

## CHICAGO INDUSTRIAL INSTRUMENT CO.



# RCA TEST AND MEASURING EQUIPMENT

for SERVICE • LABORATORIES • INDUSTRY • SCHOOLS



## TELEVISION CALIBRATOR (WR-39C)

Now—in one compact, portable unit—the new RCA WR-39C provides crystal-controlled markers for all TV frequencies—

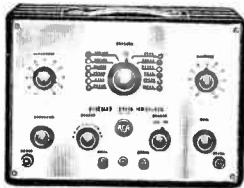
included in this one instrument is a crystal-calibrated variable frequency oscillator, two crystal-controlled oscillator stages with three crystals supplied, a wide-band modulator stage for internally modulating the output at audio and rf frequencies, and an audio amplifier with speaker.

In addition to its function as a marker generator, the WR-39C can be used as a heterodyne frequency meter to identify unknown frequencies. The vfo, when tuned to any TV channel and modulated with the 0.25-Mc crystal oscillator, will put vertical bars on the raster; or when modulated with an external audio oscillator will put horizontal bars on the raster. Thus the instrument can be used for making linearity adjustments in the absence of a test pattern.

The WR-39C may also be modulated by the video signal from a television set, which makes it in effect a 12-channel miniature TV transmitter. Sugg'd User Price: \$242.50\*

### Check these important features!

- ✓ Crystal-controlled markers, 4.5 Mc removed from main marker for television if alignment
- ✓ Crystal-controlled markers, 250 kc removed from main marker for sound-discriminator alignment
- ✓ Provision for injection of external marker
- ✓ Internal audio and rf modulation of variable frequency oscillator
- ✓ Crystal-calibrated heterodyne frequency meter
- ✓ Crystal-controlled 4.5-megacycle output for alignment of TV receivers employing inter-carrier sound
- ✓ Marker oscillator operates on fundamental on all bands
- ✓ Sound and picture carriers marked on dial



## TV SWEEP GENERATOR (WR-59B)

The WR-59B is a high-quality sweep generator which is used extensively for the design, manufacture and servicing of TV sets. It generates fundamental oscillator sweep-frequencies, preset on switch positions for TV channels 2 to 13. IF and video frequency coverage is produced by a separate calibrated control with continuous tuning from 300 kc to 50 Mc.

Sweep width is continuously variable, and output level is exceptionally flat in all positions. The rf output cable termination can be adjusted to match balanced or unbalanced loads; the rf output level is variable over wide limits by means of a coaxial-type piston attenuator. The unit develops a sweep signal for a scope; a phasing control is provided. An additional feature is return-trace blanking which produces a zero-reference line on the cathode-ray tube for measurement of instantaneous voltages. The unit is complete with rf and if output cables. Shipping weight, 35 lbs. Sugg'd User Price: \$274.50\*

### CHARACTERISTICS

- Frequency Ranges:
  - RF (TV Channels 2-13): 54-60, 60-66, 66-72, 76-82, 82-88, 174-180, 180-186, 186-192, 192-198, 198-204, 204-210, 210-216 Mc. Sweep width: 10 Mc max.
  - IF: 0.3 to 50 mc, continuous tuning. Covers video band, FM if, prewar if's, all present sound and picture if's. Sweep width continuously variable 0-10 mc.
- Output Impedance (at cable terminals):
  - RF Ranges: 300 ohms balanced
  - IF Range: 100 ohms
- Maximum Attenuator Ratio:
  - RF Ranges: 20000/1
  - IF Range: 4000/1
- Maximum Amplitude Variation of Sweep Envelope: All ranges, less than  $\pm 1.5$  db
- Horizontal Sweep: Phase Range, 0-160°; Power-line Frequency; Amplitude, 5.6 peak-to-peak (2 RMS) volts



## RACK-ADAPTER PANEL (WS-18A)

WS-18A Rack Adapter Panel for mounting any of the matched RCA Test Instruments in standard 19-inch relay racks . . . adds convenience and standardization to industrial test setups.

Dimensions: 10½ inches high, 19 inches wide, ½ inch thick.

Finish: Umber Gray.

Price: 9.50\*



## RCA TV ISOTAP (WP-25A)

Here's a really useful tool for better, faster, and safer TV servicing. The RCA TV ISOTAP is an essential piece of test equipment for every television technician.

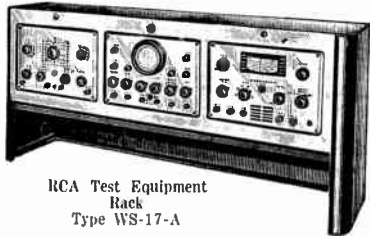
Consisting of a 500 volt-ampere auto-transformer winding and a 275 volt-ampere isolated secondary winding, the TV ISOTAP has all the advantages of an isolation transformer—plus the extra value of a heavy-duty transformer.

Sugg'd User Price: \$17.95\*

- Electrical (all voltages within  $\pm 5\%$ )
- Primary Winding:
  - Line-Voltage Range . . . . . 105-130 volts
  - Switch Positions . . . . . Off, 130, 125, 120, 115, 110, 115 volts
  - Frequency . . . . . 50-60 cycles
- Secondary Winding:
  - With selector set to power line voltage and no load on secondary . . . . . 109, 120, 135 volts
  - With selector set to 130 volts, and with a secondary load of 275 volt-amperes . . . . . 105, 115, 130 volts
- Continuous Operation
  - (at ambient temperature of 40° C)
  - Primary (autotransformer) . . . . . 500 Max. Va.
  - Secondary (isolation) . . . . . 275 Max. Va.

# RCA TEST AND MEASURING EQUIPMENT

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RCA Test Equipment Rack  
Type WS-17-A

## TEST-EQUIPMENT RACK WS-17A

Cash in on the lucrative television service market! Modernize your work bench for efficient TV service with this new RCA 3-Place Test Rack. . . Instruments are at your fingertips for quick, accurate service. Accommodates any three matched RCA Test Instruments to meet your individual TV, FM, or AM service needs. Dimensions: 48 x 21½ x 12. Sugg'd User Price: \$59.50

## JUNIOR VOLTOHMYST \*\* (WV-77A)

Here again, the famous RCA Junior VoltOhmyst\*\* at an amazing low price, embodying all the features that made its predecessor famous plus many new extras. Measures dc from 50 millivolts to 1200 volts—even in presence of ac. Less than 2  $\mu\text{f}$  input capacitance. Excellent for making measurements in AVC, bias, oscillator, and other high-impedance circuits. Measures ac voltages from 100 millivolts to 1200 volts (rms). High-impedance vacuum tube diode used as rectifier . . . all electronic operation. Measures resistance from .2 ohm to 1 billion ohms. Only \$47.50\* (Suggested User Price) complete with tubes, battery, probes and cables.

\*\*Reg. U. S. Pat. Off.

### FEATURES YOU WANT . . .

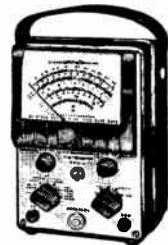
- High input resistance all ranges...11 megohms dc; 2 to 2 megohms ac
- Flat frequency response (30 cps to 3 Mc) 50 kc to 250 Mc with WG-264 Probe
- Meter electronically protected against burn-out all functions
- Durable 4½" plastic meter case...full view design
- Carbon-film 1% multiplier resistors...lasting accuracy and dependability
- Sturdy 200 microampere movement...standard for all VoltOhmyst\*\* Meters
- Completely shielded metal case...stable in rf fields
- Negative-feedback bridge circuit...freedom from line voltage changes
- DC polarity reversing switch...eliminate test lead switching
- Zero-centering facilities...for discriminator alignment
- Ohms probe always positive...quickly check "electrolytics"



## SENIOR VOLTOHMYST (WV-97A)

The WV-97A, especially designed as a television signal tracer, features a high-impedance, full wave rectifier for direct readings of peak-to-peak voltages on all scales up to 4200 volts. Frequency response is flat to 3 Mc. The Senior VoltOhmyst also reads dc voltages, resistance values, and rms voltages of sine waves. Instrument measures ac in presence of dc and vice-versa. Shipping weight: 5½ lbs. Suggested User Price: \$67.50\*

DC (seven continuous ranges).....0 to 1.5, 5, 15, 50, 150, 500, 1500  
Input resistance.....11 megohms constant  
AC (fourteen continuous ranges):  
Peak-to-peak ranges.....0 to 4, 14, 42, 140, 420, 1400, 4200 volts  
RMS ranges (for sine waves).....0 to 1.5, 5, 15, 50, 150, 500, 1500  
OHMMETER (seven continuous ranges)...0 to 1000 megohms  
METER MOVEMENT (DC current for full scale deflection).....200  $\mu\text{a}$   
DIMENSIONS.....7¾"H, 5¾"W, 4¼"D  
FINISH.....blue-gray hameroid case—satin-aluminum panels



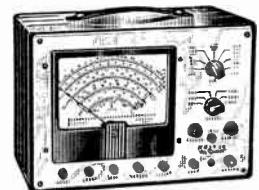
## MASTER VOLTOHMYST WV-87A

"Master" is truly the word for this deluxe member of the RCA VoltOhmyst family. The WV-87A combines all the outstanding features of the Junior and Senior VoltOhmysts plus greater accuracy, more ranges, more functions, and a large 8½" meter. The instrument measures directly peak-to-peak values of unsymmetrical complex waves from 0.2 volt to 2,000 volts and peak-to-peak values of symmetrical complex waves up to 4,200 volts. It measures rms values of sine waves from 0.1 to 1,500 volts; dc voltages from 0.02 volt to 1,500 volts; and resistance over the range of 0.2 ohm to 1,000 megohms. The Master VoltOhmyst also directly

measures dc currents from 10 microamperes to 15 amperes in nine ranges.

Suggested User Price: \$112.50

DC .....0 to 1.5, 5, 15, 50, 150, 500, 1,500 volts  
Input Resistance .....11 megohms constant  
AC .....(peak-to-peak ranges) 0 to 4, 14 volts on LO AC scales—0 to 42, 140, 420, 1400, 4200 volts  
(RMS ranges for sine waves) 0 to 1.5, 5 volts on LO AC scales—0 to 15, 50, 150, 500, 1500 volts  
OHMMETER .....seven continuous ranges 0 to 1000 Megohms  
DIRECT-CURRENT METER ...0 to 0.5, 1.5, 5, 15, 50, 150, 500 milliamperes; 0 to 1.5, 15 amperes  
MECHANICAL SPECS .....8 lbs. wgt.. 10" H, 13½" W, 7" D, blue-gray hameroid case, satin-aluminum panel



RCA Master Volt Ohmyst  
Type WV-87A





# RCA TEST AND MEASURING EQUIPMENT

for SERVICE • LABORATORIES • INDUSTRY • SCHOOLS

## 5" OSCILLOSCOPE (WO-88A)

High Gain . . . Wide Band . . . Direct Coupled

Two WO-88A features a direct-coupled, push-pull, vertical amplifier to give a response flat from 0 cycles to 500 Kc within —3 db. Excellent reproduction of square waves and sync pulses is thus assured, with fidelity heretofore unobtainable in moderately priced service-type 'scopes. A sensitivity of 25 millivolts rms per inch permits use in low-level circuits where high gain is needed. Hum pickup, noise, and other distortion is minimized by a CRT shield and all-steel case. Internal adjustments are easily accessible without removing the case. Green graph screen is calibrated for peak-to-peak voltage measurements. A frequency compensated, calibrated step attenuator maintains uniform response over a wide range of input signal levels. Approximate trace expansion of 2 X screen diameter . . . in conjunction with large 5" CR tube permits detailed observation of small sections of waveforms. Complete with shielded

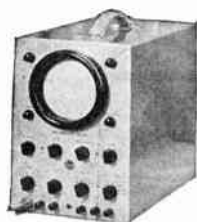
direct probe and cable, low capacitance probe, ground lead, and slip-on alligator clip.

Frequency Response:  
Vertical Amplifier:  
From 0 to 500 kc.....within —3 db  
From 0 to 1 Mc.....within —10db  
Deflection Sensitivity:  
Vertical Amplifier...25 Millivolts rms per 1"  
Input Resistance and Capacitance:  
Vertical Amplifier:  
At Input Terminals.....1 megohm  
shunted by 30  $\mu$ f  
With WG-218 Direct Probe  
and Cable .....1 megohm  
shunted by 75  $\mu$ f  
With WG-216B Low-Capacitance Probe .....10 megohms  
shunted by 9.5  $\mu$ f  
Sweep-Circuit Frequency.....15 cps to 30 Kc  
Power Requirements:  
Voltage .....105-125 volts  
Frequency .....50-60 cps

### Mechanical

Width ..... 9 inches  
Height .....13½ inches  
Depth .....16½ inches  
Weight ..... (Approx.) 25 lbs.  
Finish..... Blue-gray hameroid case, frosted-aluminum panel, black knobs and bezel

Sugg'd User Price: \$159.50



## 7" OSCILLOSCOPE (WO-56A)

Designed with the user in mind, the WO-56A combines the advantages of high-sensitivity, wide-frequency range, and a large 7" cathode-ray tube into a compact, service-size cabinet. Dual controls for coarse and vernier adjustments save valuable servicing time. This instrument features identical vertical and horizontal push-pull amplifiers with frequency compensated and voltage - calibrated attenuator networks. Peak-to-peak calibrating voltage source on panel. "Plus" and "minus" sync for easy lock-in of "up-right" and "inverted" pulse waveforms.

Complete with matched probes and cables — \$217.50\* (Suggested User Price).

Frequency Response (Vertical Amplifier):  
Flat from 0 to 500 kc.....within —2 db  
Flat from 0 to 1 kc.....within —6 db  
Sweep Frequencies:  
Variable.....3 cps to 30,000 cps  
Preset.....30 cps & 7875 cps for "TV/V" and "TV/II"  
Deflection Sensitivity:  
Vertical Amplifier.....10.6 rms millivolt per inch  
Horizontal Amplifier.....21.2 rms millivolt per inch  
Power Supply.....105/125 volts, 50/60 cps  
Dimensions.....13¾"H, 9"W, 16½"D  
Weight.....31 lbs. (approx.)  
Finish.....blue-gray hameroid case anodized satin-aluminum panels



## ULTRA-SENSITIVE DC MICROAMMETER (WV-84A)

Reads from 0.001 to 1000 microamperes in six separate ranges. Useful for measuring high values of resistance; may be used as high resistance voltmeter. Approaches galvanometer sensitivity. Electronic protected non-burn-out meter. Accuracy, 0.01 range,  $\pm$ 5% of full scale reading; other ranges  $\pm$ 4%. Ideal for weak-current measurements in phototubes, multiplier

phototubes, etc. Sugg'd User Price (less batteries): \$100.00\*

Readings.....0.001  $\mu$ a to 1 ma full scale  
Six ranges.....0.01; 0.1; 1.0; 10; 100; 1000 $\mu$ a  
Voltage Drop at Full Scale (all ranges) .....0.5 volts  
Power Supply (Batteries).....2—1½ volts A (RCA VS106)  
2—2½ volts B (RCA VS102)  
Dimensions.....6¼"W, 9½"H, 5¾"D  
Weight (including batteries).....9¼ lbs.



# RCA TEST AND MEASURING EQUIPMENT

for SERVICE • LABORATORIES • INDUSTRY • SCHOOLS



## HIGH VOLTAGE PROBES WG-289, WG-290

Add Important Extra Servicing Value to Your Volt-ohm-meter. Measure DC Voltages Up to 50 Kilovolts in High Resistance Circuits.

- Measure DC Voltages in Television Sets, X-Ray Machines, and other High-Voltage Electronic Devices.
- Increase Input Resistance of Volt-Ohm-yst Meter to at least 1,000 Megohms.
- Multiply VTVM Scale by a factor of 100 times.
- Multiplier Resistors available for all popular Volt-ohm-meters.

The WG-289 and WG-290 Probes are identical except for their connectors. The WG-289 is provided with a microphone-type connector; the WG-290 is equipped with phone-tip connectors. Each Probe comes complete with cable, alligator-clip ground lead, and a complete instruction booklet. Five multiplier resistors are available (WG-206-207-208-209-210) and the proper type should be specified, using the type number recommended for your instrument in the instruction book. Sugg'd User Price: **\$9.95 complete\***

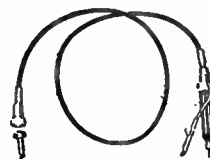


## CRYSTAL PROBE (WG-263)

Input Voltage.....22 rms volts (max.)  
Frequency Range.....1000 cycles at 175 Mc  
Frequency Response..... $\pm 10\%$  from 1 kc  
to 100 mc  
Overall Accuracy..... $\pm 7.5\%$  at full scale  
Input Capacity.....3.5  $\mu\text{f}$

Makes any VoltOhmyst a VHF Voltmeter. Reads flat to 100 Mc. Adapts VoltOhmyst for HF, FM or TV test needs, within sensitivity range of the instrument. Withstands DC loads of 250 volts.

Sugg'd User Price: **\$8.95\***



## DEMODULATOR PROBE (WG-291)

The WG-291 Demodulator Probe has an input frequency range of 500 Kc to 250 Mc with an input capacitance of approximately 2  $\mu\text{f}$ . A "slip-on" probe designed especially for use with oscilloscopes, it separates the modulation from the rf carrier in an amplitude modulated wave by means of a rectifier and a filter having a short time constant and an output frequency range of 30 to 5000 cps. The WG-291 has a maximum ac input voltage of 20 rms volts and a maximum dc voltage rating of 250 volts.

Sugg'd User Price: **\$7.95**



## CRYSTAL-DIODE PROBE (WG-264)

The WG-264 Crystal-Diode Probe has a frequency range of 50 Kc to 250 Mc, with an input capacitance of approximately 2  $\mu\text{f}$ . It converts rf to dc by means of a long time constant filter and an attenuating network. The WG-264 is a "slip-on" probe which fits on the Direct Probe of VoltOhmysts, such as the WV-97A. The ac-voltage range extends from 20 millivolts to 20 volts rms; dc voltages up to 250 volts can be present. Sugg'd User Price: **\$7.75**



## MULTI-METERS

SUPREME makes Volt-Ohm - Milli-ammeters to fit most every need and budget. Large and small meter types with 1000 or 20,000 ohms/volt sensitivity. Request Specification RM-542-640-2.

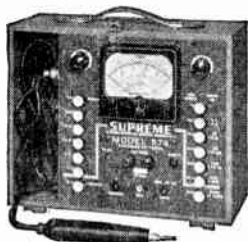


## KILOVOLT RANGE EXTENSION UNIT

For checking high (DC) voltage in television sets. Extends range of Supreme 20,000 ohms/volt and higher sensitivity multi-meters to read 25,000 Volts. Units also available for Supreme Vacuum Tube Voltmeters.



## V.T.V.M. SET TESTER



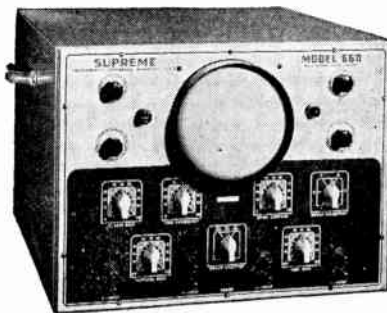
SUPREME Electronic Set Tester is the preferred vacuum tube volt - ohm-meter among technicians and engineers. Full details on Model 574 (illustrated) available by requesting Spec. RM-574-2.

## COMPOSITE VIDEO GENERATOR

The SUPREME synchronizing and test pattern generator for testing and servicing television sets when the station pattern is off the air. Delivers the COMPOSITE video signal with all the sync, blanking, and equalizing pulses in the proper sequence to lock the raster into a frame of two interlaced fields. (This instrument should not be confused with the "cross-hatch" or "linearity pattern" type units). In addition to its synchronizing function, it has a built in VIDEO (picture signal) generator which produces a pattern of precision spaced dots. Pattern can be turned on or off without affecting the synchronization. For additional information, request data sheet RM-665-2.



## GENERAL PURPOSE & WIDE RANGE OSCILLOSCOPES



SUPREME oscilloscopes are years ahead in operation and design. Model 660 (illustrated) has virtually flat frequency response from 5 cycles to 5 megacycles making it the ideal instrument for checking video and high fidelity audio circuits. Shipped complete with professional type probe, filter screen, and frequency compensated attenuator. For additional data on all Supreme oscilloscopes request Spec. RM-650-5-60-2.

## AF, RF, & TV SIGNAL GENERATORS

SUPREME has a most complete group of signal sources for testing and aligning radio and television sets including high fidelity sound amplifiers. AF and RF generators available as separate units or in combination. Supreme Television generators can be externally modulated with composite video signal. For additional data request Spec. RM-675-66-80-2.



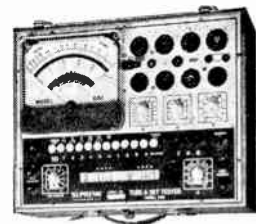
## INDICATING INSTRUMENTS (Panel Meters)



SUPREME quality meters feature efficient Alnico Bar Magnet, Double Bridge construction, Selected Pivots and Jewels. Wide selection of stock models. Special dials available in quantity shipments.

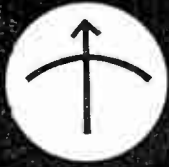
## TUBE & SET TESTERS

Dependable, field tested, time proven tube test circuit with design flexibility features to minimize obsolescence. SUPREME Tube and Battery testers are available as separate units or in combination with selected multi-meter functions. All models equipped with roll chart. Deluxe models with 7" meters, standard models with smaller meters. Tube setting data on new tube types supplied free for first year to registered owners. Revised charts, listing new tube types, made available at small cost to owners after first year. Request Spec. RM-616-2 for additional information.



**Write for  
Additional Data**

IN ADDITION to the standard models shown above, Supreme builds special purpose test equipment and panel meters for industrial organizations and government services. During the past quarter-century Supreme Instruments have been the choice of Engineers, Technicians, and Amateurs in the ever expanding electronic industry. For a prompt reply, ADDRESS your inquiry to Supreme, Inc., 1714 Carrollton Rd., Greenwood, Miss., U. S. A.



# MEASUREMENTS CORPORATION

## Laboratory Standards

QUALITY ELECTRONIC  
MEASURING INSTRUMENTS  
FOR ACCURATE DEPENDABLE SERVICE

**S**INCE 1939, MEASUREMENTS CORPORATION has developed and manufactured a precision line of Laboratory Standards designed for radio, television and other fields of the electronic industry. While our production departments are building instruments currently required by laboratories, manufacturers and the Armed Services, MEASUREMENTS' engineering division is engaged in extensive research on new equipment for the art.

Critical engineering control of all phases of manufacturing, from the selection of component parts, through the production departments, to the final mechanical and electrical inspection, assures every customer of quality instruments that are guaranteed to give accurate, dependable service.

**STANDARDS ARE ONLY AS  
RELIABLE AS THE REPUTATION  
OF THEIR MAKER**

**MEASUREMENTS CORPORATION • BOONTON, N. J.**

### STANDARD SIGNAL GENERATORS

MODEL	FREQUENCY RANGE	OUTPUT RANGE	MODULATION
65-B	75 Kc.-30 Mc.	0.1 microvolt to 2.2 volts	AM, 0 to 100% 400 cycles or 1000 cycles External mod., 50-10,000 cycles
78	15-25 Mc.; 195-225 Mc. 15-25 Mc.; 90-125 Mc. other ranges on order	1 to 100,000 microvolts	AM, 8200-400 cycles 625-400 cycles Fixed at approximately 30%
78-FM	86 Mc.-108 Mc.	1 to 100,000 microvolts	Deviation 0-300 kc, 2 ranges FM, 400-8200 cycles External modulation to 15 Kc.
80	2 Mc.-400 Mc.	0.1 to 100,000 microvolts	AM, 0 to 30% 400 cycles or 1000 cycles External mod., 50-10,000 cycles
82	20 cycles to 200 Kc. 80 Kc. to 50 Mc.	0-50 volts 0.1 microvolt to 1 volt	Continuously variable 0-50% from 20 cycles to 20 Kc.
84	300 Mc.-1000 Mc.	0.1 to 100,000 microvolts	AM, 0 to 30%, 400, 1000, or 2500 cycles. Internal pulse modulator. External mod., 50-30,000 cycles.
90	20 Mc.-250 Mc.	0.3 microvolt to 0.1 volt	Continuously variable, 0 to 100% Sinusoidal modulation 30 cycles 5 Mc. Composite TV modulation.

### U. H. F. OSCILLATOR

MODEL	FREQUENCY RANGE	OUTPUT RANGE	OUTPUT IMPEDANCE
112	300 Mc. - 1000 Mc.	Maximum varies between 0.3 volt and 2 volts. Adjustable over 40 db range	50 ohms

### PULSE GENERATOR

MODEL	FREQUENCY RANGE	PULSE WIDTH	OUTPUT
79-B	60 to 100,000 cycles	Continuously variable from 0.5 to 40 microseconds	Approximately 150 volts positive with respect to ground. "Sync Output" 75 volts positive with respect to ground.

### SQUARE WAVE GENERATOR

MODEL	FREQUENCY RANGE	WAVE SHAPE	OUTPUT
71	Continuously variable 6 to 100,000 cycles	Rise time less than 0.2 microseconds with negligible overshoot	Step attenuator: 75, 50, 25, 15, 10, 5 peak volts fixed and 0 to 2.5 volts continuously variable.

### U.H.F. RADIO NOISE and FIELD STRENGTH METER

MODEL	FREQUENCY RANGE	INPUT VOLTAGE RANGE
58	15 Mc. to 150 Mc.	1 to 100,000 microvolts in antenna. 1 to 100 microvolts on semi-logarithmic output meter, balanced resistance attenuator with ratios of 10, 100 and 1000 ahead of all tubes.

### VACUUM TUBE VOLTMETERS

MODEL	VOLTAGE RANGE	FREQUENCY RANGE	INPUT IMPEDANCE
62	0-1, 0-3, 0-30 and 0-100 volts AC or DC	30 cycles to over 150 Mc.	Approximately 7 mmfd.
62-U.H.F.	0-1, 0-3, 0-30 and 0-100 volts AC or DC	100 Kc. to 500 Mc.	Approximately 2 mmfd.
67	.0005 to 300 volts peak-to-peak	5 to 100,000 sine-wave cycles per second	1 megohm shunted by 30 mmfd.

### MEGACYCLE METER

MODEL	FREQUENCY RANGE	FREQUENCY ACCURACY	MODULATION
59	2.2 Mc. - 400 Mc.	Within $\pm 2\%$	CW or 120 cycles fixed at approximately 30%. Provision for external modulation

### CRYSTAL CALIBRATOR

MODEL	FREQUENCY RANGE	FREQUENCY ACCURACY	HARMONIC RANGE
111	250 Kc. - 1000 Mc.	0.001%	.25 Mc. Oscillator. 25-450 Mc. 1 Mc. Oscillator. 1-600 Mc. 10 Mc. Oscillator. 10-1000 Mc.

### BRIDGES

MODEL	INDUCTANCE (L)	CAPACITANCE (C)	AC RESISTANCE (R)
102	0.5 microhenry to 110 henries	1 mmf. to 110 mfd. Power factor 0-30%	1 ohm to 11 megohms



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*Laboratory Standards*

## STANDARD SIGNAL GENERATOR - Model 82

20 CYCLES - 50 Mc.



**FREQUENCY RANGE:** 20 cycles to 200 kilocycles in four ranges. 80 kilocycles to 50 megacycles in seven ranges. Position available for special range.

**FREQUENCY ACCURACY:** Each range is individually calibrated. 20 cycles to 200 kilocycles, accurate to  $\pm 5\%$ . 80 kilocycles to 50 megacycles, accurate to  $\pm 1\%$ .

**OUTPUT VOLTAGE AND IMPEDANCE:** 0-50 volts across 7500 ohms from 20 cycles to 200 kilocycles. (The output voltage and impedance in this range can be reduced by an external attenuator). 0.1 microvolt to 1 volt across 50 ohms over most of the range from 80 kilocycles to 50 megacycles.

**MODULATION:** Continuously variable 0-50% from 20 cycles to 20 kilocycles from low frequency variable oscillator or external source.

**HARMONIC OUTPUT:** Less than 1% from 20 cycles to 20 kilocycles; 3% or less from 20 kilocycles to 50 megacycles.

**LEAKAGE AND STRAY FIELD:** Less than 1 microvolt from 80 kilocycles to 50 megacycles.

**POWER SUPPLY:** 117 volts, 50-60 cycles. 75 watts.

**DIMENSIONS:** 15" high x 19" wide x 12" deep overall.

**WEIGHT:** 50 pounds.

## STANDARD SIGNAL GENERATOR - Model 80

2 Mc. - 400 Mc.

**FREQUENCY RANGE:** 2 to 400 megacycles in 6 bands, individually calibrated direct reading dial.

**FREQUENCY ACCURACY:**  $\pm 0.5\%$ .

**OUTPUT VOLTAGE:** Continuously variable from 0.1 to 100,000 microvolts.

**OUTPUT IMPEDANCE:** 50 ohms.

**MODULATION:** Amplitude modulation is continuously variable from 0 to 30%. Modulation depth is indicated by a meter on the panel. Internal modulation, 400 and 1000 cycles. Modulation may also be applied from an external source. Pulse modulation may be applied to the oscillator from an external source through a special connector.

**LEAKAGE AND STRAY FIELD:** Attenuator leakage less than 0.1 microvolt. Power line leakage less than 0.5 microvolt. Stray fields less than two microvolts.

**POWER SUPPLY:** 117 volts, 50 to 60 cycles. 70 watts.



### PULSE GENERATOR MODEL 79-B

This instrument is specially adapted for plate pulsing of the Model 80 Standard Signal Generator.

**REPETITION RATE:** 60 to 100,000 pulses per second.

**PULSE WIDTH:** Continuously variable from 0.5 to 40 microseconds.

**OUTPUT VOLTAGE:** Approximately 150 volts positive with respect to ground.

**"SYNC" OUTPUT:** 75 volts positive with respect to ground. Displaced by  $\frac{1}{2}$  period from pulse output.

**"SYNC" INPUT:** May be synchronized with as little as 2 volts peak from an external source.

**POWER SUPPLY:** 117 volts, 50-60 cycles. 115 watts.

**DIMENSIONS:** 10" high x  $13\frac{3}{8}$ " wide x  $10\frac{1}{2}$ " deep, overall.

**WEIGHT:** Approximately 31 pounds.

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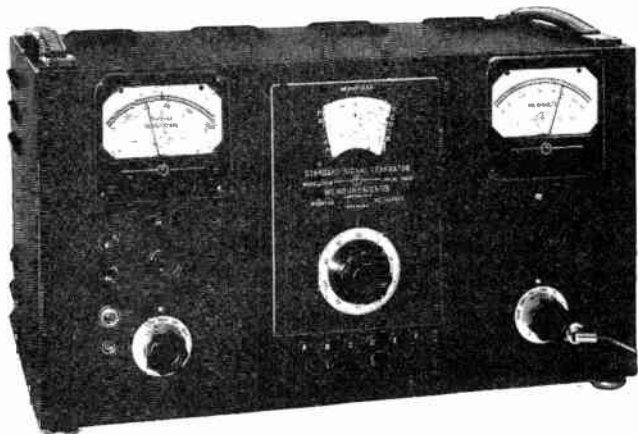


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## STANDARD SIGNAL GENERATOR - Model 65-B

**75 Kc. - 30 Mc.**



**FREQUENCY RANGE:** 75 kilocycles to 30 megacycles in 6 push button ranges.

**FREQUENCY CALIBRATION:** The frequency dial is direct reading and individually hand calibrated for each range. It is accurate to  $\pm 0.5\%$ .

**OUTPUT VOLTAGE:** Continuously variable from 0.1 microvolt to 2.2 volts.

**OUTPUT IMPEDANCE:** 5 ohms to 0.2 volt, rising to 15 ohms at 2.2 volts.

**MODULATION:** Continuously variable from 0 to 100%. Modulation depth is indicated directly by a meter on the panel. Modulation may be obtained either from an internal source of 400 or 1000 cycles or from an external source.

**ENVELOPE DISTORTION:** Less than 4% at 100% modulation at 1 megacycle.

**LEAKAGE:** Less than 0.1 microvolt leakage with attenuator set for 0 output.

**POWER SUPPLY:** 117 volts, 50-60 cycles. 115 watts.

**DIMENSIONS:** 11" high x 20" long x 10 $\frac{1}{4}$ " deep, overall.

**WEIGHT:** Approximately 55 pounds.

## FM STANDARD SIGNAL GENERATOR - Model 78-FM

**86 Mc. - 108 Mc.**

**FREQUENCY RANGE:** 86 to 108 megacycles, individually calibrated dials. Accurate to  $\pm 0.5\%$ .

**OUTPUT VOLTAGE:** 1 to 100,000 microvolts.

**LEAKAGE:** Less than 1 microvolt.

**MODULATION:** Deviation continuously variable from 0 to 300 kc. Indicated on directly calibrated dial. 400 cycle internal audio oscillator. Can be modulated from an external source providing 6 volts across 5000 ohms.

**FIDELITY:** Flat within two db from DC to 15,000 cycles. Distortion is less than 1% at 75 kilocycles deviation. Transient response is excellent.

**POWER SUPPLY:** 117 volts, 50 to 60 cycles. 36 watts.

**DIMENSIONS:** 10" high x 13" wide x 7" deep, overall.

**WEIGHT:** Approximately 25 pounds.



Special one-band Model 78-FM Signal Generators, with a tuning ratio of approximately 1.2 to 1, are available for use within the limits of 30 to 165 megacycles.

## I. F. CONVERTER - Model M-275

This instrument was designed for use with the Model 78-FM Standard Signal Generator to provide carrier output at the IF frequencies used in FM and Television receivers.

(Special Frequencies up to 23 Mc. available on order)

**CARRIER FREQUENCIES:** 4.5, 10.7, 21.7 Mc.

**OUTPUT VOLTAGE:** 10 microvolts to 1.0 v. when used with Model 78-FM.

**BAND WIDTHS:** 5% down,  $\pm 250$  Kc. from center frequency.

**AMPLITUDE MODULATION:** Provision for external AM up to approximately 80%, combined with, or exclusive of, FM. There is negligible spurious FM due to AM. The envelope distortion is less than 10% at 80% modulation.



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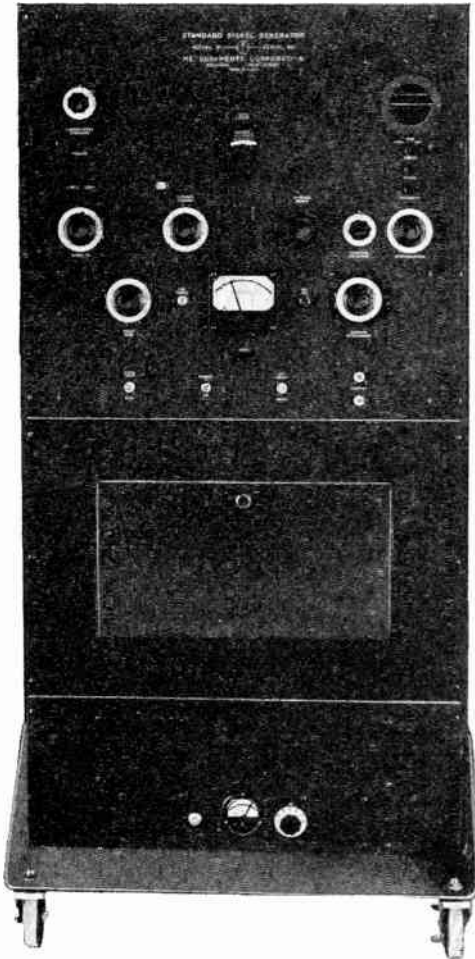
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## TELEVISION SIGNAL GENERATOR

### MODEL 90

*The first commercial wide-band, wide-range Signal Generator to be developed to meet the exacting standards of high definition television use.*



#### CARRIER FREQUENCY:

**RANGE:** Continuously variable from 20 to 250 megacycles, in eight ranges.

**ACCURACY:** Built-in crystal frequency standard permits setting to .01%. Dial scale may be set to 0.1%.

**STABILITY:** Warm-up drift less than .05%. Less than .01% after warm-up.

**LEAKAGE:** Less than 10 microvolts.

#### MODULATION:

Continuously variable from zero to 100%.

**ENVELOPE:** Sinusoidal, or composite television. Bandwidth to 3 db is 4 Mc. Rise time from 10% to 90% modulation 0.15 microsecond. Overshoot less than 5%. Slope less than 5% on 60 cycle square wave.

**INPUT IMPEDANCE:** 75 ohms  $\pm$  10% (RMA Standard)

**INPUT LEVEL:** 1.5 volts peak to peak minimum level for 100% modulation. Black negative polarity.

**MODULATION PERCENTAGE:** Zero to 110%; plate modulation.

#### OUTPUT:

**LEVEL:** Continuously variable from 0.3 microvolt to 0.1 volt balanced to ground (measured at 100% modulation level).

**IMPEDANCE:** (a) 107 ohms line to line (balanced).

(b) 53.5 ohms line to ground (unbalanced).

(c) Suitable pads may be employed to alter these impedances.

#### DIMENSIONS:

**OVERALL:** Height—58 $\frac{3}{4}$ "; Width—28 $\frac{1}{4}$ "; Depth—25 $\frac{1}{2}$ ".

**WEIGHT:** Model 90—302 pounds.

External Voltage Regulator: 92 pounds.

**POWER SUPPLY:** 117 volts, 60 cycles. 700 watts.

## CRYSTAL CALIBRATOR - Model 111

An extremely accurate instrument for the frequency calibration of equipment in the range of 250 Kc. to 1000 Mc.

**FREQUENCY ACCURACY:** 0.001%

#### FEATURES:

- Provides test signals of crystal-controlled frequency at .25, 1 and 10 Mc. intervals.
- Has self-contained detector with a sensitivity of 2 microwatts.

**USES:** Calibration and frequency checking of signal generators, transmitters, receivers, grid-dip meters and similar equipment where a high degree of frequency accuracy is required.



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## STANDARD SIGNAL GENERATOR - Model 84

**300 Mc. - 1000 Mc.**

**FREQUENCY RANGE:** 300 to 1000 megacycles, individually calibrated direct reading dial.

**FREQUENCY ACCURACY:**  $\pm 0.5\%$ .

**OUTPUT VOLTAGE:** Continuously variable from 0.1 to 100,000 microvolts.

**OUTPUT IMPEDANCE:** 50 ohms.

**AMPLITUDE MODULATION:** Continuously variable from 0 to 30% indicated directly on panel meter. Internal sine-wave oscillator; choice of 400, 1000, or 2500 cycles is provided. External modulation up to 30 kilocycles may be applied.

**PULSE MODULATION:** Repetition rate continuously variable from 60 to 100,000 cycles. Pulse width continuously variable from 1 to 50 microseconds indicated on directly calibrated dial. Pulse delay (with respect to synchronizing output) continuously variable from 0 to 50 microseconds indicated on directly calibrated dial. May be synchronized with an external sine-wave or pulse source.



**POWER SUPPLY:** 117 volts, 60 cycles. 230 watts (with regulator).

**DIMENSIONS:** 12" high x 26" wide x 10" deep, overall.

**WEIGHT:** Approximately 135 pounds, including external line voltage regulator.

**ACCESSORIES:** Included with each instrument are four connecting cables and external voltage regulator.

## U. H. F. OSCILLATOR - Model 112

**300 Mc. - 1000 Mc.**



The Model 112 provides a signal source for the measurement of: standing waves on transmission lines; antenna patterns; filters; attenuators. Also for alignment and tracking of UHF receivers.

**FREQUENCY RANGE:** 300 to 1000 megacycles.

**FREQUENCY CALIBRATION ACCURACY:**  $\pm 0.5\%$ .

**OUTPUT VOLTAGE:** Maximum varies between 0.3 volt and 2 volts. Adjustable over 40 db range.

**OUTPUT SYSTEM:** 50 ohms.

**POWER SUPPLY:** 117 volts; 50-60 cycles; 60 watts.

**DIMENSIONS:** 12½" x 13½" x 8". Weight 22 lbs.

## VACUUM TUBE VOLTMETER - Model 62

**RANGE:** Push button selection of 5 ranges—1, 3, 10, 30 and 100 volts full scale AC or DC.

**ACCURACY:**  $\pm 2\%$  of full scale on each range, both DC and sine-wave AC.

**INDICATION:** Linear for DC and calibrated to indicate RMS values of a sine-wave or 71% of the peak value of a complex wave on AC.

**FREQUENCY ERROR:** Less than 10% from 30 cycles to over 150 megacycles. Resonant frequency of the probe with input terminals shorted is 350 megacycles.

**INPUT IMPEDANCE:** The input capacitance is approximately 7 mmf. The input resistance is a function of frequency.

**POWER SUPPLY:** 117 volts AC, 50 to 60 cycles.

**DIMENSIONS:** 4¾" wide x 6" high x 8½" deep overall.

**WEIGHT:** Approximately 8 pounds.



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*Laboratory Standards*

## INTERMODULATION METER - Model 31

### FEATURES:

- Compact, completely self-contained unit with—
  - Test Signal Generator
  - Analyzer
  - Voltmeter
  - Power Supply
- Direct-reading meter indicates percentage of intermodulation.
- Accurate metering of input voltage to analyzer.
- Easy to operate.
- Quick, accurate measurements.
- May be mounted in standard 19" relay rack. (7" relay rack panel space.)
- Connection for oscilloscope.



### APPLICATIONS:

- Insuring peak performance from all audio systems.
- Correct adjustment and maintenance of AM and FM receivers and transmitters.
- Checking linearity of film and disc recordings and reproductions.
- Checking phonograph pick-ups and recording styli.
- Checking record matrices.
- Adjusting bias in tape recordings.
- For quality control of all audio components and equipment.

### MODEL 30 INTERMODULATION METER

This model has a test generator providing: a low frequency range of 40, 70 and 100 cycles; a high frequency range of 2000, 7000 and 12,000 cycles, either separate or mixed in a 1/1 or 4/1 ratio.

The analyzer will operate from 20 cycles to 200 cycles and from 2000 cycles to 20,000 cycles.

A direct-reading meter measures intermodulation percentages from 0.1% to 30%; test generator output voltages from .01 to 100 v. (-30 to +20 DBM); analyzer input voltages from .0001 to 100 v. (-70 to +40 DBM).

### SPECIFICATIONS:

#### GENERATOR:

LOW FREQUENCY: 60 cycles.  
HIGH FREQUENCY: 3000 cycles.  
LF/HF VOLTAGE RATIO: Fixed 4/1.  
OUTPUT VOLTAGE: 10 v. max. into high impedance or +5 DBM matched to 600 ohms.  
OUTPUT IMPEDANCE: 2000 ohms.  
RESIDUAL INTERMODULATION: 0.2%.

#### ANALYZER:

INPUT VOLTAGE: Full scale ranges of 3, 10 and 30 volts RMS. Less than one volt of mixed signal is sufficient for operation.  
INPUT IMPEDANCE: Greater than 400 K ohms.  
INTERMODULATION: Full scale ranges of 3, 10 and 30%.  
ACCURACY:  $\pm 10\%$  of full scale.  
GENERAL: Power Supply 117 volts, 50/60 cycles, 30 watts. Dimensions: 8" high x 19" wide x 9" deep. Weight 16 lbs. Tubes: 1-12AX7, 1-12AT7, 1-6J5GT, 1-5Y3GT.

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# MEASUREMENTS CORPORATION

## Laboratory Standards

### U. H. F. RADIO NOISE and FIELD STRENGTH METER

#### MODEL 58

This versatile, portable instrument is useful in measuring signal-to-noise ratios, noise levels and for field strength surveys on TV, FM and AM transmitters.

**FREQUENCY RANGE:** 15 to 150 megacycles in five bands—dial directly calibrated in megacycles.

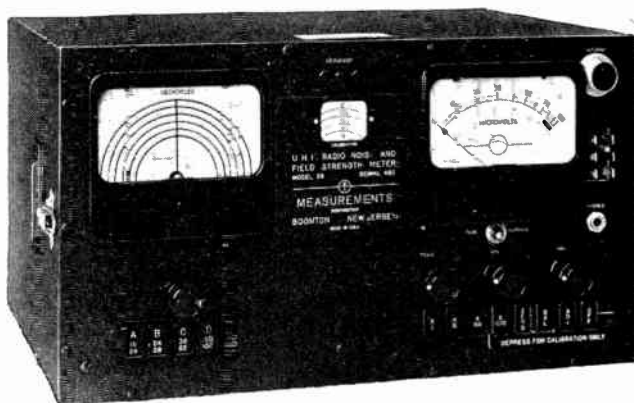
**SENSITIVITY RANGE:** 1 to 100,000 microvolts induced in antenna. 1 to 100 microvolts on semi-logarithmic output meter, balanced resistance attenuator with ratios of 10, 100 and 1000 ahead of all tubes.

**GAIN STANDARDIZATION:** Internal "shot noise" diode provides calibration standard. Special dial eliminates need for charts.

**CIRCUIT:** Superheterodyne circuit with tuned RF amplifier eliminates image response.

**BAND WIDTH:** 150 kilocycles @ 2X down.

**POWER SUPPLY:** Built-in regulated dual power supply for operation from either 117 volts AC or 6 volts DC. 70 watts (on AC).

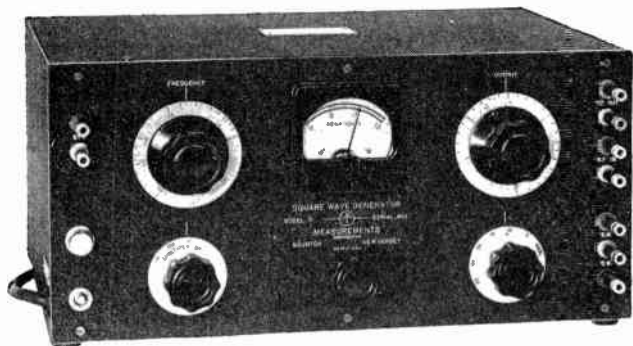


**STANDARD EQUIPMENT:** Power cables, 15 foot antenna cable, 9 inch loop antenna, carrying strap, and complete instruction book.

**DIMENSIONS:** 16" wide x 9" high x 11" deep, overall.

**WEIGHT:** 35 pounds.

### SQUARE WAVE GENERATOR - Model 71



Recommended for television testing and many different applications in developing AM, FM and TV equipment where square-wave analysis is of great importance.

**FREQUENCY RANGE:** 6 to 100,000 cycles.

**WAVE SHAPE:** Rise time less than 0.2 microseconds with negligible overshoot at 75 peak volts output. At 5 volts or less rise time is less than 0.1 microsecond.

**OUTPUT VOLTAGE:** Step attenuator giving 75, 50, 25, 15, 10, 5 peak volts fixed and 0 to 2.5 volts continuously variable.

**SYNCHRONIZING OUTPUT:** 25 volts peak.

**R. F. MODULATOR:** 5 volts maximum carrier input. Translation gain is approximately unity—Output impedance is 600 ohms.

**POWER SUPPLY:** 117 volts, 50-60 cycles. 100 watts.  
**DIMENSIONS:** 7" high x 15" wide x 7 1/2" deep, overall.  
**WEIGHT:** Approximately 20 pounds.

### PEAK-TO-PEAK VOLTMETER - Model 67

Designed for audio and video level measurements and the measurement of audio electrical interference. The Model 67 is ideally suited for uses where the indication of true peak values is required.

**VOLTAGE RANGE:** 5 ranges; .0005 to 300 volts peak-to-peak. (Approximately .0002 to 100 r.m.s. volts.)

**SEMI-LOGARITHMIC SCALES:** Hand calibrated; 0 to 30 peak-to-peak and 0 to 10 r.m.s. equivalent.

**FREQUENCY RANGE:** 5 to 100,000 sine-wave cycles per second.

**INPUT IMPEDANCE:** 1 megohm shunted by 30 mmfd.

**STABILITY:** Less than 2% error with line variations from 110 volts to 120 volts.

**RECORDER TERMINALS:** For external one milliamper graphic recorder or milliammeter.

**POWER SUPPLY:** 117 volts; 50-60 cycles, 35 watts.

**DIMENSIONS:** 7 1/2" high x 7" wide x 8 1/2" deep.

**WEIGHT:** 10 lbs.



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MEASUREMENTS CORPORATION

Laboratory Standards

# MEGACYCLE METER

THE ONLY GRID-DIP METER COVERING  
THE WIDE FREQUENCY RANGE OF  
**2.2 Mc. to 400 Mc.**

- For determining the resonant frequency of tuned circuits, antennas, transmission lines, by-pass condensers, chokes or any resonant circuit.
- For measuring capacitance, inductance, Q, mutual inductance.
- For preliminary tracking and alignment of receivers.
- As an auxiliary signal generator; modulated or unmodulated.
- For antenna tuning and transmitter neutralizing, power off.
- For locating parasitic circuits and spurious resonances.
- As a low sensitivity receiver for signal tracing.
- As a beat-frequency oscillator in conjunction with a fixed frequency oscillator for measuring video or wide-band amplifier bandwidths.
- As an oscillating or absorption marker for use with a sweep-frequency oscillator.
- For transmitter or oscillator frequency checking by beat note method and absorption wave meter method.

*And Many Other Applications.*

## TELEVISION

The Model 59 is most useful in the construction and servicing of television receivers. It can be used for aligning video amplifiers, for peaking coils, sound traps, filters, stagger-tuned i.f.s, stagger-tuned amplifiers, sound i.f.s, local oscillators, carrier circuits, grid mixing circuits, etc. It is very effective for locating interference and for making traps and filters.

MODEL  
59



**FREQUENCY RANGE:** 2.2 megacycles to 400 megacycles with seven plug-in coils.

**FREQUENCY ACCURACY:** Individually calibrated dial, direct reading to an accuracy of  $\pm 2\%$ .

**OUTPUT:** CW or MCW. Modulation fixed at approximately 30%, 120 cycles.

**TUBES:** 1—Type 955  
1—Type OD3/YR150  
1—Type 5Y3GT

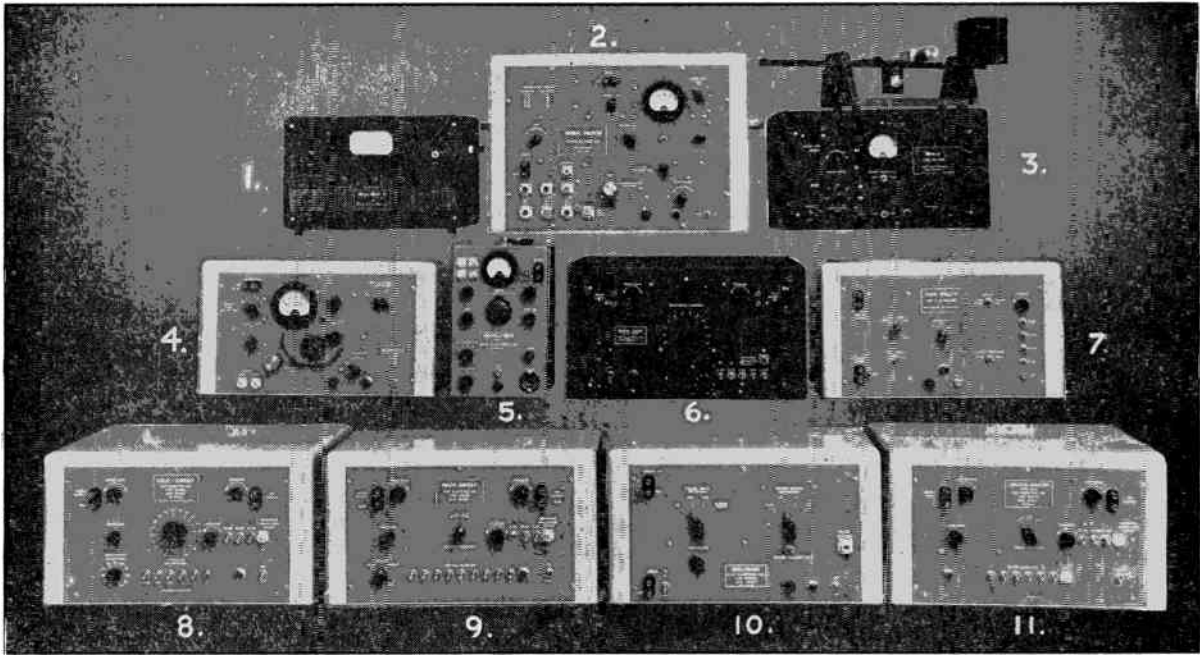
**DIMENSIONS:** Power unit:  $5\frac{1}{8}$ " wide,  $6\frac{1}{8}$ " high,  $7\frac{1}{2}$ " deep.  
Weight: approximately  $6\frac{1}{2}$  lbs.  
Oscillator unit:  $3\frac{3}{4}$ " diameter, 2" deep.  
Weight: approximately 1 lb.

**POWER SUPPLY:** 117 volts, 50-60 cycles, 20 watts.







Step-down transformer available for 220 volts, 50 cycle operation.

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## THESE VERSATILE INSTRUMENTS CAN HELP YOU

<p><b>1. MEGA-NODE SR.</b></p> <p>A calibrated random noise source, 100-3000 mcs. Reads noise figure directly on panel meter.</p>	<p><b>2. MEGA-MATCH UHF Model</b></p>  <p>Displays reflection coefficient over 30 mc band from 10 to 1000 mcs.</p>	<p><b>3. MEGA-X</b></p> <p>An X-band Signal Source, C.W. or Sweeping 8500 to 9700 mcs.</p>	<p><b>4. CALIBRATED MEGA-SWEEP</b></p>  <p>Wide range sweeping oscillator with single dial tuning.</p>
<p><b>5. ROTALYZER Model WB</b></p>  <p>Accurate measurements of instantaneous and average RPM as well as torsional vibration.</p>	<p><b>6. MARKA-SWEEP Model RF-P</b></p> <p>An all-electronic sweep generator switch tuned to VHF TV channels. Narrow crystal-positioned pulse-type markers.</p>	<p><b>7. RADA-PULSER</b></p>  <p>A pulsed carrier generator for transient response testing of Radar IF amplifiers.</p>	<p><b>8. KILO-SWEEP</b></p>  <p>Narrow band sweep from 50 kc to 2 mc with crystal markers for aligning Radar IF amplifiers.</p>
<p><b>9. RADA-SWEEP</b></p> <p>A wide band sweep generator with markers for aligning Radar IF amplifiers.</p>	<p><b>10. MEGA-PULSER</b></p>  <p>Ultra narrow pulse generator.</p>	<p><b>11. MARKA-SWEEP Model Video</b></p> <p>Wide Range video sweep generator covering 50 kc to 20 mc in three bands with crystal markers.</p>	

### OTHER INSTRUMENTS (Not Illustrated)

- **SONA-SWEEP** — Narrow band sweep from 5 kc to 200 kc with crystal markers.
- **MICROWAVE MEGA-MATCH** — Displays reflection coefficient over 30 mc band from 8500 to 9700 mcs.
- **MEGALYZER** — Sensitive visual RF voltmeter and spectrum analyzer.
- **MEGA-NODE** — A calibrated random noise source; 5-220 mc. Reads noise figure directly.
- **MICROWAVE MEGA-NODES** — Calibrated noise sources at microwaves.
- **MICRO-PULSER** — Provides pulses of selectable width over a wide range of repetition rates.
- **MEGA-PIX** — A crystal controlled TV picture and sound RF signal source.
- **ATTENUATORS** — High frequency switchable attenuators.
- **VIBRALYZER** — A vibration and noise frequency analyzer.
- **SONA-GRAPH** — A sound spectrograph for the frequency analysis of audio energy.

★ WRITE FOR CATALOG and PRICES



# KAY ELECTRIC COMPANY

14 Maple Avenue      Phone: CAldwell 6-4000      Pine Brook, New Jersey

Equal Opportunity: 11 East 40th Street, New York 18, N.Y.



# ELECTRONIC RESEARCH, ENGINEERING AND MAINTENANCE EQUIPMENT

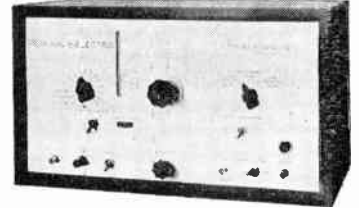
## TV TEST EQUIPMENT



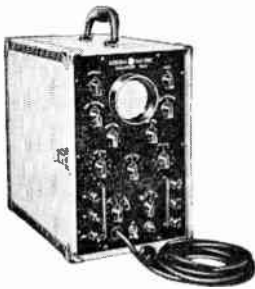
**Sweep Generator, Type ST-4A** This Variable Permeability Sweep is completely electronic, has no moving parts. Ideal for TV receiver maintenance, TV production and development laboratories, wide band amplifier study, transmission line impedance measurements.



**Oscilloscope Type ST-2A** Excellent for head-end position work. Unsurpassed for stability and fine trace . . . no bounce when shifting bands. Delivers maximum sensitivity without sacrifice of frequency response. Use it to check hum, noise, distortion, modulation, phase relationships. Fits many applications where waveform study is essential.

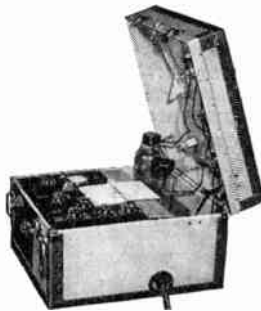


**Marker Generator Type ST-SA** Functions as a crystal referenced calibrator from 10 mc. to 300 mc. When used with the G-E sweep generator, it provides a multiple of markers spaced 1.5 or 4.5 mc. apart . . . or can be used to supply a marker or markers at any frequency up to from 10 mc. to 900 mc.



**Industrial Oscilloscope Model YNA-4** . . . For tracing circuit trouble in electronic-control equipment, this scope is fast, accurate, and dependable. Ideal for checking welding machines, high wave capacitor discharge panels, variable speed motor controls. Set it down anywhere—the case is insulated . . . carry it easily—weighs only 27 pounds . . . use it in many ways—tests both AC and DC.

**Industrial Tube Analyzer Type YTW-3** . . . This portable equipment is designed so that non-technical personnel can quickly and efficiently determine the performance of mercury vapor and gas rectifier tubes by measuring the arc drop voltage under load. The periodic testing of rectifier tubes can help prevent equipment failure and loss of operating time.



## NUCLEONICS EQUIPMENT

**Alpha Survey Meter Type 4SN10A2** A "must" for anyone handling radium or other alpha emitting material. Light, portable, thoroughly reliable even in high humidity. Accuracy 10% of indicated reading. Developed from Navy Type AN/PDR10A and AEC Cat. No. SPC-2C.



**Binary Scaler Model 4SN1A3** Provides scale of 2 in self-contained unit that cuts installation and maintenance to a minimum. Suitable for direct coupling — no intermediate stages necessary. Fits standard octal socket.

**Radiation Monitor Type 4SN11A3** Compact, easy to use. Infinite shelf life, no tubes, no batteries to wear out. Self-charging, high sensitivity 0 to 20 mr. Accuracy 10% of radium calibration.



# GENERAL ELECTRIC

# FOR DEVELOPMENT LABS., TV RECEIVER TESTING, INDUSTRIAL TESTING AND BROADCAST STATIONS

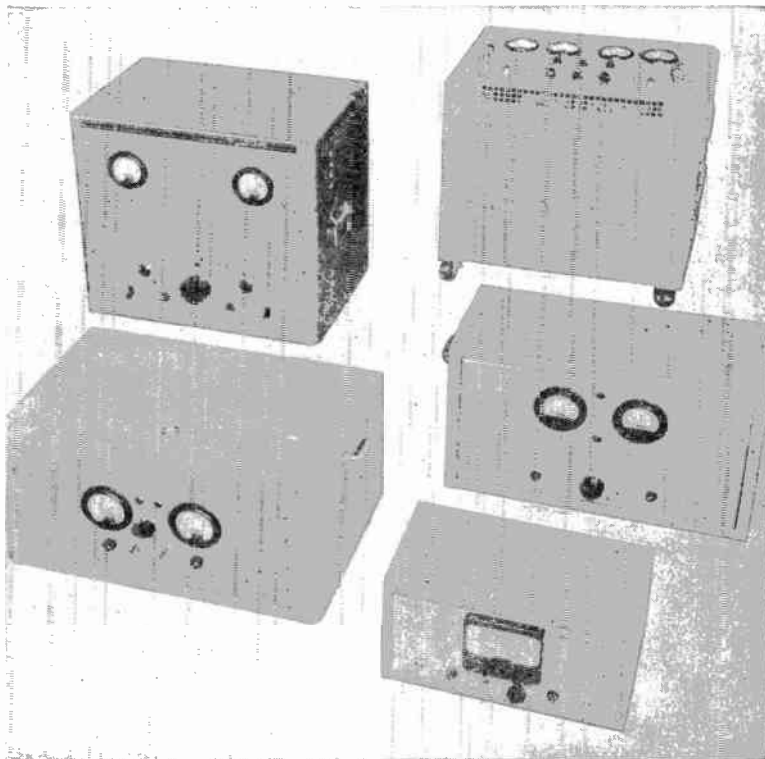
## REGULATED POWER SUPPLIES

**YPD-4** This General Electric regulated power supply provides a convenient adjustable source of DC voltage from 160 to 1500 volts, 125 milliamperes maximum, which is constant despite changes in load or supply voltage. Its exceptionally wide range of output voltage makes it a versatile power supply for laboratory work.

**YPD-2** A high-quality, electronically regulated unit designed for use in laboratories, broadcast stations, and wherever a closely regulated variable DC voltage source at medium current consumption is required. DC output 250 to 450 volts (positive or negative may be grounded to the chassis), current output 0 to 300 milliamperes max.

**4ST1A1** A superior quality, electronically regulated unit capable of supplying 180 to 300 volts, 60 milliamperes maximum, for general laboratory, development, and production use and wherever a closely regulated DC voltage of low ripple content is required.

**4ST9A1** This unit has two separate regulated outputs continuously variable, 0 to 500 volts, 200 milliamperes maximum. Designed for use in laboratories and wherever a closely regulated and well filtered DC voltage is required.



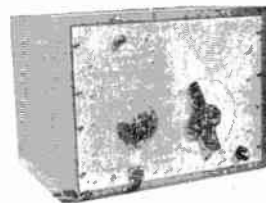
## GENERAL PURPOSE



**Oscilloscope ST-2C** A new 5" scope for general purpose work. Particularly useful for maintenance of microwave installations and TV stations. Wide frequency response without recourse to peaked amplifier coupling circuits, resulting in excellent response. Power requirements: 105-125 volts AC, 50-60 cycles, 120 watts.

## TV CHANNEL SWEEP

**Type ST-11A** Designed for production line use, this turret type sweep and marker covers 12 VHF TV channels. Sweep width: Max. at least 8.5 mc to 13 mc channels 2 to 13 respectively. Width internally adjustable from 0 to max. in 7 steps. Output voltage open circuit .28v with isolating pad.



The instruments shown on these pages represent the complete line made by General Electric at Electronics Park. The catalog at right includes specification sheets and descriptions of all units.

### Write for FREE Catalog

Your copy will be sent on request. General Electric Company, Electronics Park, Syracuse, N. Y.



# GENERAL ELECTRIC

# Radio



# Testers

## MODEL 630 VOLT-OHM-MIL-AMMETER

### RANGES

- D. C. VOLTS: 0-3-12-60-300-1200-6000, at 20,000 Ohms/Volt  
(For greater accuracy on TV and other High Resistance Circuits.)
- A. C. VOLTS: 0-3-12-60-300-1200-6000, at 5,000 Ohms/Volt  
(For greater accuracy in Audio and other High Impedance AC Circuits.)
- DB.: -30, +4, +16, +30, +44, +56, +70  
(For Direct Reading of Output Levels.)
- D. C. MICROAMPERES: 0-60, at 250 M. V.
- D. C. MILLIAMPERES: 0-1.2-12-120, at 250 M. V.
- D. C. AMPERES: 0-12, at 250 M. V.
- \*OHMS: 0-1000-10,000 (4.4-44 at center scale)
- \*MEGOHMS: 0-1-100 (4400-440,000 Ohms center scale)
- OUTPUT: Condenser in series with AC Volt ranges.
- \*Resistance ranges are compensated for greatest accuracy over wide battery voltage variations. Series Ohmmeter circuits for all ranges to eliminate possibility of battery drain when leaving switch in OHMS position.

Streamlined Tester with large 5½" meter, flush with the panel. Unit construction—Resistors, shunts, rectifier, batteries—all housed in a molded base integral with the switch. Provides direct connections without cabling. Simple to operate—only one switch, flush with panel surface, selects both circuit and range. Special 1% resistors are sealed in molded compartment. Batteries easily replaced—Balanced double-spring tension grip makes this operation simple. Assures permanent contact. Precalibrated rectifier for easy replacement.



Model 630

black markings on white except AC and OHM are red. A completely insulated, molded, black case, 3½" x 5½" x 7½", and panel with engraved white markings. Leather strap handle.

Weight: 4 lbs.

MODEL 630. U.S.A. DEALER NET \$39.50



Model 630-A

Enclosed selector switch of molded construction keeps dirt out. Retains contact alignment permanently. A Triplet design representing the culmination of a quarter-century of switch making experience.

This Volt-Ohm-Mil-Ammeter incorporating a 5½" instrument with 4¾" scale, has RED • DOT Lifetime Guarantee. Dial has

## MODEL 630-A WITH MIRROR SCALE

A laboratory-type Volt-Ohm-Mil-Ammeter with mirrored scales and greater accuracy made possible through the use of special ½% resistors. The long scales are mirror-sealed for greater accuracy.

CARRYING CASE MODEL 639-P, black leather, has adequate space for Model 630 or 630-A, instructions and accessories. Padded lining of ¾" sponge rubber. Strong leather strap handle.

MODEL 639-P. U.S.A. DEALER NET \$13.50

Model 630-A has the same ranges and other advanced design features as Model 630 described above.

Weight: 4 lbs.

MODEL 630-A. U.S.A. DEALER NET \$49.50

## MIRROR SCALE VOLT-OHM-MIL-AMMETER

Widest range tester of its type with additional brand new features: Long 5" mirror scale for better reading accuracy; Resistance ranges to 40 Megohm; Low Ohm Range 0-2000 (12 ohms center scale); D. C. Volt ranges with dual sensitivity (10,000/20,000 Ohm/Volt) provide double the number of full scale readings of average testers. A. C. Volt ranges at 10,000 Ohm/Volt permit checking many audio and high impedance A. C. circuits where a vacuum tube voltmeter usually is required. Low voltage ranges permit direct measurement of many bias and output voltages. Special film type resistors provide greater stability on all ranges.

6" RED • DOT Lifetime guaranteed meter. Long mirror scale guarantees greater reading accuracy. Insulated, black molded case with removable strap handle. 2½" x 5½" x 6". Molded black panel with white markings. Leads and instructions furnished.

Weight: Approx. 3 lbs.

- 39 RANGES
- D. C. VOLTS: 0-1.25-5-25-125-500-2500, 20,000 Ohm/Volt
- 0-2.5-10-50-250-1000-5000, 10,000 Ohm/Volt
- A. C. VOLTS: 0-2.5-10-50-250-1000-5000, 10,000 Ohm/Volt
- D. C. MICROAMPS: 0-50, at 250 Millivolts
- D. C. MILLIAMPS: 0-1-10-100-1000, at 250 Millivolts
- D. C. AMPERES: 0-10, at 250 Millivolts
- OHMS: 0-2,000-200,000 (12-1200 center scale)
- MEGOHMS: 0-40 (240,000 ohms center scale)
- DECIBELS: -30, +3, +15, +29, +43, +55, +69.  
(Reference level "0" DB at 1.73 V. on 500 Ohm line.)
- OUTPUT: Condenser in series with A. C. Volt ranges

Accessories available to special order for extending ranges: External pin jack shunts for D.C. Current ranges, resistors for A.C.-D.C. volt ranges.  
MODEL 625-NA. U.S.A. DEALER NET \$49.50

### CARRYING CASE

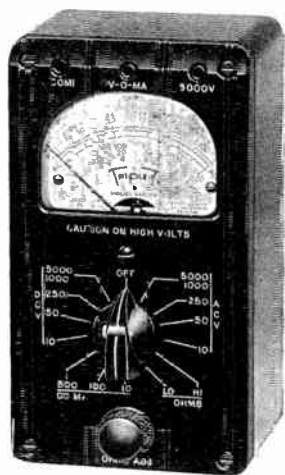
Attractive black leather carrying case with strap handle. Leather flap folds over the top and snaps in place.  
MODEL 629 CASE. U.S.A. DEALER NET \$6.50



Model 625-NA

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

## POCKET-SIZE VOLT-OHM-MILLIAMMETER



Model 666-HH

A precision-manufactured marvel of compactness that provides a complete miniature laboratory for D. C. and A. C. voltage, Direct Current and Resistance analyses. Its many ranges, attractive appearance and other unique features provide an answer to the Volt-Ohm-Milliammeter requirements of radio service-men and amateurs, industrial engineers, laboratory technicians, etc. Refinements in design feature:

Greater scale readability on the 3" RED • DOT Lifetime guaranteed instrument with black and red scale markings.

Simplified switching provides greater ease in changing ranges.

Lower jack contact resistance and trouble-free plug-in connections by use of banana-type jacks. Banana jacks at top of panel reduce possibility of connecting leads over panel controls or meter scales.

Greater stability on voltage ranges by use of special resistors throughout and on current ranges by use of 250 M. V. instrument.

### RANGES

- D. C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt
- A. C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt
- D. C. MA: 0-10-100-500, at 250 Millivolts
- OHMS: 0-2000-400,000 (12-2400 center scale)

Attractive new streamlined black molded case, completely insulated, 3 1/8" x 5 7/8" x 2 1/8". Black molded panel with white markings. Battery self-contained, plug-in type. 1.5 V. Eveready No. 935 or equivalent. 50" test leads with clips and plugs furnished.

Weight: 1 1/2 lbs.

Accessories available to special order for extending ranges: External pin jack shunts for Direct Current ranges, resistors for A.C.-D.C. volt ranges, battery and resistors for Ohms ranges.

MODEL 666-HH. U.S.A. DEALER NET \$24.50

### CARRYING CASE

Attractive black leather carrying case with strap handle. Leather flap folds over the top and snaps in place.

MODEL 669 CASE. U.S.A. DEALER NET \$5.50

## POCKET-SIZE VOLT-OHM-MIL-AMMETER

### RANGES

- D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt
- A.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt
- D.C. M.A.: 0-10-100, at 250 M.V.
- D.C. AMP.: 0-1, at 250 M.V.
- OHMS: 0-3000-300,000 (20-2000 center scale)
- MEGOHM: 0-3 (20,000 Ohm center scale) (Compensated Ohmmeter circuit.)

A New Pocket-Size Volt-Ohm-Mil-Ammeter with these latest specialized features meet your needs for A.C. and D.C. Voltage, Direct Current and Resistance analyses.

Enclosed selector switch of molded construction keeps dirt out. Retains contact alignment permanently. A Triplet design representing the culmination of a quarter-century of switch making experience. **UNIT CONSTRUCTION**—All resistors, shunts, rectifier and batteries housed in a molded base integral with the switch. Eliminates chance for shorts. Direct connections. No Cabling. All precision film or

wire-wound resistors are mounted in their own compartment—assures greater accuracy.

3" 0-200-Microammeter, 250 M.V., RED • DOT Lifetime guaranteed against defects in materials or workmanship. Red and black markings on a white background. Easy-to-read scale.

Precalibrated rectifier unit and batteries easily replaced. One 1.5 Volt Eveready #935 and two 1.5 Volt Eveready #915, or equivalent, self-contained.

Handy and pocket-size, black molded case is completely insulated. Size: 3 1/8" x 5 7/8" x 2 1/8". Leather strap handle. Black molded panel with engraved white markings.

Furnished complete with batteries, 50" test leads and instruction book at an amazingly low price.

Weight: 1 1/2 lbs.

MODEL 666-R. U.S.A. DEALER NET \$26.50

### CARRYING CASE

MODEL 669, black leather strap handle, snap cover. . . . U.S.A. DEALER NET . . . \$5.50



Model 666-R

## PORTABLE VOLT-OHM-MIL-AMMETER



Model 666-RL

This is the popular Model 666-R in camera-type black leather case, particularly designed for anyone who wants a completely portable instrument readily accessible for instant use. Among those who like this style are maintenance and repairmen whose work requires equipment with an accent on portability. With the tester hung up by the leather strap handle, the operator is permitted the use of both hands in his work and the tester is kept within easy reach.

When the case is opened, the lower front flap drops down and the top folds back, exposing the entire tester panel and meter dial so that readings can be taken easily from clear, legible black and red markings on the meter dial. Only one switch adjustment is needed to select the

range for any A.C. or D.C. Voltage up to 5000, at 1000 Ohms per volt; Direct Current from 0 to 100 Ma. and 1 Amp. The completely enclosed selector switch of molded construction keeps dirt out and retains alignment permanently. Unit construction whereby all resistors, shunts, rectifier and batteries are housed in a molded base provides direct connections, eliminating chances for shorts.

All precision film or wire-wound resistors are mounted in their own compartment assuring greater accuracy.

RANGES AND OTHER TECHNICAL DATA ARE THE SAME AS FOR MODEL 666-R LISTED ABOVE.

MODEL 666-RL. U.S.A. DEALER NET \$32.50

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# Radio

# TRIPLET

# Testers

## TUBE TESTER

A Triplett Tube Tester with new improved testing flexibility permitting checking any type radio receiving tube, miniature hearing aid tubes, pilot lamps, flashlight bulbs and TV picture tubes. The tester gives both "short" and "open" circuit check of each element of every tube — an accurate analysis of the condition of all tube elements, connections, taps, etc. TV picture tubes are checked without removing them from the receiver, by use of an adapter that may be purchased separately. "Continuity" test is provided for checking electrical appliances, motors, etc.

Model 3413-A has flexible 3-position lever switches for complete coverage of present and future tube connections. RMA pin numbering of tube element levers makes for quick reference of tube base connections. Illuminated, easy-to-read roll type tube chart is built into the tester. Simplified test procedure makes it possible for user to add new tube data to chart when desired.

Line Voltage indication on center of meter dial permits observation and adjustment for line fluctuations. Filament voltage: 0.63 volts to 110 volts in 14 steps.

Large 6" meter, RED • DOT Lifetime guaranteed, has 3-color easy-to-read GOOD—?—BAD scale.

Portable metal case, 15 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ " x 6 $\frac{1}{8}$ ", black satin wrinkle finish, with removable, hinged cover and leather handle. Panel attractively etched in black, silver and red. Complete instructions supplied. Power: 115 V., 50-60 cycle A.C. Wt. 20 lbs.

MODEL 3413-A . . . U.S.A. DEALER NET . . . \$79.50



Model 3413-A

### PICTURE TUBE ADAPTER

BV Adapter for 3413-A permits testing picture tube right in the receiver or in a shipping carton . . . Dealer Net . . . \$7.90

## PORTABLE VACUUM TUBE VOLTMETER — MODEL 650

### 32 RANGES

D.C. VOLTS: 0-1-5-10-50-100-500-1000

A.C.-R.F. VOLTS: 0-1-5-10-50-100-500

PEAK to PEAK VOLTS: 0-2.8-14-28-140-280-700 (Read on 0-1400 scale)

Peak to Peak value of sine wave to 1400 V.

OHMS: 0-1000-10,000-100,000

MEGOHMS: 0-1-100-1000

DECIBELS: Tabled in instruction book for different impedances.

Galvanometer Center mark "—0—" for discriminator alignment on all DCV ranges —.5 to +.5 volts on 0-1 DCV range.

FREQUENCY RANGE—A.C.-R.F.: 15 cps. to 110 MC at 30%.

### MODEL 650 OUTSTANDING FEATURES

1—Peak to Peak ACV and RF measurements made with one probe eliminates troublesome change of probe when changing from ACV to RF measurement. 3—Complete frequency coverage from 20 cps to over 110 MC with one probe. 3—ONE selector switch for all ranges. 4—One volt full scale reading on both AC and DC. 5—Especially designed and insulated, but still shielded RF probe with short leads for high frequency measurements. 6—Zero center mark for FM discriminator align-

ment plus other Galvanometer measurements. 7—High input impedance 11 Megohms on DC for accurate measurements. 8—Special means for making adjustment for ACV zero shift with line voltage variation. 9—High precision resistors throughout. 10—Separate 1 ACV and 5 ACV scales for greater accuracy. 11—Special circuit arranged so that OFF position shorts meter for greater damping and meter safety during transportation. 13—RED • DOT Lifetime Guaranteed meter, 2-color scale 4 $\frac{1}{2}$ " long.

Insulated molded case and panel, dimensions, 3 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ ". Removable black leather strap handle. Wt. 5 lbs., (complete with battery and accessories).

Accessories supplied with 650: 1 each AC Power Cord, DC Volt-Ohm lead (Shielded); AC-RF Volt shielded tube probe; 2 alligator clips for probe tips.

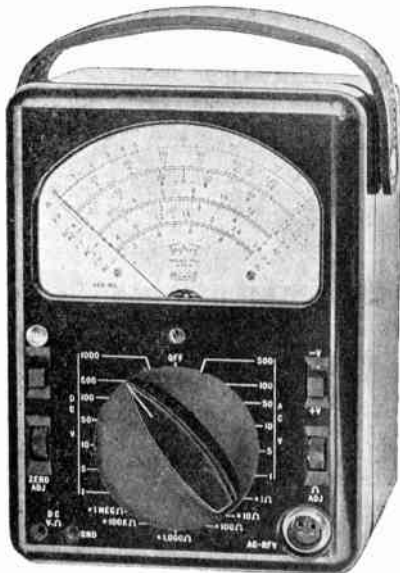
MODEL 650 USA DEALER NET \$49.50

Accessories available: DC High Voltage Probe: 50 KV-500 DC Volt range, 10 KV-100 DC Volt range, 5 KV-50 DC Volt range, \$14.50; Stand for holding tester at about a 45° angle, \$5.00 net.

CARRYING CASE MODEL 659, black leather strap handle.

USA DEALER NET .....\$9.50

CARRYING CASE MODEL 659-P, black leather, lined with  $\frac{3}{8}$ " sponge rubber. Strap handle. USA DEALER NET \$14.50



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# Radio **TRIPOLET** Testers

## TEST OSCILLATOR

A wide-range oscillator with uniformly illuminated dial. Seven long scales with widely separated divisions easily read, have five fundamental ranges—165 KC to 40 MC, and two harmonic ranges directly calibrated 36 to 120 MC.

Unique new feature is the brightly illuminated dial providing distinct illumination of scale markings without the least possibility of glare. Lighting also provides an "ON-OFF" indicator.

The dial is big (330°) with seven scales quickly readable at a glance. It has 10 to 1 ratio vernier tuning for ease of adjustment.

**RANGE SELECTOR** — 5 position follow-up coil switching with complete shielding.

**R. F. SELECTOR** — Provides High and Low R. F. Output.

**OUTPUT ATTENUATOR** — Provides fine control of R. F. Output to Coaxial output cable connector.

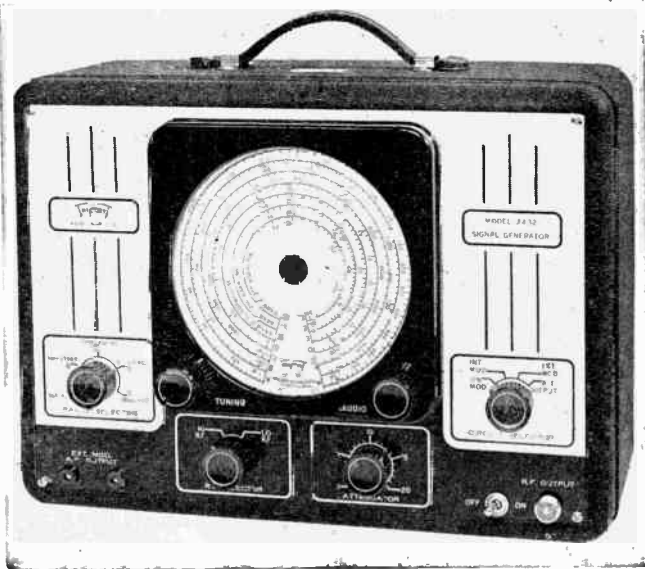
**CIRCUIT SELECTOR** — Provides for internally modulated signal (Variable 0 to 100% at 400 cycles). Variable amplitude of external modulation 40 to 15,000 cycles, unmodulated signal or variable audio 0-10 Volts at 400 cycle.

**DOUBLE SHIELDING**—All R. F. and audio circuits are double shielded with copper plated steel shields.

Metal case, 15 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ ", with black enamel finish. Has leather strap handle for ease in carrying. Power: 115 volt, 50-60 cycle A. C. (electrostatic shielded transformer).

Weight: 14 $\frac{1}{2}$  lbs.

MODEL 3432 . . . U.S.A. DEALER NET . . . \$79.50



Model 3432

### RANGES

A—165-525 KC	E—18-40 MC
E—500-1750 KC	Harmonics to 120 MC
C—1700-6200 KC	E2—36-80 MC
D—6-18.5 MC	E3—54-120 MC

## RADIO & TV SERVICING WITH LOAD-CHEK

### RANGES

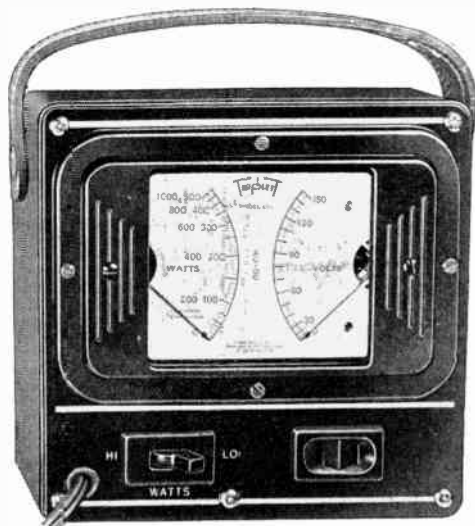
**WATTS—AC or DC:**  
0-500 (50 division scale)  
0-1000 (50 division scale)

**VOLTS—AC or DC:**  
0-150 (65 division scale)

The LOAD-CHEK for the first time makes it possible for every technician to utilize what is perhaps the simplest and quickest of all service methods—servicing by Power Consumption Measurements, long proven by auto-radio servicemen as a rapid method of localizing troubles in auto radios. Triplet Model 660 is the first Wattmeter to be produced at moderate cost, and with the proper ranges, to bring this short-cut method within the reach of every radio and TV serviceman.

Following are only two of many time-saving uses of this new instrument:

**Locating A Short**—The chassis tag may show a normal consumption of 225 Watts. Simply plug the power cord of the chassis into LOAD-CHEK (no loose ends to connect or be in the way). Note the reading—which should be possibly 350 Watts. By



Model 660

removing the rectifier tube you can determine at once which side of the tube the short is on. With a soldering iron and long-nosed pliers you can check through the chassis, locate and correct the trouble without having to lay down tools or to check with lead wires!

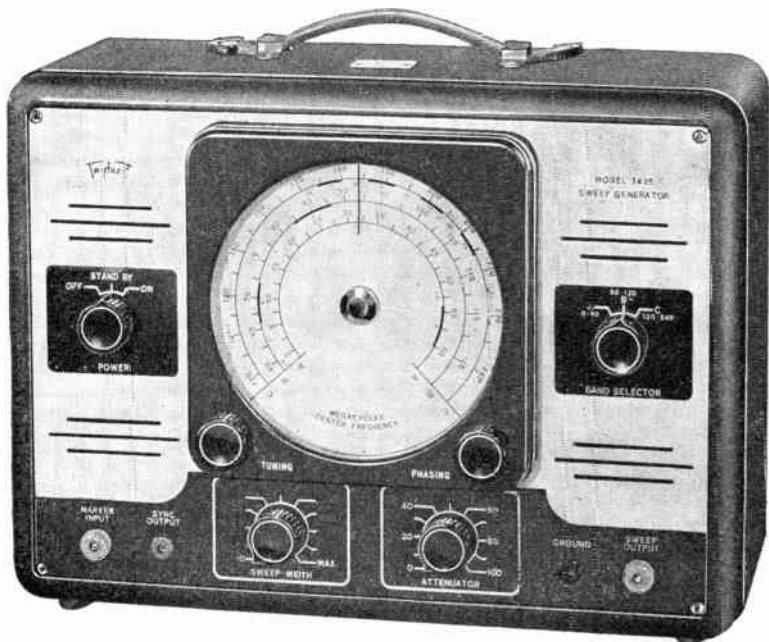
**Replacing Burned-Out Resistors**—With the chassis to be repaired plugged into a LOAD-CHEK MODEL 660, note the wattage reading with the burned out resistor circuit open. Now replace the resistor. Should the increase in watts be greater than the resistor rating, it indicates an extra load has caused the trouble which has not been cleared. LOAD-CHEK is made-to-order for the busy serviceman because it's a Time-Saver; and at its moderate cost can be standard equipment on every service bench.

Black, molded, insulated case, 2 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ " x 6", with removable black leather strap handle. Black molded panel with white markings. Wt. — 2 lbs.  
MODEL 660 . . . U.S.A. DEALER NET . . . \$29.50  
Model 629 Leather Carrying Case

U.S.A. DEALER NET \$ 6.50

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# Radio **TRIPOLET** Testers



**Model 3435**  
**FREQUENCY COVERAGE**

Sweep Center Frequency:  
 Range 1— 0- 60 MC (Fundamental)  
 Range 2— 60-120 MC "  
 Range 3—120-240 MC (Harmonic)  
 Sweep Width: .1-12 MC (Continuously Variable)



**Model 1235**

Although designed as a companion unit for Triplett Model 3435 Sweep Signal Generator, it can be used with any Sweep Generator as an external Marker. There are no complications in use, for connection is made quickly and easily through a panel connector. A standby switch is provided for temporary silencing of Generator during other work on equipment under test. Attenuation—continuously variable from 0 to maximum of Marker dip.

Copper plated steel construction throughout. Large 4" dial has two easy-to-read scales etched on the dial.

Metal case, with black suede enamel finish, 7 $\frac{1}{4}$ " x 6 $\frac{3}{4}$ " x 4 $\frac{1}{2}$ ". Metal handle. Copper plated feet for improved grounding when working over metal work bench top. Panel is black and red etched on aluminum.

Accessories—Co-Axial cable for low-loss connection to Sweep Generator or. Coaxial cable for connection to test setup.

Power: None required. Weight: 4 lbs.  
 MODEL 1235 . . . . . U.S.A. DEALER NET . . . \$29.50

**ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION**

## **ABSORPTION TV-IF MARKER**

Frequency Coverage:  
 9.5 to 50 MC in two bands.  
 Triplett first to provide:  
 Control over amplitude of Marker dip.

Standby feature. Removed from circuit by merely turning switch.

Other special features:  
 May be used with any type Sweep Generator.

Two tuning ranges providing complete coverage of all present TV-IF frequencies and ample provision for the future.

Designed as companion unit for 3435 Sweep Generator.

## **NEW CRYSTAL MARKER**

Frequency Coverage:  
 Up through 18 MC on crystal (fundamentals)  
 Up through 216 MC on crystal (harmonics)  
 (Crystals not included.)

Model 1236 provides Marker frequencies of crystal controlled accuracy for TV, IF or RF requirements. By purchasing ONLY those crystals needed for a particular TV service area and the most-used IF frequencies, this new unit provides utmost Marker accuracy and offers a speedy selection of the desired crystal-controlled signal.

This Marker saves plenty of time in checking band-pass characteristics of curves—simply throw the switch to the desired crystal—eliminating delays resulting from constant tuning and retuning required in the use of variable markers. Signals for the most accurate and fastest means of aligning local oscillators in TV receivers and many other applications. When using a 1 MC crystal, Model 1236 becomes a standard for checking other signal generators or receivers.

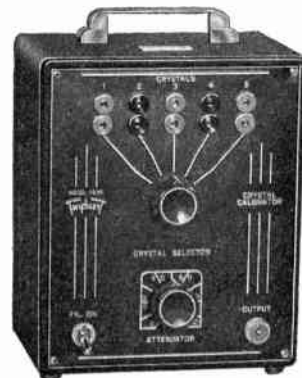
Designed as a companion unit to Triplett 3435, it receives its power by plugging into a panel jack in the Sweep Generator.

Attenuation—Low impedance single control T-pad attenuator, continuously variable. Shielding—Copper plated steel construction throughout. Stability—Increased by use of latest high-frequency techniques.

Metal case, black suede enamel finish, 7 $\frac{3}{8}$ " x 6 $\frac{3}{4}$ " x 4 $\frac{1}{2}$ ". Metal handle. Copper plated feet. Silver, black, and red etched aluminum panel.

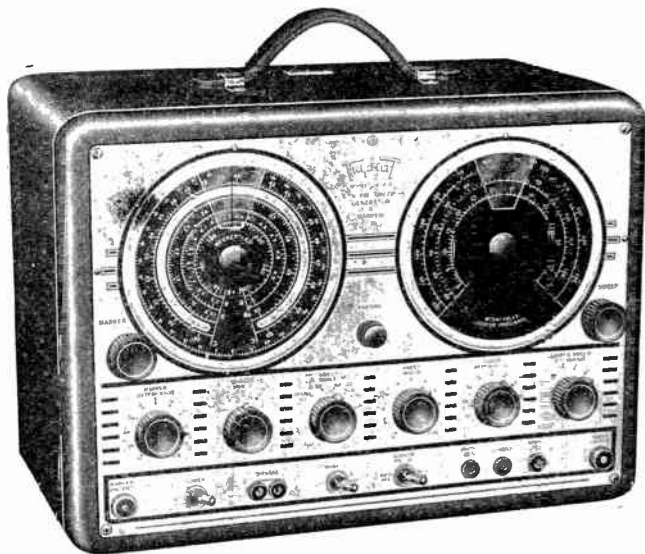
Accessories — Coaxial cable for low-loss connection to Sweep Generator.

WEIGHT: 3 $\frac{3}{4}$  lbs.  
 MODEL 1236 . . . . . U.S.A. DEALER NET . . . \$24.50



**Model 1236**

# Radio **TRIPOLET** Testers



Model 3434A

## A FEW REASONS YOU'LL WANT MODEL 3434-A

- ★ Continuously variable sweep width from 100 KC to 12 MC.
- ★ Illuminated Frequency dial marked with channels and frequencies.
- ★ Variable Marker provides continuous tuning over all present TV Video and Sound IFs. Illuminated Mirrored dial.
- ★ Designed to provide HIGH OUTPUT for stage-by-stage alignment.
- ★ Self-contained Horizontal Bar Generator covers all channels on Marker Harmonics.

## MODEL 3441 TV-FM OSCILLOSCOPE

Push-Pull vertical and horizontal output amplifiers.

**VERTICAL AMPLIFIER**—Response usable beyond 4.0 MC. Shows a 300 KC square wave with no distortion. Two frequency response ranges with four-range compensated attenuator.

**SENSITIVITY:** .01 RMS Volts/Inch with switch in 2 MC position.  
.02 RMS Volts/Inch with switch in 4 MC position.

**HORIZONTAL AMPLIFIER**—Frequency Range Flat within  $\pm 20\%$  from 20 Cycle to 150 KC. Deflection Sensitivity—.15 RMS Volts/Inch.

**INPUT IMPEDANCE**—Vertical Amplifier 2 Megohms in parallel with 20 MMF. with low capacity probe.  
2 Megohms in parallel with 45 MMF. at input terminals.

**CALIBRATING METER (ILLUMINATED)**—Reads peak to peak voltages from 0 to 1000 Volts in 8 ranges, the low range being 0-0.3 volt peak to peak. Reading peak to peak voltages with Triplet Model 3441 makes it possible to view the percentage of positive and negative; plus reading peak to peak voltage direct. Where reading peak to peak voltage on a VTVM only peak to peak voltage is known.

**PHONE JACK** is on front panel connected to the output of the vertical amplifier so you can hear as you see. This makes a convenient way to familiarize the visual pattern with the familiar audio sounds. Having a high gain amplifier system available also is ideal for tracing audio circuits and checking for moisy components.

**LINEAR TIME BASE**—10 CPS to 60 KC/Second linear, available at panel.

**TUBE COMPLEMENT**—5UP1, 2-7A5, 5Y3, VR150, 6AC7, 12AT7, 3-6SN7, 2X2. Total 11. Wide frequency range provide for Television servicing requirements.

Phased 60 CPS horizontal sweep and return trace eliminator for use with Sweep Generators.

Synchronizing and horizontal Sweep Selector combined in same control for simplicity in operation.

**CASE**—Metal, with black sued enamel finish, 15 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " x 16". Leather handle. Metal feet for improved grounding.

**PANEL**—Black, red and white characters etched on aluminum.

**ACCESSORIES**—Two Co-Axial leads for Vertical Input. Rubber covered leads to plug into Binding Post. Low capacity probe.

**POWER**—105-115 Volts, 50-60 Cycles, 80 Watts. Wt.: 3 $\frac{1}{2}$  lbs.

## TV-FM SWEEP SIGNAL GENERATOR WITH BUILT-IN MARKERS

### FREQUENCY COVERAGE

Sweep Center Frequency: Range 1- 0- 60 MC  
Range 2- 60-120 MC  
Range 3-120-240 MC

Sweep Width: .1-12 MC  
(Continuously Variable)

Marker Frequency:  
3.5- 4.9 MC (Fundamental)  
19.5-29.3 MC (Fundamental)  
29 -48.6 MC (Fundamental)

Usable to 241 MC on Harmonics  
Crystal Frequency: To 20 MC (Fundamental)  
Can be used to produce Harmonics up to 216 MC. (Plug-in Crystals not included.)

Modulation: 600 Cycle on Both Crystal and Marker frequencies.

Audio: 600 Cycles.

Model 3434-A provides a complete service laboratory for TV-FM servicing and other electronic requirements. No gaps in frequency. Continuous tuning over all TV-FM bands. Provisions for simultaneous presentation of two Markers. Audio output for quick check on video and sound amplifiers. Ladder type attenuator for coarse and fine output adjustment. Provision for simultaneous presentation of Crystal and Variable Markers. Illuminated, mirror-scaled Marker dials for precise adjustment. Smooth action dial drive with vernier scale. Balanced network for balanced input receivers. Sweep standby switch for temporary silencing of Generator during other work on equipment under test. Line filter. Regulated power supply. Completely shielded. Copper plated steel construction throughout.

Attractive steel case, black enamel finish, 15 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " x 8 $\frac{1}{4}$ ". Copped plated feet for improved grounding. Leather handle. Black, white and red etched markings on aluminum panel. Accessories — Two Co-Axial cables; heavy braid grounding strap; Polystyrene covered, shielded leads for audio, Phase 60 cycle output and additional ground.

Power: 105-115 volt, 50-60 cycle, 55 Watts. Wt. 23 lbs.

MODEL 3434-A—U.S.A. DEALER NET . . .



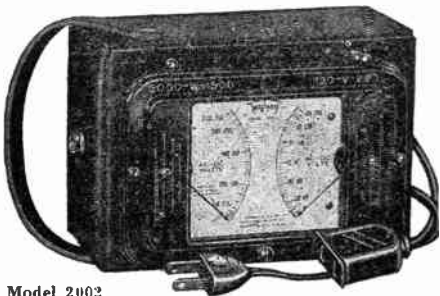
Model 3441

MODEL 3441 U.S.A. DEALER NET \$199.50  
No. 9989 CRYSTAL (Demodulating or Signal Tracing PROBE, for use with MODELS 3441 or 3440. U.S.A. DEALER NET \$9.50

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

# Radio TRIPLET Testers

## APPLIANCE TESTERS



Model 2002

### MODEL 2002

RANGES: 0-1500-3000 Watts AC-DC at 10 Amp. normal, 20 Amp. Max., 40 Amp. momentary; 0-130-260 Volts AC-DC.

Model 2002 shows power consumption of industrial equipment, radios, electric ranges, refrigerators, washers, etc., under actual running conditions, on either DC or AC between 25 and 133 cycles. Wattmeter on the left and Voltmeter on the right permit Watts and Volts to be read simultaneously or independently. Shows if voltage remains within limits under operating loads. Shows faulty power lines. Heavy inner construction. Heavy leather case, with snap cover and leather handle, 6 1/2" x 4 1/2" x 3 1/4". Storage space for cord and plug furnished. Wt. 2 lbs.

MODEL 2002 . . . . U.S.A. DEALER NET . . . . \$39.50

### MODEL 2006

RANGES 0-25 AC-DC Amperes; 0-130-260 AC-DC Volts.

Model 2006 is designed for those who prefer the Voltmeter-Ammeter method of testing electric ranges, refrigerators, washers and other household appliances, plus many industrial uses. Simultaneous readings of line voltage and current drain. Compact, portable, heavy leather case, with strap handle, 6 1/2" x 4 1/2" x 3 1/4". Adequate storage space for cord and plug furnished. Wt. 2 lbs.

MODEL 2006 . . . . U.S.A. DEALER NET . . . . \$34.50

### VU METER

### DB METER

Volume Unit and Decibel Meters are used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Static Equipment, etc.

VU Meters are used for volume level measurements—including broadcast monitoring. Ballistic characteristics comply with standardization recommendations of NBC and CBS and Bell Telephone Laboratories. Internal impedance 3900 Ohms. Steady state reference 1 Milliwatt. For 600 Ohm line. Dynamic characteristics provide for 99% full scale deflection in .3 seconds. Specify scale type when ordering:

Type "A": 0-100 (black) —20 to +3 VU on top arc (red).  
Type "B": 0-100 (black) —20 to +3 VU on bottom arc (red).  
Net Price

Model 426 VU	.....	\$16.50
Model 426 VU (Illuminated)	.....	18.00
Model 327-T VU	.....	15.50
Model 327-T VU (Illuminated)	.....	17.00

DB Meters permit the operator of public address systems, etc., to make instant adjustments to prevent sound blasting or distortion. General purpose type reads up 6 and down 10 decibels. Zero decibel = 1.73 Volts. Calibrated for use on a 500 Ohm line. Reference level 6 Milliwatts. Resistance: 5000 Ohms. They consist of a sensitive D. C. instrument coupled to a copper-oxide rectifier. Standard damping is provided unless highly damped instruments are specified. Quotation on request.

Models 321-T or 327-T	.....	\$12.40
Models 321-T or 327-T (Illuminated)	.....	14.00
Models 421 or 426	.....	13.40
Models 421 or 426 (Illuminated)	.....	15.00

## HIGH RANGE D.C. VOLTMETERS FOR AMATEURS

Designed particularly for radio amateurs. High range 3" D. C. Voltmeters—1000 ohms per volt. Provided with special external metalized multipliers mounted on bakelite strip. Specify this type when ordering, or standard voltmeters will be furnished. Available 8" case, Models 321-T, 327-T:

Range	Price	Range	Price
0-1000	\$13.10	0-4000	\$13.10
0-2000	13.10	0-5000	13.10
0-3000	13.10		

## RADIO AMATEUR EQUIPMENT

### FREQUENCY METER

A new band-switching, tuned Absorption type Frequency Meter covering five amateur bands. Incorporates the new germanium crystal and a D. C. Milliammeter indicator for greater sensitivity. Direct calibration on panel—no coils to change; switching permits instantaneous band change. Audio jack is provided for monitoring of phone signals—another new feature. Fully shielded. Calibration is in megacycles in the following bands: 3.5-4 MC; 7-7.3 MC; 14-14.4 MC; 20-21.5 MC; 28-30 MC. Coil is removable and other coils may be substituted for special bands, if desired.

USEFUL FOR CHECKING: (1) Fundamental frequency of oscillating circuits. (2) Presence, order and amplitude of harmonics. (3) For parasitic oscillations. (4) Neutralization of R. F. amplifiers. (5) Standing wave ratio on transmission lines. (6) Presence of undesirable or small quantities of R. F. (7) Monitoring of phone signals.

A fully shielded unit of compact pocket size. Overall height, including coil, 7 1/2"; width 2 1/2"; depth 2 1/4". Attractive gray "hammered" enamel finish with black trim.

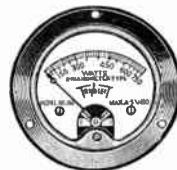
MODEL 3256 . . . . U.S.A. DEALER NET . . . . \$17.50



Model 3256

## WATTMETERS — ELECTRODYNAMOMETER

These instruments can be used on single phase A. C. or D. C. as Wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that external connection can be made. For use on frequencies up to 133 cycles per second. Available in three-inch model 361. Case dimensions same as 321-T, except for depth, 2" back of the flange (2 1/2" over studs). Wattmeters can be combined in the Triplet Twin case with a voltmeter or Ammeter. Accuracy within ±2%. Standard ranges as follows:



### MODEL 361 — SINGLE PHASE

Range Watts	Normal Voltage	Normal Amps.	Sc. Div.	Net Price
0-75	150	1/2	75	19.50
0-150	150	1	75	19.50
0-300	150	2	60	19.50
0-750	150	5	75	19.50
0-1500	150	10	75	19.50
0-150	300	1/2	75	21.50
0-300	300	1	60	21.50
0-600	300	2	60	21.50
0-1500	300	5	75	21.50
0-3000	300	10	60	21.50

### DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)

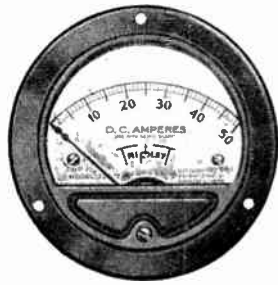
0-75-150	150-300	1/2	75	26.00
0-150-300	150-300	1	75	26.00
0-300-600	150-300	2	60	26.00
0-750-1500	150-300	5	75	26.00
0-1500-3000	150-300	10	75	28.50

## SENSITIVE RELAYS

Highly sensitive Triplet relays of the D'Arsonval moving coil type, are carefully designed to give dependable, satisfactory performance. Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Contacts are normally rated at 25 Milliampere, 25 Volts; higher ratings if required. Instrument relays are provided in 2", 3" or Twin cases. Years of instrument experience are available to every relay user through Triplet's extensive service. Send us your applications with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points, etc.

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

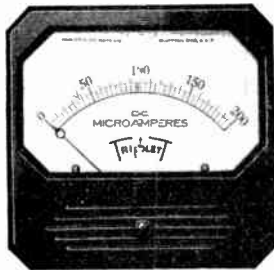
# Indicating TRI-PLET Instruments



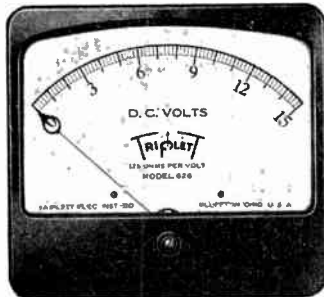
Models 221-T, 231-S, 241-T;  
222-T, 232-S, 242-T; 321-T,  
331-S, 341-T; 322, 332, 342



Models 227-T, 237-S, 247-T;  
327-T, 337-S, 347-T



Models 426, 436, 446 and 466



Models 626, 636, 646;  
726, 736, 746

Models		Scale Lengths		Flange	Body Dia.	Body Depth		Case Material
D. C.	A. C.	D. C.	A. C.			D. C.	A. C.	
221-T	231-S	1.76"	1.58"	2 1/8" Dia.	2 1/8"	1 1/8"	1 1/8"	Molded
222-T	232-S	1.76"	1.58"	2 3/8" Dia.	2 3/8"	1 1/8"	1 1/8"	Metal*
223-T	233-S	1.76"	1.58"	2 3/8" Dia.	2 3/8"	1 1/8"	1 1/8"	Metal*
227-T	237-S	1.76"	1.58"	2 3/8" Sq.	2 3/8"	1"	1"	Molded
321-T	331-S	2.49"	2.22"	3 1/2" Dia.	2 3/8"	1 1/8"	1 1/8"	Molded
322	332	2.49"	2.22"	3 1/2" Dia.	2 3/8"	1 1/8"	1 1/8"	Molded
324	334	2.49"	2.22"	3 1/2" Dia.	2 3/8"	1 1/8"	1 1/8"	Metal*
327-T	337-S	2.49"	2.22"	3 1/2" Dia.	2 3/8"	1 1/8"	1 1/8"	Molded
421	431	3.11"	2.78"	4 1/4" x 3 1/8"	2 3/8"	1 1/8"	1 1/8"	Molded
421-A	431-A	3.11"	2.78"	3 1/2" x 3 1/8"	2 3/8"	1 1/8"	1 1/8"	Molded
422	432	3.11"	2.78"	4 3/8" Dia.	3 3/8"	1 1/8"	1 1/8"	Molded
426	436	3.11"	2.78"	4 1/4" x 4 1/8"	3 3/8"	1 1/8"	1 1/8"	Molded
420	430	4.28"	3.6"	4 5/8" x 4 1/8"	2 3/8"	1 1/8"	1 1/8"	Molded
521	531	3.11"	2.78"	5 1/4" Dia.	4 3/8"	1 1/8"	1 1/8"	Molded
524	534	3.11"	2.78"	4 1/2" Dia.	4 3/8"	1 1/8"	1 1/8"	Molded
626	636	5.0"	5.0"	6" x 5 3/8"	3 1/8"	1 1/8"	1 1/8"	Molded
726	736	6"	5.75"	7 3/8" x 6 3/8"	3 1/2"	1 1/8"	1 1/8"	Molded

\*Molded base.

## D.C. VOLTMETERS — 125 Ohms per Volt

Range	Models	Models	Models 420,	Models	Model	Model
	221-T, 222-T, 223-T, 227-T	321-T, 322, 324, 327-T	421, 421-A, 422, 426			
0-5	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50	\$14.50
0-10	7.50	8.50	9.50	11.00	11.50	14.50
0-25	7.50	8.50	9.50	11.00	11.50	14.50
0-50	7.50	8.50	9.50	11.00	11.50	14.50
0-100	7.50	8.50	9.50	11.00	11.50	14.50
0-150	7.50	8.50	9.50	11.00	11.50	14.50
0-300	9.30	10.30	11.30	12.80	13.30	16.30

## D.C. VOLTMETERS — 1000 Ohms per Volt

0-10	\$ 9.90	\$10.90	\$11.90	\$13.40	\$13.90	\$16.90
0-150	10.30	11.30	12.30	13.80	14.30	17.30
0-300	12.60	13.60	14.60	16.10	16.60	19.60
0-500	14.10†	15.10	16.10	17.60	18.10	21.10
0-1000	28.40*	29.40*	30.40*	31.90*	32.40*	35.40*

125 Ohms/Volt sensitivity supplied unless otherwise specified on order. † Instruments supplied with External wire-wound series resistors at prices shown. \* Supplied with external resistor boxes at prices shown above. All other instruments are self-contained.

## D.C. MICROAMMETERS

0-20	\$13.50	\$14.50	\$15.50			
0-50	10.50	11.50	12.50	\$14.00	\$14.50*	\$17.50*
0-100	10.00	11.00	12.00	13.50	14.00*	17.00*
0-200	8.50	9.50	10.50	12.00	12.50	15.50
0-500	8.00	9.00	10.00	11.50	12.00	15.00

\* Supplied with knife-edge pointer.

## D.C. MILLIAMMETERS

0-1	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50	\$14.50
0-15	7.50	8.50	9.50	11.00	11.50	14.50
0-25	7.50	8.50	9.50	11.00	11.50	14.50
0-50	7.50	8.50	9.50	11.00	11.50	14.50
0-100	7.50	8.50	9.50	11.00	11.50	14.50
0-150	7.50	8.50	9.50	11.00	11.50	14.50
0-200	7.50	8.50	9.50	11.00	11.50	14.50
0-250	7.50	8.50	9.50	11.00	11.50	14.50
0-300	7.50	8.50	9.50	11.00	11.50	14.50
0-500	7.50	8.50	9.50	11.00	11.50	14.50

## D.C. AMMETERS

0-1	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50	\$14.50
0-10	7.50	8.50	9.50	11.00	11.50	14.50
0-25	7.50	8.50	9.50	11.00	11.50	14.50
0-50	7.50	8.50	9.50	11.00	11.50	14.50

## A.C. VOLTMETERS

Range	231-S, 232-S, 233-S, 237-S	331-S, 332-S, 334, 337-S	430, 431, 431-A, 432, 436	531, 534	636	736
	0-5	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50
0-10	7.50	8.50	9.50	11.00	11.50	14.50
0-150	8.50	9.50	10.50	12.00	12.50	15.50
0-300	10.30	11.30	12.30	13.80	14.30	17.30

## A.C. AMMETERS

0-3	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50	\$14.50
0-5	7.50	8.50	9.50	11.00	11.50	14.50
0-10	7.50	8.50	9.50	11.00	11.50	14.50
0-25	7.50	8.50	9.50	11.00	11.50	14.50

## A.C. MILLIAMMETERS

0-10	\$ 7.50	\$ 8.50	\$ 9.50	\$11.00	\$11.50	\$14.50
0-15	7.50	8.50	9.50	11.00	11.50	14.50
0-50	7.50	8.50	9.50	11.00	11.50	14.50
0-100	7.50	8.50	9.50	11.00	11.50	14.50
0-200	7.50	8.50	9.50	11.00	11.50	14.50
0-500	7.50	8.50	9.50	11.00	11.50	14.50

## R.F. AMMETERS (with internal couples)

0-.5	\$ 8.50	\$ 9.50	\$10.50	\$12.00	\$12.50	\$15.50
0-1	8.50	9.50	10.50	12.00	12.50	15.50
0-1.5	8.50	9.50	10.50	12.00	12.50	15.50
0-2.5	8.50	9.50	10.50	12.00	12.50	15.50
0-5	8.50	9.50	10.50	12.00	12.50	15.50
0-10	8.50	9.50	10.50	12.00	12.50	15.50

Also available with external couples; prices on request. Models 241-T, etc. correspond to D.C. Models 221-T, 341-T to 321-T, etc.

**ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION — OTHER RANGES AVAILABLE**

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

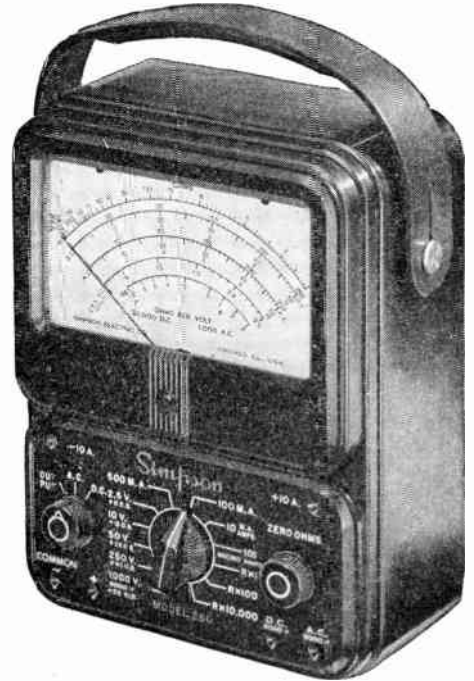
## MODEL 260 Set Tester

World's Most Popular  
High Sensitivity Set Tester  
For RADIO and TELEVISION

There are more Simpson 260 high sensitivity volt-ohm-milliammeters in use today than all others combined. No other instrument of its kind has approached the world-wide popularity of the Simpson 260. In no other tester of its kind will you find the combination of useful ranges, accuracy, ruggedness, beauty and sensitivity developed to such a high degree of perfection.

Removal of the Model 260 from its heavy, handsome case of molded bakelite, will disclose how it differs from most set testers. You will see a sub-panel with a score of small recesses each holding a separate resistor or other component. You will notice complete absence of cable wiring. All connections are short and direct, thus offering a strength and firmness of assembly and the finest of insulation to reduce chances of shorts. All components are readily accessible. The front panel is a thing of beauty and long life. Pin jacks are recessed so no metal parts are exposed. All figures and symbols are molded into a heavy Bakelite panel and filled with durable white for long wear and legibility.

At 20,000 ohms per volt the 260 is highly dependable, rugged and accurate. Its practically negligible current consumption assures remarkably accurate voltage readings. It provides DC current readings as low as 2 microamperes and up to 10 amperes. Dependable resistance readings can be made up to 20 megohms and as low as 1/5 ohm. With the 260 you can measure automatic frequency control diode balancing circuits, grid currents of oscillator tubes and power tubes, bias of power detectors, automatic volume control diode currents, high-mu triode plate voltage, as well as a wide range of other measurements which cannot be checked with ordinary servicing instruments.



### RANGES

Model 260 Volt-Ohm-Milliammeter  
20,000 Ohms per Volt DC, 1,000  
Ohms per Volt AC  
Volts, AC and DC: 2.5, 10, 50, 250,  
1000, 5000  
Output: 2.5, 10, 50, 250, 1000  
Milliamperes, DC: 10, 100, 500  
Microamperes, DC: 100  
Amperes, DC: 10  
Decibels (5 ranges): —12 to +55 DB.  
Ohms: 0-2000 (12 ohms center),  
0-200,000 (1200 ohms center),  
0-20 megohms (120,000 ohms  
center).

### 25,000 VOLT DC PROBE FOR TELEVISION TESTING

Complete, nothing to add, for use with  
Model 260. Weight: 6 oz. Shipping  
weight: 8 oz.  
DEALER'S NET PRICE  
complete with Instructions.....\$9.95



### DEALER'S NET PRICES

Model 260, complete with test leads and Operator's Manual.....	\$38.95
(Size: 5 1/4"x7"x3 1/8". Weight: 3 1/2 lbs. Shipping Wt.: 5 lbs.)	
Leather Carrying Case .....	6.75
Eveready Leather Carrying Case.....	8.75
Model 260RT in Roll Top Safety Case, complete with test leads and Opera- tor's Manual .....	46.90
(Size: 6 3/8"x9"x4 3/4". Weight: 6 1/2 lbs. Shipping Wt.: 9 lbs.)	

Model 260 available in standard all black or two tone tan and brown, at above prices.  
Specify color desired.

### MODEL 260RT SET TESTER IN ROLL TOP SAFETY CASE

The Model 260, when placed inside our patented housing of heavy molded bakelite and permanently fastened in position, offers the highest degree of efficient, economical instrument protection. Now you can buy the famous 260 complete in this roll top safety carrying case with its built-in lead compartment at less than the price of a 260 and an Eveready leather carrying case. A flick of the finger rolls the top up and the instrument is ready to use. A downward flick rolls the top down and your instrument is fully protected.

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 480 FM-TV GENESCOPE

*Ideal For Servicing Ultra Sensitive TV Receivers*

In addition to a signal source, the Model 480 Genescope includes a high sensitivity oscilloscope of unique advanced design, complete in every detail and equipped with a high frequency crystal probe for signal tracing.

The variable oscillator sections are mounted one on each side of the oscilloscope section and are provided with large precision vernier dials having a 20:1 ratio and 1000 division logging scales. They are easy to read and can be quickly set to an exact frequency.

Modern FM and TV development and servicing requires the use of test equipment made to exacting standards. With this in mind we offer you the Genescope with the assurance that everything possible has been done to make it the most accurate, flexible and convenient instrument available.

Multiple shielding, generous bypassing of all power leads entering oscillator enclosures and adequate line input filtering eliminates excessive leakage and oscillator interaction.

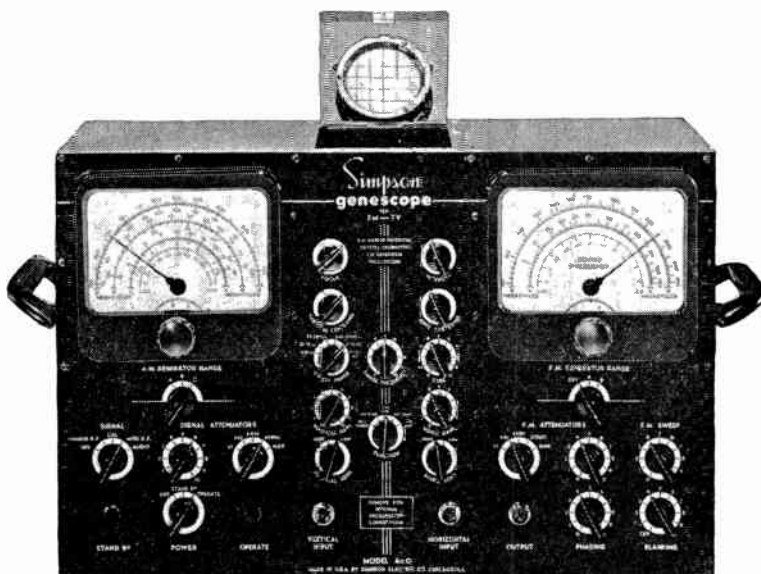
Step and continuously variable attenuators on both AM and FM sections provide minutely controlled signal levels from a few microvolts for fringe area peaking operations to a magnitude suitable for single stage alignment.

A self contained impedance matching network is adjustable to any receiver input, balanced or unbalanced, in a matter of seconds.

Values available include 300 ohm and 75 ohm termination with or without an intermediate attenuator pad and with or without an isolating condenser, open termination for maximum voltage output with or without isolating condenser and many other useful combinations.

The center section of the Genescope contains the oscilloscope and all associated controls. The cathode ray tube of the oscilloscope is mounted vertically in the case in order to conserve bench space. The pattern on the tube is brought into view by use of a highly polished adjustable mirror at the top of the cabinet. The mirror may be quickly adjusted for any position of the operator. The tube face is placed well below the top surface of the cabinet in order to shield it from incident light thus producing a clear, sharp image unhampered by narrow angle light shields. The mirror when closed provides adequate protection for the cathode ray tube when not in use.

Direct connection to vertical and horizontal deflection plates and other internal functions are available through removable cover on the front panel.



Model 480

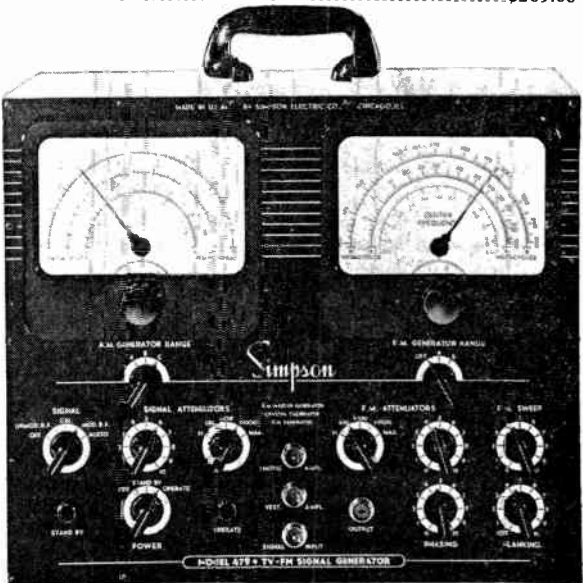
## MODEL 479 TV-FM SIGNAL GENERATOR

A modern instrument for today's TV-FM problems. Exactly the same circuits, ranges and functions as the Model 480, described above, with the exception of the oscilloscope.

Size 17" x 14" x 7 1/2". Weight 29 lbs. Shipping Weight 35 lbs.

Line Voltage: 105-125 volts, 60 cycles, 50 watts

DEALER'S NET PRICE with Test Leads and Operator's Manual .....\$269.00



Model 479

### MODEL 480 RANGES

#### AMPLITUDE MODULATED OSCILLATOR

Band A—3.2-15.6 megacycles

Band B—15-76 megacycles

Band C—75-250 megacycles

30% modulation at 400 cycles

or unmodulated

Continuously variable and step

attenuators

Visual method of beat frequency

indication

Crystal calibrator — 5 megacycles ± .05%

Audio Oscillator 400 cycles

AM and FM oscillator sections provided with large, easy to read dials

with 20:1 vernier control and 1000 division logging scale.

Impedance matching RF output cable

#### FREQUENCY MODULATED OSCILLATOR

Band A—2-120 megacycles

Band B—142-260 megacycles

Sweep width variable from zero

to 15 megacycles

Sweep rate 60 cycles per second

Specially designed frequency

sweep motor

Continuously variable and step

attenuators

#### OSCILLOSCOPE

Vertical sensitivity—35 mv per inch

Horizontal sensitivity—70 mv per inch

Linear sweep frequency—3 cycles to 60 kilocycles

60 cycle sine sweep

Frequency essentially flat to 200 KC. usable to over 3 megacycles

Size: 22"x14"x7 1/2". Weight 39 lbs. Shipping Weight 48 lbs.

LINE VOLTAGE: 105-125 volts, 60 cycles, 90 watts

MODEL 480 DEALER'S NET PRICE complete with

Test Leads and Operator's Manual .....\$395.00



# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 303 VACUUM TUBE VOLT-OHMMETER

The new Simpson 303 really is a versatile instrument. It can be used as an electronic DC voltmeter, an ohmmeter, an AC voltmeter, an AF voltmeter, an RF voltmeter (with accessory probe), an output-meter, and an FM indicator.

The 303 truly is a worthy companion of the world famous Simpson Model 260 Volt-Ohm-Milliammeter. Simpson engineers spent months of painstaking research in the laboratory, working in close co-operation with TV set manufacturers to produce the 303. This ruggedly built instrument has a dimension of only 120 cubic inches, and is 60 to 70% more compact than any similar instrument. In achieving this compactness for greater portability Simpson did not sacrifice accuracy or functional value. Its large 4½-inch meter is easy to read.

Features such as low current consumption and wide voltage and resistance ranges make the 303 an extremely versatile instrument.

Like all other instruments bearing the Simpson name, the 303 is of the highest quality construction throughout, but sells at an amazingly low price.

### SPECIFICATIONS

DC VOLTAGE: Ranges—1.2, 12, 60, 300, 1200 (30,000 with Accessory High Voltage Probe)  
 Input Resistance—10 megohms for all ranges  
 DC Probe—with one megohm isolating resistor  
 Polarity reversing switch  
 OHMS: Ranges—1000 (10 ohm center)  
 100,000 (1000 ohms center)  
 1 megohm (10,000 ohms center)  
 10 megohms (100,000 ohms center)  
 1000 megohms (10 megohms center)  
 AC VOLTAGE: Ranges—1.2, 12, 60, 300, 1200  
 Impedance (with cable) approx. 200 mmf shunted by 275,000 ohms  
 AF VOLTAGE: Ranges—1.2, 12, 60  
 Frequency Response—Flat 25 to 100,000 cycles  
 DECIBELS: Ranges—-20 to +3, -10 to +23, +4 to +37, +18 to +51, +30 to +63  
 Zero Power Level—1 M. W., 600 ohms  
 GALVANOMETER: Zero center for FM discriminator alignment and other galvanometer applications  
 R. F. VOLTAGE: (Signal tracing with Accessory High Frequency Crystal Probe)  
 Range—20 volts maximum  
 Frequency—Flat 20 KC to 100 M.C.



LINE VOLTAGE: 105-125 V. 50-60 cycles  
 SIZE: 5¼"x7"x3⅜" (bakelite case). Weight: 4 lbs. Shipping Wt.: 6½ lbs.  
 DEALER'S NET PRICE: Model 303, including DCV Probe, ACV —Ohms probe and Ground Lead with Operator's Manual—\$58.75  
 Accessory High Frequency Probe, \$7.50  
 Accessory High Voltage Probe, \$9.95  
 Also available with roll top case, Model 303RT—\$66.70

## MODEL 266 VACUUM TUBE VOLTMETER

Ideal for TV - AM - FM

Extremely accurate and packed full of important features. This fine Simpson instrument offers a 1 volt range for the full scale deflection necessary in measuring low RF voltages; a zero center switch embracing all DC voltage ranges for discriminator circuit alignment; a special probe with low input capacitance of approximately 4 micro-microfarads for checking RF voltages.

DC volt input resistance ranges from 50 to 200 megohms; AC volt input impedance at 60 cycles is approximately 10 megohms. The primary of the power transformer is well-regulated—holding close control over filament as well as plate voltage, and the DC input circuit is filtered so that the pressure of superimposed alternating currents does not affect DC measurements.

Model 266 is housed in a sturdy case with lead compartment in rear of case. There is a large, clearly marked 4½" meter for quick, easy readings.

### 25,000 Volt DC Probe for Television Testing

Complete, nothing to add, for use with Model 266  
 Weight: 6 oz. Shipping Weight: 8 oz.  
 DEALER'S NET PRICE, complete with Instructions.....\$11.35



### RANGES

Volts: (AC and DC) 0-1, 5, 10, 50, 100, 250, 500, 1000, 5000  
 Milliamperes, DC: 0-1, 5, 10, 50, 100, 250, 500  
 Amperes DC: 0-10  
 Ohms: 0-1000 (10 ohms center)

0-10,000 (100 ohms center)  
 0-100,000 (1000 ohms center)  
 0-1 megohm (10,000 ohms center)  
 0-10 megohms (100,000 ohms center)  
 0-100 megohms (1 megohm center)  
 0-1000 megohms (10 megohms center)

For 105-125 volts, 50-60 cycle.  
 Size: 8½"x9½"x8". Weight: 10¼ lbs.  
 Shipping Weight: 14 lbs.  
 DEALER'S NET PRICE, complete with Leads, AC Probe and Operator's Manual .....\$125.40

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 476 MIRROSCOPE

Simpson takes pleasure in presenting the new and revolutionary Model 476 Mirroscope.

The objectives behind the design of the Model 476 were to eliminate certain inherent disadvantages found in the conventional type of oscilloscope.

By use of the Mirroscope principle the 5" cathode ray tube is mounted in a vertical position. This construction reduces bench space requirement to an area of only 9" x 8" thereby permitting better concentration of associated equipment for any type of test procedure.

The cathode ray image is reflected from a high grade mirror mounted in the adjustable cover at the top of the cabinet, thus the viewing surface is brought near eye level when the instrument is used on benches of normal height. The mirror angle is quickly and easily adjusted to any position of the operator.

The cover with integral side wings forms an effective shield against external light sources or may be closed down for protection of the tube and mirror when the instrument is not in use.

The upright construction permits location of controls and connections for maximum convenience and allows for internal cathode ray tube connections at the front of the panel instead of the rear.

These and many other advantages will be disclosed when the construction and specifications of the Model 476 Mirroscope are considered fully.

### SENSITIVITY:

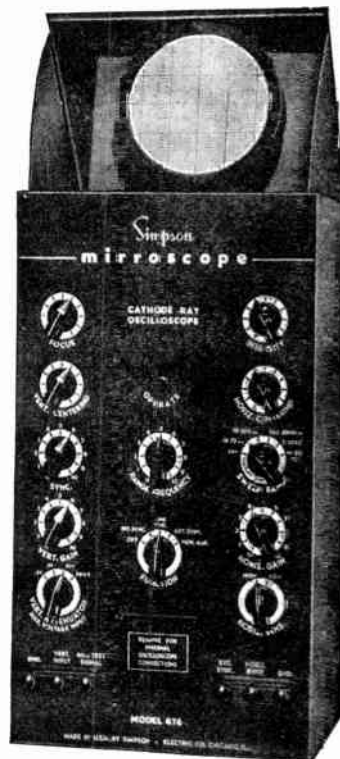
Vertical direct	— 12 volts rms per inch.
Vertical amplifier	— 20 millivolts rms per inch.
Horizontal direct	— 14 volts rms per inch.
Horizontal amplifier	— 38 millivolts rms per inch.

Horizontal trace expansion is over 4 times tube diameter. This makes it possible to examine minute portions of a response pattern for finer detail.

Linear Sweep frequency is continuously adjustable in five overlapping ranges from 15 cycles to 60,000 cycles. Internal, external or line frequency synchronization with variable amplitude is available.

Means for intensity or "Z axis" modulation is provided. Approximately 14 volts peak will blank a trace of normal intensity.

The vertical amplifier frequency response is within 3DB from 20 cycles to over 300,000 cycles and is usable to well over four megacycles. Square wave slant and overshoot is held to less than 5 per cent of amplitude. This response will be found adequate for all phases of television receiver service including observation and diagnosis of Sync. signals.



### INPUT IMPEDANCE:

Vertical direct	- 10 megohms, 15 mmf.
Horizontal direct	- 10 megohms, 15 mmf.
Vertical amplifier	- 300,000 ohms, 30 mmf.
Horizontal amplifier	- 500,000 ohms, 15 mmf.

### TUBE COMPLEMENT:

5UP4	Cathode Ray Tube.
4-6J6	Horizontal and Vertical Amplifiers.
1-12AU7	Vertical pre-amplifier.
1-6J6	Linear Sweep oscillator and Sync. injector.
2-6X4	High voltage rectifiers.

LINE VOLTAGE: 105-125 volts, 50-60 cycles.

SIZE: Height 16 1/4" Width 9 1/8"  
Depth 8" over all

WEIGHT: 24 lbs.; Shipping weight 30 lbs.

High Frequency Crystal Probe.....\$7.50

DEALERS NET PRICE including operators manual .....\$179.50

## MODEL 276 OSCILLOSCOPE CALIBRATOR

The Simpson Model 276 Oscilloscope Calibrator adapts your oscilloscope for quick and accurate voltage measurements by comparative methods.

A twelve position switch provides six ranges each of RMS, Peak and Peak to Peak voltage with six alternate neutral positions for viewing the signal under observation.

Continuously variable calibrating voltage of power line frequency is supplied by the Model 276 and is indicated on a large 4 1/2 inch meter which indicates RMS values from 0.06 volt to 90 volts, peak values from 0.1 volt to 125 volts and peak to peak values from 0.2 volt to 250 volts.

Housed in a rich black molded bakelite case identical to Models 260 and 303 this instrument will prove a worthy addition to the service dealer's equipment.

### RANGES

RMS:	.36 - .9 - 3.6 - 9 - 36 - 90
PEAK:	.50 - 1.25 - 5 - 12.5 - 50 - 125
PEAK to PEAK:	1.0 - 2.50 - 10 - 25 - 100 - 250

LINE VOLTAGE:  
105-125 V. 50-60 cycles

SIZE:  
5 1/4" x 7" x 3 1/8"

WEIGHT:  
2 1/2 pounds Shipping weight 5 pounds

DEALER'S NET PRICE.....\$29.50

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 488 FIELD STRENGTH METER

The Simpson Model 488 Television Field Strength Meter provides means for the measurement of Television signals in any locality.

Although special consideration was given to fringe area applications in the design of this instrument it will be found of extreme value in all types of installations.

Location of maximum signal areas, antenna orientation, comparison of antenna systems, adjustment of boosters and checking antenna and lead-in installations are only a few of the many functions available.

Full scale sensitivity of the lowest range is approximately 50 microvolts and is an outstanding feature for those concerned with fringe area installations where maximum efficiency must be attained. Three additional ranges of approximately 500, 5000 and 50000 microvolts extends the usefulness of the Model 488 into areas of higher signal strength.

The large 4½ inch modernistic meter is easily read from a considerable distance and all controls and connections arranged for greatest accessibility.

Model 488 is housed in a beautiful gray hammerloid finished case with heavy leather handle for greater portability.



SIZE: 8" x 11" x 8½".

WEIGHT: 11½ lbs. Shipping wt. 15 lbs.

LINE VOLTAGE: 105-125 volts, 50-60 cycles, 45 watts.

DEALER'S NET PRICE, including operating instructions and shoulder strap...\$98.50

## MODEL 381 CAPACITY BRIDGE

Once again Simpson has demonstrated its leadership in the industry by introducing an entirely new, small, compact, easy to use capacity bridge.

The Model 381 embodies a new and revolutionary circuit which enables even the inexperienced to make capacity measurement with ease and assurance.

Simplicity and ease of operation are features of this new instrument. You merely press a button for the desired range, adjust the bridge arm for maximum meter deflection and read the capacity on the scale.

The small size of this tester, together with its wide range of capacity measurement and low price makes the Model 381 the ideal instrument for Radio and Television service dealers, broadcast engineers, electric repair shops, X-ray servicing, industrial maintenance departments or any other service where condensers are tested.

Housed in a beautiful bakelite case with a durable etched aluminum panel and many specially designed parts, the Model 381 Capacity Bridge exemplifies the usual high quality construction found in all Simpson instruments.



### RANGES

- Range 1 .....20 mmfd. to 500 mmfd.
- Range 2 .....0005 mfd. to .05 mfd.
- Range 3 .....05 mfd. to 5 mfd.
- Range 4 .....5 mfd. to 500 mfd.

SIZE: 3⅝" x 5½" x 2⅝".

WEIGHT: 1¼ lbs. Shipping weight: 3 lbs.

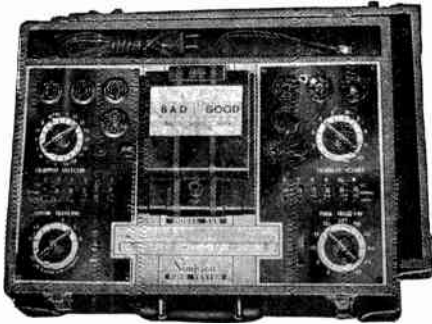
LINE VOLTAGE: 105-125 volts, 50-60 cycle.

DEALER'S NET PRICE .....\$28.50

# \* Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 555 Tube Tester



For 100-130 volts, 50-60 cycles.  
 Size: 16 $\frac{3}{4}$ "x12 $\frac{1}{2}$ "x6". Weight: 14 lbs.  
 Shipping Weight: 19 lbs.  
 DEALER'S NET PRICE, complete with  
 Operator's Manual .....\$79.50

Here is a tube tester Simpson engineered to test all tubes for today's radio and television receivers and any that may be developed within the foreseeable future. It is outstanding in its simplicity of operation and its attractive appearance.

### Check These Many Features

- Basic RMA recommended circuit. Tests any tube regardless of base connections or internal connections of elements.
- Simpson designed 3-position lever operated toggle switches with molded rotor carrying silver plated contacts, self-cleaning through wiping action.
- Sockets for all receiving tubes on the market.
- Provision for future tube developments.
- No adapters or special sockets required.
- Properly fused, provides for line adjustment from 100 to 130 volts; smooth vernier control.
- Beautiful modern panel of shining, silver and black anodized enduring aluminum.
- Large illuminated meter for easy readings.
- Unique jewel-like molded lucite housing encloses Neon bulb indicating shorts and inter-element leakages.
- Line adjustment control below dial opening. Easy to operate.
- Case of sturdy plywood with heavy fabricoid covering, slip hinges.
- Simpson Patented "No Backlash" Roll Chart.



For 105-125 volts, 50-60 cycle.  
 Size: 16"x12 $\frac{1}{2}$ "x6 $\frac{1}{4}$ ". Weight: 17 $\frac{1}{2}$  lbs.  
 Shipping Weight: 27 lbs.  
 DEALER'S NET PRICE, complete with  
 Operator's Manual .....\$108.50

## MODEL 335 Plate Conductance Tube Tester

### With Simpson Patented "No Backlash" Roll Chart

Model 335 tests tubes under conditions simulating actual use in a radio set. The dial indicates percentage of rated plate conductance which is closely related to mutual conductance since amplification factor remains constant throughout the life of a tube. With a minimum of settings a reading is quickly obtained which is a percentage of the tube's rated value.

Each tube element is individually connected to the proper potential. Reliable short test is provided and Diodes are tested on low voltage. When you have finished a tube test, the Simpson one button automatic reset returns all switches to the normal position.

Test all receiving tubes, including 9 pin miniatures, and sub-miniatures as used in hearing-aids, etc. Space is provided for new sockets.

## THE SIMPSON PATENTED "NO BACKLASH" ROLL CHART

The exclusive "No-Backlash" feature automatically takes up the slack in the paper chart and, by keeping the chart in constant tension, makes it impossible to turn the selector wheel without moving the chart. This results in precision selection at all times. The "No-Backlash" feature also prevents the paper chart from tearing, insures proper alignment, and presents at all times a neat, flat surface.

The selector wheel gear ratio makes it possible for tube selections to be obtained with a minimum of effort.

The entire Roll Chart mechanism is securely fastened to the instrument panel. Quick access to the roll chart can be obtained by removing four panel screws, so that the addition of tube data or the mounting of a new chart is a matter of a few minutes.

In addition to the neat, flat reading surface made possible by the "No-Backlash" feature, the lucite window was designed so that only two settings appear, which is especially convenient for the settings of multi-purpose tubes.

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 340 SIGNAL GENERATOR

75 Kilocycles to 120 Megacycles—fundamentals to 30 Megacycles. From its lustrous black anodized panel to the big nine-inch dial and knife edge pointer that mean easy readability, the Model 340 is an instrument packed with Simpson engineering refinements for greatest utility and long-lasting accuracy.

An electron coupled circuit, using three tubes—full wave rectifier, modulator, and oscillator—and standard 30% modulation at 400 cycles, assures extreme stability and output uniformity. Close settings are permitted by a smooth vernier control.

RF coils provide range of 75-220; 200-600; 550-1700 KC; and 1.5-4.5, 4.2-14; 9-30; 36-120 megacycles. Fundamentals range to 30 MC, and the dial is direct reading to 120 MC.

Shielding in the Model 340 is complete; coils, attenuator, and signal selector being individually shielded. The oscillator and modulator are sealed in a rigidly welded, entirely closed chassis. In addition, the line cord is shielded, thus reducing leakage to a negligible point.

The signal output is controlled through a step attenuator and non-inductive potentiometer, providing smooth and complete control of the signal output. A special jack is provided in the Model 340 to obtain high output on the 120 MC band.



For 105-130 volts, 50-60 cycles.  
Size: 16"x10"x6". Weight: 15 1/4 lbs.  
Shipping Weight: 20 lbs.

DEALER'S NET PRICE, complete with  
Operator's Manual .....\$84.50



## MODEL 221

## ROTO RANGER

(High Sensitivity AC-DC  
Volt-Ohm-Milliammeter)

### RANGES

20,000 ohms per volt DC, 1000 ohms per volt AC.

Volts, AC: 2.5, 10, 50, 250, 1000, 5000.

Volts, DC: 2.5, 10, 50, 300, 1000, 5000.

Milliamperes, DC: 10, 100, 500.

Microamperes, DC: 100.

Amperes, DC: 10.

Output: 2.5, 10, 50, 250, 1000.

Ohms: 0-2000 (12 ohms center), 0-200,000 (1200 ohms center), 0-20 megohms (120,000 ohms center).

Size: 12 3/4"x10 1/8"x5 3/8".

Weight: 9 lbs. Shipping Weight: 13 lbs.

DEALER'S NET PRICE, complete with Test  
Leads and Operator's Manual.....\$69.85

Twenty-five separate meters at the turn of a switch. That is what you get in the new Simpson Model 221 Roto Ranger. The necessity of reading numerous scales, so common in ordinary volt-ohm-milliammeters, is forever eliminated when you own a Roto Ranger. The chances for errors in making readings are reduced to a minimum. The Model 221 provides a separate direct reading scale for each range and does it automatically. Calibrations are not cramped. Each scale is full size, the same as it would be for a separate instrument. As the selector switch on the panel is moved to the range desired, an ingenious mechanism rotates the proper range into position behind the meter window.

### HIGH VOLTAGE PROBE AVAILABLE FOR TELEVISION SERVICING

30,000 V. DC — 20,000 ohms per volt.

Weight: 6 oz. Shipping Weight: 8 oz.

DEALER'S NET PRICE, complete with  
Instructions .....\$ 9.95

# Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODELS 240 and 230 VOLT-OHM-MILLIAMETERS



These two "Micro-Tester" portables are famous throughout the world for their ruggedness and built-in accuracy. They exemplify the construction features and utility that distinguish the entire Simpson line shown in this section.

Both are shock-proof and incorporate the celebrated Simpson movement with its FULL BRIDGE-TYPE CONSTRUCTION AND SOFT IRON POLE PIECES. Resistors are in matched pairs to provide the greatest possible accuracy for all ranges.

Model 240 — the "Hammer" — was designed for the additional voltage and sensitivity demanded in radio testing. With its maximum voltage range of 3000 AC or DC, it was the first self-contained pocket portable instrument built expressly to check high voltage and all the component parts of transmitters and receivers.

Model 230, with a maximum voltage of 1000 volts AC or DC, is ideal for most industrial testing. Its ranges are adequate for most line voltages, for telephone, teletype, and general purpose testing.

Both models are housed in heavily molded bakelite cases, with all numbers and symbols recessed in the panel and filled with white enamel for greatest legibility and ease of reading. Both have full size 3" meters.



### MODEL 240

AC Volts: 0-15, 150, 750, 3000 (1000 ohms per volt)  
 DC Volts: 0-15, 75, 300, 750, 3000 (1000 ohms per volt)  
 DC Milliamperes: 0-15, 150, 750  
 Ohms: 0-3000 (center scale 30)  
 0-300,000 (center scale 3000)  
 Accuracy: DC 3% — AC 5%  
 Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.  
 DEALER'S NET PRICE, complete with Leads and  
 Printed Instructions .....\$26.35

### MODEL 230

AC Volts: 0-10, 250, 1000 (400 ohms per volt)  
 DC Volts: 0-10, 50, 250, 1000 (1000 ohms per volt)  
 DC Milliamperes: 0-10, 50, 250  
 Ohms: 0-1000, 0-100,000  
 Accuracy: DC 3% — AC 5%  
 Size: 3"x5<sup>5</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.  
 DEALER'S NET PRICE, complete with Leads and  
 Printed Instructions .....\$24.95

## MODEL 351 TV ANTENNA COMPASS

Model 351 takes the physical form of a ruggedly built pocket-size meter which connects by a simple insulation-piercing alligator clip to the video input of the cathode ray tube in the television receiver. One man can do a better installation job in less time than it used to take two men.

By an extension cord, it is carried to the antenna site. With a test pattern tuned in on the area's weakest station, the antenna is simply located and rotated for maximum deflection of the TV Antenna Compass.

Size 4<sup>3</sup>/<sub>4</sub>"x4<sup>1</sup>/<sub>4</sub>"x1-9/16". Weight 1 lb. Shipping Weight 4 lbs.  
 DEALER'S NET PRICE — Complete with Termination Box and Printed Instructions... \$16.35



## HIGH VOLTAGE TV PROBE

Here are Simpson's four High Voltage Test Probes for Television servicing, each designed for use with the models listed here. They are molded of high temperature polystyrene to provide high dielectric strength and maximum insulation. Their small diameter permits reaching in small spaces and narrow openings.

Size diameter 9/16", Length 11<sup>1</sup>/<sub>2</sub>", Weight 6 oz. Shipping Weight 2 lbs.

DEALER'S NET PRICES  
 High Voltage Probe for 260 (25000 V) .....\$ 9.95  
 Complete, nothing to add  
 High Voltage Probe for 221 (30000 V) ..... 9.95  
 Complete, nothing to add  
 High Voltage Probe for 303 (30000 V) ..... 9.95  
 Complete, nothing to add  
 High Voltage Probe for 266 (25000 V) ..... 11.35  
 Complete, nothing to add

# Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 390 VOLT-AMP-WATTMETER

Ruggedly constructed for full load, continuous operation, the Simpson Model 390 is the first tester of its size ever made to give you volt, ampere and wattage readings in one compact instrument. It embraces two ranges each of voltage and current, providing four wattage ranges which cover practically all types and makes of appliances. The panel has volt-ampere combinations clearly indexed to the proper wattage range on the scale, which makes the instrument easy to use. All readings are shown on one meter. In normal position, the meter indicates volts. Ampere and watt readings are obtained by depressing button on the panel. The widely separated binding posts make it possible for the Model 390 to be used as an individual voltmeter or as an ammeter. The Model 390 has a molded bakelite case with all figures recessed in the panel, which are filled with white enamel for better legibility.



### RANGES

AC Current, 60 cycles  
Volts: 0-150, 0-300  
Amperes: 0-3, 0-15  
Watts: 0-300, 0-600,  
0-1500, 0-3000

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 4 lbs.

DEALER'S NET PRICE, complete with Break-in plug, leads and Operator's Manual.....\$39.50  
Leatherette Covered Carrying Case, with compartment for Break-in plug and leads..... 5.50

## MODELS 391 and 392 AC-DC VOLT-WATTMETERS

Designed for simultaneous reading of volts and watts, each of these handy little testers has two separate 3" square meters, one for volts and one for watts. Each has a built-in cord and plug for connection to the line outlet, and a receptacle for connecting the appliance under test. The ranges for each meter are selected by separate toggle switches recessed in the molded bakelite case. The low power consumption combined with the high efficiency of these instruments results in negligible loss and error in reading.

### Model 391 (3000 watts max.)

Ranges: AC or DC  
Volts: 0-130, 0-260  
Watts: 0-1500, 0-3000  
Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs.  
Shipping Weight: 4 lbs.  
DEALER'S NET PRICE, with Operating Instructions .....\$30.00  
Leatherette carrying case..... 5.50



### Model 392 (5000 watts max.)

Ranges: AC or DC  
Volts: 0-130, 0-260  
Watts: 0-1000, 0-5000  
Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs.  
Shipping Weight: 4 lbs.  
DEALER'S NET PRICE, with Operating instructions .....\$35.00  
Leatherette carrying case..... 5.50

## MODEL 385 TEMPERATURE INDICATOR

This is the newest addition to the Simpson Appliance Tester line. You will find this a compact instrument which is ideal for measuring temperatures from +70° F to as low as -50° F, where fast accurate temperature readings are important. The scale is designed so that the center portion is expanded, making the most widely used temperatures easy to read. The Model 385 is ideal for use in the refrigeration service field and wherever temperature readings are important, such as deep freeze units, home refrigerators, walk-in coolers and air conditioning units. The temperature readings can be taken at the end of the 15' lead which is supplied with the unit. The lead cord is small in diameter, making it possible to close the door of the equipment, thus obtaining temperature indications under actual conditions.

The probe can also be immersed in liquids where critical temperatures must be maintained.

Range: -5° to +70° F.  
Battery, self-contained  
Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>".  
Weight: 1<sup>1</sup>/<sub>2</sub> lbs.  
Shipping Weight: 4 lbs.  
DEALER'S NET PRICE, complete with Test Lead and Operating Instructions .....\$30.00  
Leatherette Carrying Case ..... 5.50



# \* Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 370 AC AMMETER

(With self-contained current transformer)  
(For use on 60 cycles)

In the Model 370, a current transformer and indicating instrument have been combined in one small case to meet the consistent demand for a small multiple range AC ammeter, at a price that you can afford. Its many uses include the measurement of current drawn by all types of electric appliances and motors, heating elements, lamps, radio sets, etc.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$19.95  
Test Leads with Prods .....\$1.25 extra  
Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-1, 0-2.5, 0-5, 0-10, 0-25  
Amperes



## MODEL 371 AC VOLTMETER

This instrument is a "must" for the industrial service kit or the lineman. Designed primarily for testing line voltages applied to motors, heating equipment or other industrial installations, the ranges are such that many additional applications will suggest themselves.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$18.40  
Test Leads with Prods .....\$1.25 extra  
Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-150, 0-300, 0-600  
Volts



## MODEL 372 OHMMETER

A complete instrument with self-contained batteries. Has a wide range from .2 ohms to 50 megohms. "Ohms" adjuster compensates for variations in battery voltages. Wire wound and matched metallized resistors are used throughout. The basic movement has a sensitivity of 85 microamperes.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE, complete with Test Leads .....\$25.50

### RANGES

0-500 ohms (5 ohms center)  
0-5000 ohms (50 ohms center)  
0-50,000 (500 ohms center)  
0-500,000 (5000 ohms center)  
0-5 Meg. (50,000 ohms center)  
0-50 Meg. (500,000 ohms center)



## MODEL 373 DC MILLIAMMETER

The Model 373 provides for DC current measurements from .02 to 1000 MA. This tester is ideal for radio servicing and experimental work; checking burglar alarm circuits, railroad signal systems, telephone work, etc.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$19.95  
Test Leads with Prods .....\$1.25 extra  
Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-1, 5, 10, 25, 50, 100, 250  
0-1000 MA.



## MODEL 374 DC MICROAMMETER

Incorporates a basic movement of 50 microamperes sensitivity with self-contained shunts for all other ranges. This tester can be used with external resistors or multipliers as a high sensitivity voltmeter at 20,000 ohms per volt. It is of particular value in photoelectric cell and other experimental work. The meter may be shorted out of the circuit by setting the selector knob to "short" position.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$23.00  
Test Leads with Prods .....\$1.25 extra  
Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-50, 100, 250, 500, 1000  
Microamperes





# \* Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 375 DC AMMETER

(Self-Contained)

A new multi-range instrument which is extremely useful in testing the current in DC circuits. Provides a complete range from a fraction of an ampere to 25 amperes without the necessity of using auxiliary external shunts. Excellent for checking auto radios and experimental work in DC circuits.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$19.95  
 Test Leads with Prods .....\$1.25 extra  
 Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-1, 2-5, 5, 10, 25  
 Amperes



## MODEL 376 DC VOLTMETER

(Rectifier Type 1000 ohms per volt)

An AC Voltmeter, especially useful in circuits where a limited amount of current is present. Makes an excellent output meter when used with proper condenser. The wide variety of ranges covers both primary and secondary voltage ranges of transformers used in radio sets, toys and appliances.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$19.95  
 Test Leads with Prods .....\$1.25 extra  
 Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-5, 10, 25, 50, 100, 250,  
 500, 1000 AC volts



## MODEL 377 DC VOLTMETER

(Resistance 1000 ohms per volt)

Measures all dry battery voltage, both A and B, for radio sets, also grid and plate voltage and filament voltage in battery-operated sets. High ranges may be used for checking DC line voltage.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$19.95  
 Test Leads with Prods .....\$1.25 extra  
 Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-1, 2.5, 5, 10, 25, 50,  
 100, 250, 500, 1000  
 DC Volts



## MODEL 378 AC MILLIAMMETER

(With self-contained current transformer)

Here is the instrument that answers your need for a low cost, handy size milliammeter that combines a current transformer and an indicating instrument in one case. It offers five separate ranges, making it suitable for a wide variety of testing jobs.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>2</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE .....\$22.60  
 Test Leads with Prods .....\$1.25 extra  
 Test Leads with Alligator Clips and Insulated Sleeves ..... 1.25 extra

### RANGES

0-5, 25, 100, 250,  
 1000 MA.



## MODEL 379 BATTERY TESTER

Designed in accordance with the engineering specifications of leading battery manufacturers, this compact instrument is so ruggedly built that it will stand a lifetime of hard usage. The loading resistors have an accuracy of 1% and properly load all radio and hearing aid A and B batteries.

A single rotary switch selects the voltage of the battery under test and brings into line the correct loading resistor. The full 3" dial has three separate arcs, one for all radio A batteries, one for hearing aid A batteries, and one for all B batteries.

A percentage scale shows the exact condition of the battery in percentage of full voltage. The voltage reading can be quickly obtained by multiplying the percentage reading by the selector-switch voltage setting.

Size: 3"x5<sup>7</sup>/<sub>8</sub>"x2<sup>1</sup>/<sub>2</sub>". Weight: 1<sup>1</sup>/<sub>4</sub> lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE, including Test Leads and Operator's Manual .....\$23.70





**MODELS 25, 35, 45, 55**  
 3 1/2" ROUND CASE—OPEN FACE  
 STYLE. Flange diameter, 3 1/2"; depth over-  
 all, 2 1/4"; body diameter, 2 3/4"; scale length,  
 2 9/16". Bakelite case.



**MODELS 27, 37, 47, 57**  
 3 1/2" RECTANGULAR CASE. Width,  
 3"; height, 3 3/8". Mounts in round  
 hole. Body diameter, 2 3/4". Scale length  
 2 9/16". Bakelite case.



**MODELS 29, 39, 49, 59**  
 4 1/2" RECTANGULAR CASE. Width  
 4 21/32", height, 4 13/64". Mounts in  
 round hole. Body diameter 2 3/4". Scale  
 length 3 29/32". Bakelite case.

### AMMETERS

MODEL→	125-127	25-27	29	155-157	55-57	59
RANGE	D. C.			A. C.		
0-1	\$7.65	\$8.70	\$9.75	\$7.50	\$8.10	\$ 9.90
0-1.5	7.65	8.70	9.75	7.50	8.10	9.90
0-2	7.65	8.70	9.75	7.50	8.10	9.90
0-3	7.65	8.70	9.75	7.50	8.10	9.90
0-5	7.65	8.70	9.75	7.50	8.10	9.90
0-10	7.65	8.70	9.75	7.50	8.10	9.90
0-15	7.65	8.70	9.75	7.50	8.10	9.90
0-25	7.65	8.70	9.75	7.80	8.40	10.50
0-50	7.65	8.70	9.75	....	9.30	12.60
15-0-15	7.65	8.70	9.75	....	....	....
30-0-30	7.65	8.70	9.75	....	....	....
50-0-50	7.65	8.70	9.75	....	....	....

AC-DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters can be supplied with external shunts and include 6 foot leads. Higher range AC ammeters can be supplied with external current transformers and include 2 foot leads.

### WATTMETERS—DYNAMOMETER TYPE

RANGE	MAX.	MAX.	MODEL	MODEL	MODEL	RANGE	MAX.	MAX.	MODEL	MODEL	MODEL
WATTS	VOLTS	AMPS.	175-177	75-77	79	WATTS	VOLTS	AMPS.	175-177	75-77	79
0-75	150	.75	\$18.60	\$19.80	\$25.80	0-600	300	3.0	\$20.70	\$21.75	\$27.75
0-150	150	1.5	18.60	19.80	25.80	0-1500	300	7.5	20.70	21.75	27.75
0-300	150	3.0	18.60	19.80	25.80	0-3000	300	15.0	20.70	21.75	27.75
0-750	150	7.5	18.60	19.80	25.80						

### A. C. VOLTMETERS—RECTIFIER TYPE

RANGE	MODEL→ APPROX. RESISTANCE	45-47	49
0-1	1000 ohms per volt	\$12.75	\$13.65
0-3		12.75	13.65
0-5		12.75	13.65
0-10		12.75	13.65
0-15		12.75	13.65
0-50		12.75	13.65
0-100		12.75	13.65
0-150		12.75	13.65
0-300		12.75	13.65
0-1		2000 ohms per volt	13.05
0-3	13.05		14.25
0-5	13.05		14.25
0-10	13.05		14.25
0-15	13.05		14.25
0-50	13.05		14.25
0-100	13.05		14.25
0-150	13.05		14.25
0-300	13.05		14.25

### MILLIAMMETERS

RANGE	OHMS	125-127	25-27
0-1	600 ohms	\$12.60	\$13.65
0-2	400	12.60	13.65
0-5	200	12.60	13.65

### MICROAMMETERS

RANGE	OHMS	125-127	25-27
0-100	3400 ohms	\$15.15	\$16.50
0-200	2400	13.50	14.85
0-300	1800	13.35	14.55
0-500	1200	13.05	14.25

### D. C. GALVANOMETERS

SCALE	SENSITIVITY MICRO- AMPERES	MODEL→ RESIST.	125-127	25-27
50-0-50	500-0-500	46 ohms	\$7.65	\$ 8.70
50-0-50	75-0-75	2000	9.45	10.50

### R. F. AMMETERS INTERNAL THERMOCOUPLE TYPE

MODEL→ RANGE	135-137	35-37	39
0-1	\$9.30*	\$10.50*	\$12.75
0-1.5	9.30	10.50	12.75
0-2	9.30*	10.50*	12.75
0-2.5	9.30	10.50	12.75
0-3	9.30*	10.50*	12.75
0-5	9.30*	10.50*	12.75
0-8	9.30	10.50	12.75
0-10	9.30	10.50	12.75

### RF MILLIAMMETERS

RANGE	135-137	35-37	39
†0-115	....	\$21.46	....
0-150	....	12.60	\$14.55
0-250	....	12.60	14.55
0-500	....	12.60	14.55

†0-100 linear scale—50 divisions.

### VOLUME LEVEL INDICATORS—DECIBEL METERS

ZERO POWER LEVEL—6 MW. 500 OHM LINE

MODEL→ RANGE	145-147	45-47	49
GENERAL PURPOSE TYPE			
-10 to +6 db 5000 ohms	\$11.25	\$12.30	\$13.95
HIGH SPEED TYPE			
-10 to +6 db 5000 ohms	....	13.20	14.85
LOW SPEED TYPE			
-10 to +6 db 5000 ohms	....	13.20	14.85

### VOLUME LEVEL INDICATORS—VU METERS

REFERENCE LEVEL—1 MW. 600 OHM LINE

Not illuminated A or B Scale—3900 ohms.....	....	\$15.90	\$16.80
Illuminated A or B Scale—3900 ohms.....	....	....	19.50

Model 142—4—Rectangular



### MODELS

125, 135, 145, 155

2 1/2" ROUND CASE—OPEN FACE STYLE. Flange diameter, 2 3/4"; depth overall, 2 5/16"; body diameter, 2 11/64"; scale length, 1 7/8". Bakelite case.



### MODELS

127, 137, 147, 157

2 1/2" RECTANGULAR CASE. Width 2 3/8"; height, 2 3/8". Mounts in round hole. Body diameter, 2 3/16". Scale length 1 7/8". Bakelite case.



### MODEL 27-37-57 ILLUMINATED

3 1/2" RECTANGULAR CASE. Width 3"; height 3 1/8". Mounts in round hole. Body diameter 2 3/4". Scale length 1 5/16". Bakelite case.

The 2 1/2" and 3 1/2" rectangular instruments indicated (\*) are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of \$1.50 dealer's net. R.F. ammeters lucite illuminated must be supplied with external thermocouple. Add \$4.95 for couple. All instruments are calibrated for use on non-magnetic panels.

### VOLTMETERS

MODEL →	125-127	25-27	29	155-157	55-57	59
RANGE	D. C.					
0-1.5	....	....	....	\$ 7.50	\$ 8.10	\$ 9.75
0-3	\$ 7.65	\$ 8.85	\$ 9.75	7.50	8.10	9.75
0-5	7.65	8.85	9.75	7.50	8.10	9.75
0-8	7.65	8.85	9.75	....	....	....
0-10	7.65*	8.85*	9.75	7.50*	8.10*	9.75
0-15	7.65	8.85	9.75	7.50*	8.10*	9.75
0-25	7.65	8.85	9.75	7.50	8.10	9.75
0-50	7.95*	8.85*	9.75	7.50	8.10	9.75
0-100	7.95	8.85	9.75	7.50	8.10	9.75
0-150	7.95*	8.85*	9.75	8.85*	9.60*	10.50
0-200	7.95	8.85	9.75	....	....	....
0-250	7.95	8.85	9.75	8.85	9.60	10.50
0-300	7.95*	8.85*	9.75	8.85*	9.60*	10.50
0-500	7.95	8.85*	9.75	12.75	13.50	14.40
0-750	7.95	8.85	9.75	12.75	13.50	14.40
0-1000	11.85	12.75*	13.65	12.75	13.50	14.40
0-1500	11.85	12.75	13.65	....	....	....
0-2000	11.85	12.75*	13.65	....	....	....
0-2500	11.85	12.75	13.65	....	....	....
0-3000	11.85	12.75*	13.65	....	....	....
0-4000	11.85	12.75*	13.65	....	....	....
0-5000	11.85	12.75*	13.65	....	....	....

External resistors are furnished on A. C. meters having a range of 500 volts or higher. D.C. 1000 volts or higher.

### MILLIAMMETERS

MODEL →	125-127	25-27	29	155-157	55-57	59
RANGE	D. C.					
0-1	\$8.70*	\$8.70*	\$9.75	....	....	....
0-1.5	7.65	8.70	9.75	....	....	....
0-3	7.65	8.70	9.75	....	....	....
0-5	7.65	8.70	9.75	....	....	....
0-10	7.65*	8.70*	9.75	\$7.50	\$8.10	\$9.90
0-15	7.65*	8.70*	9.75	7.50	8.10	9.90
0-20	7.65	8.70	9.75	....	....	....
0-25	7.65*	8.70*	9.75	7.50	8.10	9.90
0-50	7.65*	8.70*	9.75	7.50	8.10	9.90
0-75	7.65	8.70	9.75	....	....	....
0-100	7.65*	8.70*	9.75	7.50	8.10	9.90
0-150	7.65	8.70*	9.75	....	....	....
0-200	7.65*	8.70*	9.75	....	....	....
0-250	7.65	8.70	9.75	7.50	8.10	9.90
0-300	7.65*	8.70*	9.75	....	....	....
0-500	7.65*	8.70*	9.75	7.50	8.10	9.90
0-750	7.65	8.70	9.75	....	....	....
0-1000	7.65	8.70	9.75	....	....	....

### MICROAMMETERS

MODEL →	125-127	25-27	29
RANGE	D. C.		
0-25	\$13.65	\$14.85	\$17.10
0-50	10.80	11.85	13.05
0-100	10.20	11.25	12.60
0-200	8.55	9.60	10.95
0-500	7.95	9.15	10.35

### MILLIVOLTMETERS

MODEL →	125-127	25-27	29
RANGE	D. C.		
0-50	\$7.65	\$8.70	\$9.75
0-100	7.65	8.70	9.75

# ★ Simpson

INSTRUMENTS THAT STAY ACCURATE

## MODEL 880 DYNAMOMETER INSTRUMENTS

- A.C. - D.C. - Accuracy 1/2 of 1%

These Simpson Precision Portable Instruments are offered in a wide selection of ranges, to meet practically every demand for general purpose testing. They provide a high degree of accuracy plus the stamina to maintain that accuracy. Large 4 1/2-inch hand drawn scales, mirrored, with knife edge pointers. Cases are of heavily molded bakelite, with leather carrying handles.

Max. Volts	SINGLE PHASE WATTMETERS				Price
	Normal	Amperes Maximum	Low Range	Watts High Range	
150-300	1	1.5	100	200	\$60.45
150-300	2	3.0	200	400	60.45
150-300	5	7.5	500	1000	60.45
150-300	10	15.	1000	2000	60.45
150-300	20	30.	2000	4000	66.00
150-300	50	75.	5000	10000	66.00
<b>DOUBLE CURRENT RANGES</b>					
150-300	2.5- 5	3.75- 7.5	250-500-1000		\$76.95
150-300	5-10	7.5 -15.	500-1000-2000		76.95
<b>VOLTMETERS</b>					
0-150	.....\$60.45		0-75-150-300 (Triple Range)		.....\$76.95
0-150-300 (Double Range)	.....71.55		0-150-300-600 (Triple Range)		.....76.95
<b>AMMETERS</b>					
0-1-2 (Double Range)		.....\$66.00			



## MODEL 9 AND 10 SERIES

These Models are supplied in the same heavy molded bakelite cases used for Model 880 with a large 4 1/2" hand drawn scale, mirrored, and knife edge pointer.

MODEL 9 - D'ARSONVAL MOVEMENT (ACCURACY 1/2 of 1%)				MODEL 10 - IRON VANE MOVEMENT (ACCURACY 1%)			
Range	MODEL 9 (DC)	MODEL 10 (AC)	Range	MODEL 9 (DC)	MODEL 10 (AC)	Range	MODEL 9 (DC)
Volts			Milliamperes			Double Range Milliamperes	Triple Range Amperes
50	\$49.50	\$43.95	1	\$57.15	.....	10-100	2-5-10-25
100	49.50	43.95	50	49.50	\$43.95	25-250	10-25-50
150	49.50	43.95	100	49.50	43.95	100-500	
300	55.00	49.50	500	49.50	43.95		
Double Range			Amperes			Double Range Amperes	Microamperes
Volts			5	49.50	43.95	2.5-5	50
15-150	55.00	.....	15	49.50	43.95	5-10	100
150-300	60.45	55.00	30	49.50	43.95		200
300-750	66.00	60.45	50	49.50	43.95		
Triple Range			100	49.50	.....		
Volts							
15-150-300	63.75	.....					
150-300-600	66.00	60.45					

ALL PRICES DEALERS NET

All portable instruments above can be furnished in the Simpson Roll Top Safety Case at an additional price of \$8.00.

## LEATHER AND LEATHERETTE CARRYING CASES — TEST LEADS



1-113011

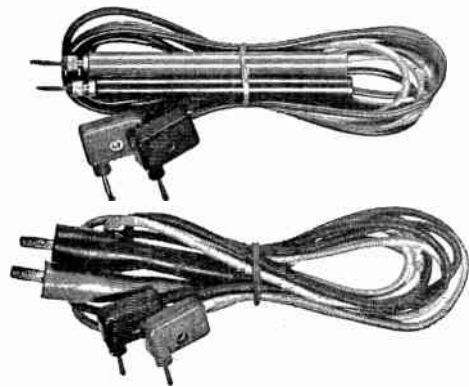
1-111818

1-114299

1-114236

Dealer's Net

1-111818	Leather Carrying Case for Model 260	.....\$6.75
1-114236	Eveready Leather Carrying Case for Models 260-303-276	..... 8.75
1-114299	Eveready Leather Carrying Case for Microtester	..... 5.50
1-113011	Leatherette Covered Carrying Case for Microtester	..... 5.50
1-113413	Leatherette Covered Carrying Case for 391-392	..... 5.50



With Test Prods or Alligator Clips as shown. Colored red and black for easy identification. Length 48". Rubber insulated. Dealer's net prices.

0-008380	With Test Prods and Elbow Terminals	.....\$1.25
0-008379	With Test Prods and Spade Terminals	..... 1.25
0-008377	With Alligator Clips and Elbow Terminals	..... 1.25
0-008376	With Alligator Clips and Spade Terminals	..... 1.25



# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

All prices are subject to change without notice



**SERIES E-200-C**  
Modern Multi-band  
**SIGNAL and MARKER  
GENERATOR**  
(see page F-42)

**SERIES E-400**  
Wide Range H.F.  
**SWEEP SIGNAL  
GENERATOR**  
(see page F-41)

**SERIES ES-500A**  
5 in. Hi-Sensitivity  
Wide Range  
**OSCILLOSCOPE**  
(see page F-41)

**SERIES EV-10A**  
True Zero-Center  
**VTVM-MEGOHMMETER**  
with 7 in. Meter  
(see page F-42)

**SERIES 612**  
Modern Free-point  
**TUBE and BATTERY  
TESTER**  
(see page F-46)

## THESE FIVE MATCHED "PRECISION" INSTRUMENTS PROVIDE A COMPLETE MODERN BASIC LABORATORY FOR TV-FM-AM AT ONLY MODERATE COST

### OTHER MATCHED COMBINATIONS

The instruments shown above, and other "Precision" equipments, are available in various enclosure styles...Panel Mounts, Portable, Counter Types, etc. . . . designed to suit individual applications, field or shop. The illustration shows only one of the many possible "matched combinations" of diversified "Precision" Test Equipment. Each combination provides a selected and Basic, modern, efficient Laboratory at moderate cost.



**SERIES TV**  
**THE SUPER HIGH VOLTAGE  
SAFETY TEST PROBE**  
for High D.C. Potential  
Measurements up to  
60,000 volts.  
(see page F-45)



**\* SERIES EV-20 VTVM  
and MULTI-RANGE TEST SET**

Complete with coaxial Circuit Isolating Test Probe, Shielded Ohmmeter Test Cable, Standard #227 Super-Flex Test Leads, Ohmmeter battery and full operating instructions.

In modern, black ripple finished cabinet. Size—10½" x 6¼" x 5".

**CODE: Party Net Price \$69.75**

### SERIES EV-20 VTVM and Multi-Range Test Set

TRUE ZERO — CENTER ON ALL VTVM RANGES

WITH DIRECT PEAK READING HIGH FREQUENCY SCALES

Plus Complete Standard 1000 Ohms/Volt Functions

48 Ranges to 1200 Volts\*, 2000 Megohms, 12 Amperes, +63 DB

Series EV-20 is a compact, high sensitivity, laboratory-type, circuit-testing instrument, incorporating the most modern electrical and physical design. It provides unparalleled performance, accuracy and versatility required for AM-FM-TV and general electronic circuit analysis.

Functionally similar to the deluxe Series EV-10A VTVM, with extra large 7" meter, (described on Page F-47) the Series EV-20 (with 4½-inch meter) affords a highly efficient instrument at moderate cost.

#### RANGE SPECIFICATIONS

- ★ **SIX ALL-ZERO CENTER VTVM RANGES:**  
13⅓ Megs. Constant Input Resistance.  
±3, ±12, ±30, ±120, ±300, ±1200 volts.  
\*Direct Reading to ±60 KV when used with Series TV-4 High Voltage Test Probe described on page F-45.
- ★ **SIX SELF-CONTAINED RESISTANCE RANGES:** 0-2000 - 200,000 ohms.  
0-2-20-200-2000 Megohms.
- ★ **FOUR DIRECT PEAK READING HIGH FREQ. VTVM RANGES:** 0-3-12-30-120 volts. (Requires RF-10A High Freq. Vacuum Tube Probe, Net Price \$14.40. No crystal rectifiers employed.)
- ★ **SIX AC-DC AND OUTPUT VOLTAGE RANGES** at 1000 ohms per volt.  
0-3-12-30-120-300-1200 volts.
- ★ **EIGHT D.C. CURRENT RANGES:**  
0-300 microamps. 0-1.2-3-12-30-120-1200 MA.  
0-12 Amperes.
- ★ **SIX DECIBEL RANGES** from -20 to +63DB.  
Calibrated for 600 ohm, 1 mw., zero DB.
- ★ **ROTARY RANGE — FUNCTION SELECTORS** eliminate frequent and inefficient shifting of test leads.

#### IMPORTANT FEATURES

- ★ **VOLTAGE REGULATED — BRIDGE CIRCUIT**
- ★ **DIRECT READING, ALL ZERO-CENTER VTVM**  
Indicates both Polarity and Magnitude without switching or test lead reversal.
- ★ **SHIELDED CONNECTORS** for D.C.—VTVM and RF—VTVM. Permits simultaneous and non-interfering connection of both the Circuit Isolating Test Probe and optional H.F. Vacuum Tube Probe Series RF—10A.
- ★ **DUAL - BALANCED ELECTRONIC BRIDGE OHMMETER—MEGOHMMETER** uses two 1.5 volt cells easily replaced at rear of cabinet.
- ★ **ADDITIONAL 1000 OHMS/VOLT FUNCTIONS** permit routine AC-DC voltage, DB and current measurements free of power line.
- ★ **4½" RECTANGULAR METER** — 200 microamperes, ±2%. D'Arsonval construction.
- ★ **1% Film type, Metallized and Wire-Wound resistors** for all shunts and multipliers.
- ★ **Heavy gauge; round-cornered, iouvrred steel case** with plastic handle. Etched, anodized, aluminum panel.



# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

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## Series E-400

### Wide Range Sweep Signal Generator

Narrow and Wide Band Sweep  
Direct Reading from 2 to 480 Megacycles

DIRECTLY COVERS UHF AND VHF I.F. ALIGNMENT REQUIREMENTS



Incorporating selected and true ultra-high frequency components and circuits, Series E-400 has been Application Engineered specifically for modern F.M. and TV oscillographic alignment methods.

Stressing utmost simplicity of operation, flexibility, stability and accuracy, Series E-400 affords an unparalleled standard of performance and value.

Through careful, intensive development, "Precision" engineers have "designed out" costly, extraneous elements that might lead to undue obsolescence. As a result, Series E-400 is a fundamental requirement for the efficient TV-F.M. Service Laboratory.

#### FEATURES

- \* **Direct Frequency Reading** — 2 to 480 MC in 7 bands without skip. Harmonically calibrated from 240 to 480 MC. Directly covers frequency requirements for I.F. alignment of both UHF and VHF TV receivers.
- \* **6 Position Rotary Band Switch** covers complete spectrum. No coil switching. Multiple oscillator B supply switch assures maximum frequency accuracy and stability.
- \* **6 1/2" Etched Aluminum Tuning Dial** — Engine turned finish.
- \* **1500 Point Vernier Scale** permits close calibration and simple resetting of odd frequencies.
- \* **Engraved Transparent Lucite Frequency Indicator** affords readings free from parallax.
- \* **Voltage Regulated Oscillators** free of power supply variations.
- \* **The Basic Circuit and Tube Complement** — Uses 2 separate 6C4 high frequency beat oscillators plus a 6J6 reactance-modulated high frequency oscillator. This positively minimizes generation of unwanted extraneous signals. Also employs a 6J6 mixer-buffer, a 6C4 multiple crystal oscillator and a 6J6 final marker-mixer amplifier. 6X5 full wave rectifier. VR-105 voltage regulator.
- \* **Selected, True High Frequency Circuit Components** render high operating efficiency, stability and accuracy. Uses ceramic and air dielectric trimmers, coupling, by-pass and loading capacitors; rugged ceramic suspended, National Straight Line Frequency tuning condenser; modern miniature HF tubes; mica-filled low-loss sockets; shock mounted, compensated reactance modulator; multi-section copper-plate shielding; etc.
- \* **Narrow and Wide Band Sweep** — 0 to 1 MC and 0 to 15 MC continuously adjustable. Permits easy band width setting for both F.M. and TV. requirements, directly at front of panel.
- \* **Dual Continuous R.F. Attenuators** triple shielded. Smooth, stepless, effective control from extra high output for single stage alignment to minimum levels for multi-stage adjustments.
- \* **Wide Range Phasing Control** for Hor. sweep of oscilloscope.
- \* **Multiple Crystal Marker-Calibrator** built-in. Simultaneously accommodates 4 crystals individually rotary selected. .01% accuracy 4.5 MC and 2 MC crystals furnished as standard equipment. Crystal signal separately attenuated for internal or external use.
- \* **Crystal Calibrated and Control** — Each instrument calibrated against crystal standards. The 2 MC crystal, as furnished, provides for crystal monitoring in addition to use as calibrator for external signal generators.
- \* **Terminated RG/U Type Coaxial Output Cable** for efficient signal transmission with minimum standing wave effects. LOW-HIGH taps plus open line switch for extra high as well as normal output signal level requirements.
- \* **8 Element Double Section Balanced Line Filter** plus Thorough Multi-Section Copper Plate Shielding of instrument assures minimum leakage and radiation.
- \* **Simultaneous A.M. and F.M. test facilities** for anti-A.M. check of F.M. second detector circuits. A.M. input jacks also permit use as a modulated H.F. A.M. Generator.

## Series ES-500A

### High Sensitivity, Wide Range, 5" Oscilloscope

Push-Pull Vertical and Horizontal Amplifiers  
20 MV. per inch "V" Sensitivity

SELF-CONTAINED 1 VOLT PEAK TO PEAK CALIBRATOR



Series ES-500A affords the ultimate in performance, visibility and operational flexibility at moderate cost. "Precision" engineers have incorporated every necessary basic feature which they have found to be required to meet the needs of the rapidly advancing art of electronics, A.M., F.M., and TV.

Series ES-500A provides an unparalleled combination of high sensitivity, extended frequency range and other essential operating features specifically desired for experimental and commercial visual circuit analysis.

#### FEATURES

- \* **High Sensitivity, Wide Range, Voltage Regulated, Push-Pull Vertical Amplifier**—.02V. per inch deflection sensitivity. 10 cycles to 1 MC response. 2 megohms input resistance. Approx. 22 mmfd. input capacity.
- \* **Compensated Vertical Input Step Attenuator**—X., X10, X100.
- \* **Direct Peak to Peak Voltage Checks** thru use of internal, semi-square wave, regulated calibrator.
- \* **Vertical Phase-Reversing Switch** permits inversion of all patterns at will. Non-frequency discriminating.
- \* **Extended Range, Push-Pull Horizontal Amplifier**—150 MV (1.5 V) per inch high deflection sensitivity adequate for most all "H" drive purposes. 10 cycles to 1 MC response at full gain. 1/2 megohm input resistance. Approx. 20 mmfd. input capacity.
- \* **Linear Multi-Vibrator Sweep Circuit**—10 cycles to 30 KC plus internal line or external sweep.
- \* **Amplitude Controlled, Four Way Synch. Selection**—Internal Positive, Internal Negative, External and Line.
- \* **"Z" Axis Modulation** input facility for blanking, timing, etc.
- \* **Internal, Phasable 60 cycle Beam Blanking** for elimination of alignment retraces; clean display of synch. pulses, etc.
- \* **Sweep Phasing Control** for sinusoidal line sweep usage. Wide angle bridge circuit.
- \* **Direct H and V Deflection Plate Connections** and Audio Monitoring phone jacks at rear. All four plates accessible.
- \* **High Intensity CR Patterns** through use of adequate high voltage power supply with 2X2 rectifier.
- \* **The Circuit and Tube Complement**—5C4 Vertical input cathode follower. 6CB6 first "V" amplifier. 6C4 "V" phase inverter. Push-Pull 6J6's vertical CR driver. 7N7 first "H" amplifier and phase inverter. Push-Pull 6AU6's horizontal CR driver. 7N7 Multi-vibrator internal linear sweep oscillator. 5Y3 low voltage rectifier. 2X2 high potential rectifier. VR-150 voltage regulator. SCF1/A CR Tube.
- \* **7 Four-Way Lab-Type Input Terminals**—Take banana plugs, phone tips, bare wire or spade lugs.
- \* **Light Shield and Mask** removable and rotatable.
- \* **Extra Heavy-Duty Construction** and components to assure "Precision"-engineered performance.
- \* **Heavy Gauge, Etched-Anodized, No-Glare, Aluminum Panel.**
- \* **Fully Licensed** under Western Electric Co. patents.
- \* **Series ES-500A (illustrated)**—In Louvred, black-ripple, heavy gauge steel case. Size 8 1/4" x 14 1/2" x 18". Complete with light shield, calibrating mask and instruction manual.  
Code: Quick. Net Price \$173.70
- \* **External Deviation** input facility for sweep repetition frequencies other than internal 60 cycle source.
- \* **Fuse Protected** at panel ext.tractor fuse post.
- \* **Heavy Gauge, Etched-Anodized Aluminum Panel.**
- \* **Fully Licensed** under W. E., A. T. & T. and R-m-co patents.
- \* **Series E-400 (illustrated)**—In Louvred, portable, copper plated case. Size 10 1/2" x 12" x 6". Complete with test cables, 2 crystals and elaborate Technical Manual.  
Code: Nancy. Net Price \$135.75
- \* **E-400-PM** — Consists of E-400 on 12 1/4" x 19" steel panel for standard rack mount. Complete as above.  
Code: Niece. Net Price \$141.25

This equipment is Approved (and/or Tested) by the CSA Approval Laboratories,

Radio's Master — 17th Edition



# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY



- EV-10A (MCP) (Illustrated) In black ripple finished, heavy gauge steel case. Size 10 1/2" x 12" x 6". Complete with tubes, battery, and test probes. Code: Place. Net Price \$97.20
- EV-10A (P) In hardwood portable case with tool compartment. Size 12" x 13" x 6". Code: Phone. Net Price \$99.95
- EV-10A (PM) Consists of Series EV-10A on steel panel. Size 12 1/4" x 19", for standard rack mount. Code: Panel. Net Price \$102.70

★ SERIES PF-10A VACUUM TUBE R.F. PROBE  
Accessory for Series EV-10A & EV-20:  
affords direct high frequency peak voltage  
measurements. Connects directly to  
VTVM panel. Employs 9002 miniature  
tube. Code: Probe.



Net Price \$14.40

## PRECISION SERIES EV-10A VTVM—Megohmmeter

TRUE ZERO-CENTER VTVM WITH 7" FULL-VIEW METER  
FOUR DIRECT PEAK READING HIGH FREQUENCY SCALES

Plus standard 1000 Ohms per Volt Functions.

Ranges to 6000 Volts, 2000 Megohms, 12 Amperes, +77 DB.

All prices are subject to change without notice

A WIDE-RANGE, TRUE ZERO-CENTER ELECTRONIC INSTRUMENT, stressing the utmost in performance, accuracy, and ease of manipulation. The Series EV-10A permits rapid check of voltage, current, and resistance conditions encountered in modern A.M., F.M., and TV Networks, without materially disturbing the performance of circuits under analysis.

### RANGE SPECIFICATIONS

- ★ Eight All Zero-Center VTVM Ranges.  $\pm 3$ ,  $\pm 12$ ,  $\pm 60$ ,  $\pm 120$ ,  $\pm 300$ ,  $\pm 600$ ,  $\pm 1200$ ,  $\pm 6000$  volts D.C. self-contained.
- ★ High Input Resistance — 13 1/3 megohms constant to 600 volts. 26 2/3 megohms at 1200 volts. 133 1/3 megohms at 6000 volts.
- ★ 4 Direct Reading High Freq. Ranges: 0-3-12-60-120 peak volts. (Requires Series RF-10A High Frequency Vacuum Tube Test Probe described and illustrated at left.)
- ★ Extra-High Voltage Ranges to  $\pm 60$  KV. when employed with Series TV-4 High Voltage Probe described on page F-45.
- ★ Six Ohmmeter-Megohmmeter Ranges: 0-2000-200,000 ohms. 0-2-20-200-2000 megohms.
- ★ Eight Extra A.C.-D.C.-Output Voltage ranges at 1000 ohms per volt. 0-3-12-60-120-300-600-1200-6000 V.
- ★ Eight D.C. Current Ranges: 0-300 microamperes. 0-1.2-6-30-120-600-1200 MA. 0-12 amps.
- ★ Eight DB Ranges from -20 to +77DB. Calibrated for 1MW, 600 ohms zero DB.

### IMPORTANT FEATURES

- ★ Voltage Regulated-Bridge Type Circuit: affords practical freedom from tube and line voltage variations.
- ★ True Zero-Center VTVM—Indicates both magnitude and polarity without reversal of test prods on all ranges.
- ★ Rotary Range and Function Selector minimize shifting of test leads.
- ★ Recessed 6000 volt Safety Jacks.
- ★ Shielded Coax Test-Cable Connectors permit both D.C. and R.F. probes to be connected simultaneously.
- ★ Duo-Balanced Electronic-Bridge Ohmmeter—Megohmmeter. Uses 2 self-contained, standard 1.5 volt batteries.
- ★ Special 1000 Ohms/Volt Functions permit routine AC-DC circuit tests free of need for power line connection.
- ★ Extra-large 7" Rectangular Meter. 200 microampere,  $\pm 2\%$  sensitivity.
- ★ Highest Quality Components employed throughout • 1% wire, film and matched resistors • Silverplated switch contacts • Leakage-resistant, plastic insulated hook-up wire • Etched-anodized aluminum panel • Heavy duty line cord.

## Precision Series E-200-C Signal Generator

A Modern Multi-Band Signal and Marker Generator for A.M., F.M., and Television Alignment.

Featuring "Servicing by Signal Substitution." The Dynamic Speed Approach to Receiver Alignment and Adjustment Problems.

### SPECIFICATIONS

- ★ FREQUENCY COVERAGE: 88 KC. to 120 MC., 30 MC. on fundamental. 6 1/2" Dial direct reading in 8 bands to 120 MC. No charts required.
- ★ ACCURACY — CONSTANCY OF CALIBRATION: 1% accuracy on all bands. Uses "PRECISION" developed "UNIT-OSCILLATOR" turret construction.
- ★ 0-1000 POINT VERNIER SCALE, direct reading to one part in 1000.
- ★ THE CIRCUIT—single-ended 6S7 in stable E.C.O. circuit—modulated by a 6C5 sine-wave audio oscillator. 5Y3 Full wave rectifier.
- ★ 400 CYCLE SINE-WAVE AUDIO OSCILLATOR — over 50 volts' output.
- ★ DUAL R.F. ATTENUATORS — smooth stepless control of R.F. signal.
- ★ SHIELDING — Compartment shielding of vital components — Power transformer electrostatically shielded—A.C. line is R.F. filtered.
- ★ SHIELDED COAXIAL OUTPUT CABLE and (LO-HI) cable connectors.
- ★ FOUR TYPES OF SIGNALS — "Unmod. R.F.", "400 cycle Mod. R.F.", "EXTERNALLY Mod. R.F.", "400 cycle Audio Output."
- ★ DIRECT READING VARIABLE MODULATION—0-100%—triples signal utility as against obsolete fixed or stepped modulation of only 30 or 40%.
- ★ BUILT-IN A.V.C.-A.G.C. SUBSTITUTION — Overcomes alignment troubles arising from varying receiver A.V.C. and A.G.C. voltage.
- ★ HAND CALIBRATED — Each instrument is INDIVIDUALLY calibrated.
- ★ FULLY LICENSED under patents of A. T. & T. and W. E. Co's.
- ★ Not only an efficient Signal Generator for purposes of alignment but also specifically designed for "Servicing by Signal Substitution."
- ★ IDEAL MARKER GENERATOR — Exceptional stability and high accuracy renders Series E-200-C an excellent variable frequency Marker Generator for use with the Series E-400 or similar high quality Sweep Signal Generator.



★ Series E-200-C — (illustrated) In black ripple finished, portable steel case. Size 10 1/2"x12"x6". Complete with tubes, output cable and FREE copy of "Servicing by Signal Substitution."  
Code: Trade. Net Pr. ce \$73.25

★ Series E-200-C-PM—Consists of E-200-C on steel panel size 12 1/4"x19", for standard rack mount.  
Code: Trace. Net Price \$78.75



### "SERVICING BY SIGNAL SUBSTITUTION" 12th Edition

... The modern ECONOMIC solution to your daily service problems... Nothing complex to learn, no extraneous equipment to purchase... A systematic method of DYNAMIC SIGNAL ANALYSIS based entirely on fundamentals... Fully described in a bound illustrated text "Servicing by Signal Substitution." This highly valuable book is supplied with Series E-200-C at no charge.  
Additional copies available at your Precision distributor or directly from factory at 40c per copy.

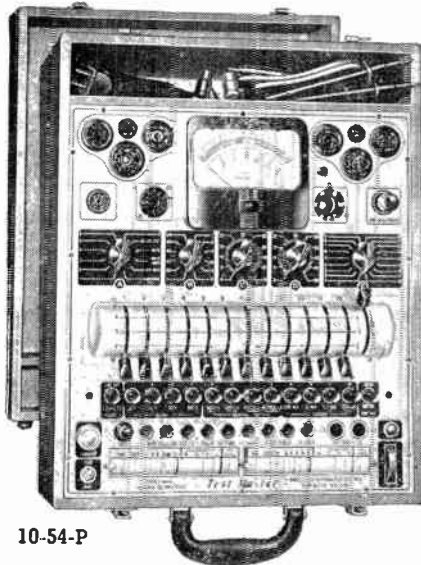


# PRECISION TEST EQUIPMENT

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ELECTRONOMIC (Reg. U. S. Patent Office)



10-54-P

## CIRCUIT TESTING FEATURES

A complete, wide-range, high speed, push-button operated, super-sensitive test set without any additional panel controls. Self-contained.

- \* Six D.C. Voltage Ranges: 20,000 ohms per volt.
- \* Six A.C. Voltage Ranges: 1200 ohms per volt.
- \* Six Output Ranges at 1030 ohms per volt. 0-6-12-6C-300-1200-6000 volts.
- \* Ranges to 30,000 Volts D.C. when used with Series TV-2 Super high voltage test probe. Not included with 10-54. See page F-45.
- \* Seven D.C. Current Ranges: 0-60-120 milli-amperes, 0-1.2-12-12G-1200 MA. and 0-12 amperes.
- \* Four Self-Contained Resistance Ranges: 0-6000-6000, 400 ohms; 0-6-60 megohms.
- \* Six Decibel Ranges from -20 to +70 DB.
- \* Automatic Push-Button range selection.
- \* 1% Wire, Film, and Metallized Resistors.

## Series 10-54 Electronomic Test Master

Combination Tube Performance Tester, Battery Tester, and 35 Range, Push-Button Operated, Supersensitive, A.C.-D.C. Set Tester. Ranges to 6000 Volts, 60 Microamps, 12 amps, +70 DB, 60 Meg. 20,000 Ohms per Volt D.C.—1000 Ohms per Volt A.C.

The All-Inclusive, Positive Vacuum Tube Performance Test that is not limited to Mutual Conductance Alone. (See technical details in main catalog)

Series 10-54 affords to the discriminating instrument purchaser, THE COMPLETE PORTABLE SERVICE LABORATORY; engineered to meet the expanding needs of modern radio electronics. Provides every necessary facility for high speed, reliable tube and circuit testing associated with Industrial Electronics, Communications, Radio (A.M.-F.M.), Television, Laboratory, etc. . . .

### TUBE AND BATTERY TESTING FEATURES

- \* A TUBE "PERFORMANCE" TESTER: "Precision" ELECTRONOMIC circuit, effectively tests all tubes over a complete "Path of Operation" not just at one arbitrary operating point or for just one inconclusive characteristic.
- \* TESTS ALL MODERN TUBE TYPES: Noval 9 pin, 7 pin Acorn, dual capped H.F. tubes, Single-Ended TV. and F.M. amplifiers, low power transmitting tubes, sub-miniature types, etc. . . . including direct facilities up to twelve element prongs!
- \* ABSOLUTE FREE-POINT LEVER ELEMENT SELECTION: Highest possible, practical order of obsolescence insurance. Locates every tube element regardless of base position.
- \* ABSOLUTE FREE-POINT, INTER-ELEMENT SHORT-CHECK and Visible Filament Continuity System.
- \* DUAL SHORT-CHECK SENSITIVITY: Permits selection of tubes for special applications.
- \* INDIVIDUAL TUBE SECTION TESTS of multi-section tubes.
- \* A.M. and F.M. CATHODE RAY TUNING INDICATORS directly tested.
- \* FILAMENT VOLTAGES 3/4 to 117 V.
- \* BALLAST UNIT TESTS.
- \* NOISE and CONDENSER TESTS.
- \* MICRO-LINE ADJUSTMENT via continuously variable line voltage control.
- \* PILOT AND SIGNAL LIGHT TESTS.
- \* ACCURACY of test circuits closely maintained by use of individual, internal calibrating controls.
- \* HIGH SPEED ROLLER TUBE CHART.
- \* EXTRACTOR FUSE POST.
- \* Test circuits completely transformer-insulated from power line.
- \* TELEPHONE-TYPE, CABLED, plastic-insulated, moisture-resistant wire.
- \* 4 1/2" FULL VISION METER: 50 microampere, 2% accuracy.
- \* TESTS RADIO A, B and C DRY BATTERIES via a "PRECISION" engineered circuit which performance checks each battery under actual load conditions. Battery quality read directly on a 3-color scale.

10-54-P (illustrated above) Hardwood, tapered, portable case, 13 3/4" x 17 1/4" x 6 3/4". With ohmmeter batteries and high voltage test leads. Net Price \$139.50

10-54-C (see 10-12-C illustration and description below) In modern, attractively finished, steel counter cabinet. Net Price \$144.25

10-54-PM (see 10-12-PM illustration and description below) In standard Panel Mount, with dust cover. Net Price \$144.25

Code: Habit.

Code: Handy.

Code: Harem.

Code: Harem.

## Series 10-12 Electronomic Tube Master

Truly Free-Point Tube and Battery Performance Tester.

The All-Inclusive, Positive Vacuum Tube Performance Test that is not limited to Mutual Conductance Alone. (See technical details in main catalog)

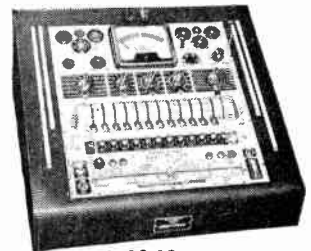
The 10-00 Series of TUBE and TEST MASTERS represent the culmination of many years' development of tube testing equipment to meet the exacting needs of the rapidly advancing field of electronics.

Incorporating the "PRECISION" ELECTRONOMIC Tube Performance Testing Circuit, plus an advanced, "PRECISION" developed, multiple element, master lever selector system, it truly can be said that the MASTER 10-00 Series offers, to the discriminating equipment purchaser, the highest possible practical order of test results and anti-obsolescence insurance.

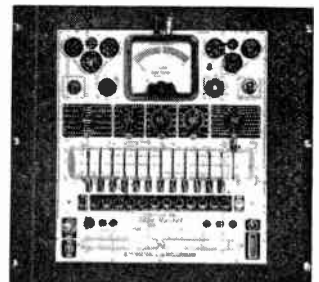
### TUBE AND BATTERY TESTING FEATURES

The Series 10-12 Electronomic Tube Master incorporates the same time-proven circuit and exacting performance details described for the Series 10-54, above, under the heading: "Tube and Battery Testing Features."

- \* 10-12-P (see 10-54-P illustration and description above) In hardwood, tapered, portable case with tool compartment. Code: Faith. Net Price \$104.50
- \* 10-12-C (illustrated at right) In modern, chrome-trimmed, round edged counter cabinet. Fine dull black ripple finish on heavy gauge steel. Size 17" x 17 1/8" x 7 1/2", sloping to 3" at front. Code: Faith. Net Price \$109.25
- \* 10-12-PM (illustrated at right) Consists of 10-12 chassis, mounted onto standard size steel panel, 17 1/2" x 19" with dust cover. Fine, dull black ripple finish. Code: Favor. Net Price \$109.25



10-12-C



10-12-PM

This equipment is Approved (and/or Tested) by the CSA Approval Laboratories.

Radio's Master — 17th Edition

F-43





# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

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ELECTRONAMIC (Reg. U. S. Patent Office)



## Series 10-15 Electronamic Test Master

Deluxe Tube and Battery Merchandiser with Large 9" Meter

The All-Inclusive, Positive Vacuum Tube Performance Test that is not limited to Mutual Conductance Alone.

(See technical details in main catalog)

- ★ Incorporates the Electronamic tube performance and battery testing circuit, described for Series 10-54 on page F-43.
- ★ Designed particularly for equipment-conscious, progressive radio service-sales organizations, and tube-selling sections of department stores.
- ★ PROMOTE CUSTOMER CONFIDENCE and tube sales via this impressive "Precision" Tube Merchandiser.
- ★ DIRECT READING non-confusing tube performance indications in large, easy reading terms of Replace-Weak-Good.
- ★ ILLUMINATED by custom-built, highly polished, plated reflector.
- 10-15 Tube and Battery Merchandiser (illustrated). Heavy gauge steel cabinet in fine, dull black ripple, with chrome trim and reflector. Size 24" high, 17½" wide, base depth 10" tapering to 4" at top.  
Code: Gable. Net Price \$144.25
- 10-15PM—On heavy gauge steel panel with dust cover. Panel 22¾" x 19" for standard rack mount. Fine, dull black ripple finish.  
Code: Gavot. Net Price \$139.00

## Series CR-30 CATHODE RAY TUBE TESTER

TESTS ALL TV PICTURE TUBES  
(Magnetic and Electrostatic)

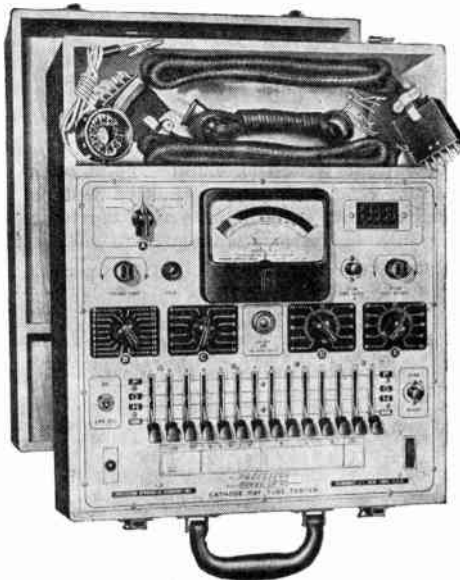
OSCILLOSCOPE AND INDUSTRIAL CATHODE RAY TYPES

SERIES CR-30 IS A COMPLETE, SELF-CONTAINED INSTRUMENT particularly engineered for the very special needs of reliable, rapid and economical cathode ray tube testing, in the field, shop or laboratory.

Series CR-30 is indispensable to the efficient TV Service-Installation Technician, TV Service Laboratory and wherever one is called upon to answer the performance question, "IS IT THE CATHODE RAY TUBE OR IS IT THE CHASSIS?"

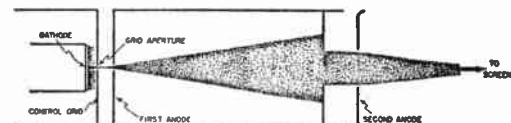
Series CR-30 incorporates a BEAM CURRENT TEST CIRCUIT which checks overall electron-gun performance for Proportionate Picture Brightness. Additional direct testing facilities are provided for positive check of accelerating anodes and deflection plate elements.

The Precision CR-30 should not be confused with mere adapters connecting to ordinary receiving tube testers which were never designed to meet the very specialized needs of CR tube checking. Similarly, it is not to be confused with neon lamp units or similar devices of limited technical merit and which do not check all CR tubes or all tube elements.



### GENERAL AND TECHNICAL SPECIFICATIONS

- ★ Tests All Modern Cathode Ray Tubes—Magnetic and Electrostatic picture tubes, 'Scope Tubes and Industrial Types without removal from carton or TV chassis.
- ★ Tests All CR Tube Elements—Not just a limited few.
- ★ Absolute Free-Point 14 Lever Element Selection System for Short-Check, Leakage Testing and Quality Tests. Independent of multiple base pin and floating element terminations. Affords maximum anti-obsolescence insurance.
- ★ Beam Current Test Circuit checks all CR Tubes and Electron-gun in operation. It is the Electron Beam (and NOT total cathode emission) which traces the pictures or patterns on the face of the CR tube.
- ★ Voltage Regulated, Bridge Type VTVM provides the heart of the super-sensitive, tube quality test circuit. Such high sensitivity is also required for positive check of very low current anodes and deflection plates.
- ★ Multiple Test Sensitivities plus selectable element test potentials permit proper accommodation of all CR tube types, Magnetic and Electrostatic.
- ★ Micro-Line Voltage Adjustment, which is Meter-monitored at filament supply, provides required close control of operating voltages.
- ★ Accuracy of test circuits closely maintained by use of factory adjusted internal calibrating controls; plastic insulated, telephone type cabled wiring; highest quality, conservatively rated components.
- ★ Built-in, High Speed, Roller Tube Chart.
- ★ Test Circuits Transformer isolated from power line.
- ★ 4½" Full Vision Meter with special scale-plate expressly designed for CR tube testing requirements.
- ★ Heavy Gauge Aluminum Panel, etched and anodized.
- ★ PLUS many other special "PRECISION" details and features.



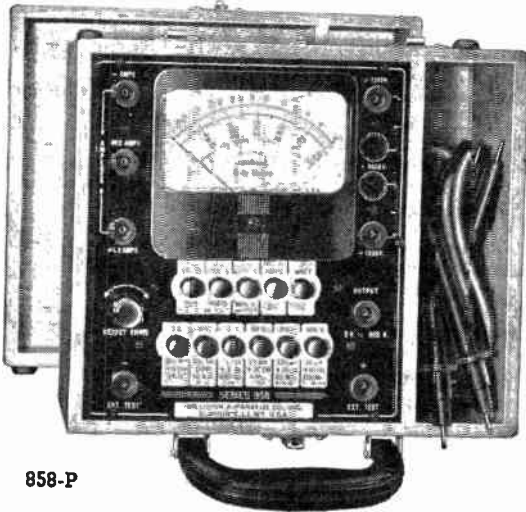
SERIES CR-30—In hardwood, tapered portable case, with hinged removable cover. Extra-Wide Tool and Test Cable Compartment. Overall Dimensions 17¼" x 13¾" x 6¾". Complete with standard picture tube cable, universal CR Tube Test Cable and detailed Instruction Manual.  
Code: Daisy. Net Price \$99.75



# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

All prices are subject to change without notice



858-P

- \* 858-P (illustrated) In hardwood, portable case, with tool compartment. Size 9"x10"x4 1/2". Complete with ohmmeter batteries and high voltage test leads. Code: Judge. Net Price \$61.50
- \* 858-L In modern bakelite case with plastic carrying handle. Size 7 1/2" x 8 1/2" x 3". Complete with ohmmeter batteries and high voltage test leads. Code: Jetty. Net Price \$58.75

**Series 858 High Sensitivity Multi-Master**  
**HIGH SPEED, A.C.-D.C. MULTI-RANGE TEST SET**  
 54 Ranges to  
 6,000 Volts, 60 Microamperes, 12 Amps., 600 Megs. +70DB.  
 20,000 and 1,000 Ohms per Volt D.C., 1,000 Ohms per Volt A.C.

Series 858 MULTI-MASTER features a "PRECISION" designed, positive action Push-Button Range and Function selection system, affording the ultimate in operational efficiency.

Designed for reliable measurements in modern TV, F.M., A.M. and other critical electronic circuits where only minute current drain of the measuring instrument can be tolerated.

The dual-range sensitivity feature provides the equivalent of another instrument at standard 1000 ohms per volt sensitivity, in conformance with many point to point voltage readings listed by receiver service manuals.

When employed in conjunction with the Series TV-2 super-high voltage safety test probe (described below), direct reading facilities to 30,000 volts are provided. 60,000 volt multiplier is also available.

### SPECIFICATIONS

- \* EIGHT D.C. VOLTAGE RANGES both 20,000 and 1000 ohms per volt. 0-3-6-12-60-300-600-1200-6000 volts.
- \* EIGHT A.C. and OUTPUT VOLTAGE RANGES at 1000 ohms per volt. 0-3-6-12-60-300-600-1200-6000 volts.
- \* EIGHT D.C. CURRENT RANGES: C-60-120 microamperes. 0-1.2-12-120-600 MA. 0-1.2-12 amps.
- \* SIX RESISTANCE RANGES self-contained to 60 megohms. 0-6000-60,000-600,000 ohms. C-6-60-600 megohms.
- \* EIGHT DB RANGES: -26 to +70DB. 600 ohm, 1 mw., zero DB reference level.
- \* Two Pin Jacks for all standard ranges.
- \* 4 5/8" 50 microampere meter, ±2% accuracy. Rugged, double-jewelled D'Arsonval construction.
- \* Safety Jacks for 6000 volt ranges.
- \* HIGHEST GRADE MATERIALS and plastic insulated wiring employed.
- \* ETCHED AND ANODIZED, heavy gauge aluminum panels: resistant to moisture and wear.

**Series TV Super High Voltage SAFETY TEST PROBES\***  
 Voltage Ranges to 60,000 Volts D.C.  
 With standard V.T.V.M.  
 or high sensitivity V-O-M



\* U. S. Patent No. Des. 162813

"PRECISION" engineering solves the high voltage test problem with utmost safety to the operator. Series TV has been custom designed and patent protected for YOUR safety FIRST. Cartridge style high voltage tubular multiplier permits use of a single "TV" probe with many high sensitivity test sets and V.T.V.M.'s. Full details on reverse side of "PRECISION" catalog price sheet.

### IMPORTANT FEATURES

- \* Custom Molded Polystyrene Head, heavy duty bakelite handle and triple-ring barrier, specially machined internal lucite components, all spell out "HIGH VOLTAGE ENGINEERED."
- \* High Dielectric Anti-Leakage Paths and wide, multi-channelled guard-barrier reiterate "HIGH VOLTAGE ENGINEERED."
- \* Internal and External Protective Grounding — Full handle length grounded internal flash-over-shield. External, grounded arc-back barrier. HIGH VOLTAGE ENGINEERED!
- \* Heavy Duty, Grounded-Shielded Connecting Cable.
- \* Ceramic, Helical Film-Type, Cartridge Multiplier manufactured specifically for VERY HIGH VOLTAGE APPLICATION. Removed and changed quickly, conveniently and without tools!
- \* Positive Grounds and High Voltage Connections through high compression contact springs.

- SERIES TVP—Test Probe less multiplier cartridge, with .080" pin plug terminations. Code: Ebony. Net Price \$12.35
- SERIES TVP-A—Similar to TVP above, except terminates in standard screw-on connector for use with most VTVM's. (Less multiplier cartridge.) Code: Early. Net Price \$12.35
- SERIES TV2—With 30 KV cartridge for "Precision" (or any) 20,000 Ω/V. test set with 6000 V. range. Code: Every. Net Price \$14.75
- SERIES TV-4—With cartridge for ranges to 60 KV for use with "Precision" EV-10A and EV-20. Code: Excel. Net Price \$14.75
- SERIES TV-4A—Same as TV4 above, except with special adapter for Model EV-10, not EV-10A. Code: Exact. Net Price \$14.75
- TVM—Cartridge Multipliers only for Series TV. See reverse side of "Precision" catalog price sheet for complete listings.

**Series 866 De Luxe Multi-Master**  
 Panel-Mounted A.C.-D.C. Test Set,  
 with 9" Meter and Remote-Control Selector Unit  
 5000 and 1000 Ohms per V., D.C., 1000 Ohms per V., A.C.



A LABORATORY TYPE, HIGH SENSITIVITY TEST SET INDISPENSABLE TO THE WELL EQUIPPED, MODERN TEST LABORATORY AND ELECTRONICS CLASSROOM.

The extra-large 9" meter and remote-control selector unit afford unparalleled operational efficiency with maximum physical meter protection via panel mounting above the work level.

RANGE SPECIFICATIONS OF SERIES 866 are similar to those described for Series 858 above.

5000 and 1000 ohms per volt D.C. 1000 ohms per volt A.C.  
 54 Ranges to  
 6000V., 300 Microamps, 12 Amps., 200 Megs., +70 DB.

- \* 866 (illustrated) In standard panel mount, size 19"x12 1/4" with dust cover. Complete with high voltage test leads and ohmmeter batteries. Code: Novel. Net Price \$78.00



# PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

All prices are subject to change without notice



- ★ 612-C (illustrated) In modern, chrome-trimmed, counter cabinet, Black ripple finish. Size 16" x 13½" x 7", sloping to 3" at front. Code: Bison. Net Price \$78.25
- ★ 612-P In hardwood, portable case (as illustrated for 654, below). Size 12" x 13" x 6". Code: Begin. Net Price \$75.50
- ★ 612-MCP Open style Metal Case Portable. Size 10½" x 12" x 6". Code: Brine. Net Price \$72.75
- ★ 612-PM In standard size panel mount 12¼" x 19" with dust cover. Code: Blaze. Net Price \$78.25

## Series 612 CATHODE CONDUCTANCE TUBE TESTER

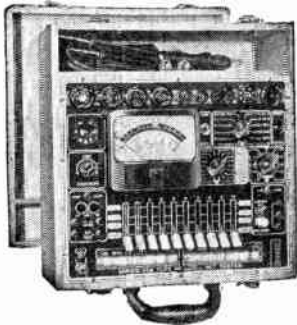
A Modern, Free Point, Lever-Operated  
TUBE and BATTERY TESTER

The very popular "600" Series brings to modern electronic tube checking the highest practical order of obsolescence insurance with utmost simplicity of operation, AT MODERATE COST. This has been achieved with full conformity to the well-known "Precision" standards of quality, workmanship, and performance.

The "600" tube testing parameters are based upon the well-established, time-proven emission testing principles as have been recommended by both tube manufacturers and R.T.M.A. The "600" line affords advanced design features and performance which render it incomparable amongst instruments in its category and price range.

### TUBE AND BATTERY TESTING FEATURES

- ★ TESTS ALL MODERN TUBE TYPES including 7 pin Acorns, Noval 9 pin, dual capped H.F. tubes, F.M. and TV. amplifiers.
- ★ FILAMENT VOLTAGES ¾ to 117 volts.
- ★ ABSOLUTE FREE-POINT 10 element lever selection for merit and short tests.
- ★ DUAL SHORT-CHECK SENSITIVITY
- ★ INDIVIDUAL TESTS OF MULTI-SECTION TUBES including tuning indicators.
- ★ BALLAST UNIT TESTS.
- ★ MICRO-LINE ADJUSTMENT.
- ★ 4½" METER, 2% ACCURACY.
- ★ NOISE and CONDENSER TEST pin jacks.
- ★ Pilot Light Test Socket.
- ★ DYNAMIC "UNDER-LOAD" TEST for all popular radio A, B, and C dry batteries.
- ★ Built-in, brass geared hi-speed roll chart.
- ★ Anodized, deep-etched, heavy gauge aluminum panel, resistant to wear.
- ★ Panel-mounted Fuse Extractor Post.
- ★ Telephone type cabled, plastic-insulated, moisture resistant hook-up wire.
- ★ Each instrument individually calibrated and sealed.



The Series 654 is available in the same four model types as described for the Series 612 above.

Model	Code	Net Price
654-P (Illus.)	Hardy	\$109.75
654-MCP	Hurry	\$107.00
654-C	House	\$112.50
654-PM	Heart	\$112.50

## Series 654 COMBINATION TUBE, BATTERY & SET TESTER

20,000 OHMS PER VOLT D.C. 1,000 OHMS PER VOLT A.C.  
Ranges to 6,000 V., 120 Microamperes, 12 Amps., 60 Megs., + 70 DB.

- ★ SERIES 654 is an economical, compact, High Sensitivity Service Laboratory designed to meet the specific needs of modern electronics service, installation and maintenance, A.M., F.M., and T.V.

Series 654 incorporates the identical tube and battery testing features as described for the Series 612 above, PLUS a complete wide range, high sensitivity, A.C. - D.C. circuit tester.

### CIRCUIT TESTING FEATURES

- ★ 5 D.C. Voltage Ranges: 20,000 ohms per volt.
- ★ 5 A.C. and Output Voltage Ranges: 1000 ohms per volt. 0-12-60-300-1200-6000 volts.
- ★ Ranges to 30,000 Volts D.C. when used with Series TV-2 Super high voltage test probe. Not included with 654. See page F-45.
- ★ 6 D.C. Current Ranges: 0-120 microamperes. 0-1.2-12-120 MA. 0-1.2-12 Amperes.
- ★ 3 Wide Resistance Ranges: 0-600-600,000 ohms. 0-60 Megs. Self-contained batteries.
- ★ 5 Decibel Ranges from -12 to +70 DB.
- ★ Fully Rotary Selective Ranges and Functions.
- ★ Only 2 Pin Jacks for all standard ranges.
- ★ Recessed 6,000 V. safety pin jacks.
- ★ 50 microampere, 4½" Wide-Angle meter.
- ★ 1% Wirewound and film-type resistors.
- ★ All circuits isolated from power line.



## Series 614 DE LUXE TUBE & BATTERY MERCHANDISER

Counter Display Type Tube and Battery Tester  
with Large 7" Chrome Trimmed Meter.

The Series 614 has been designed for the progressive tube and battery department where an exceptionally attractive instrument is desired to step-up tube and battery sales with minimum investment.

The extra-large, offset mounted 7" meter provides a full view of test results easily visible to both customer and operator.

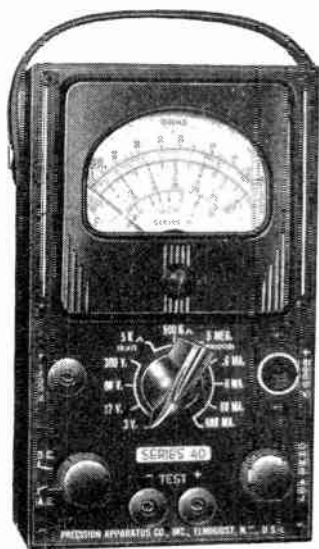
The tube and battery testing circuit of Series 614 is electrically identical to that described for the Series 612 at top of this page.

- ★ 614 Tube and Battery Merchandiser (illustrated)—In modern, chrome-trimmed, fine black ripple finished cabinet. Offset mounted meter. Cabinet size 16" x 13½" x 7", slopes to 3". Code: Early. Net Price \$97.25



# -PRECISION-TEST EQUIPMENT

STANDARD OF ACCURACY



\* Series 40 (illustrated) In molded bakelite case with plastic handle. 3 3/4" x 6 3/4" x 2 1/2". Complete with ohmmeter batteries and test leads. Code: Visit. Net Price \$26.95

## Series 40 Compact Wide Range A.C.-D.C. Circuit Tester

31 Self-Contained Ranges to 6000 Volts, 600 MA, +70DB, 5 Megohms with Full Size, easy reading 3" Rectangular Meter

1000 Ohms per Volt A.C. and D.C.

In molded bakelite carrying case, Series 40 meets the need for a compact, yet rugged test set to withstand hard usage as is imposed by the service technician, maintenance engineer, production inspector, trouble-shooter, etc.

The Series 40 offers every advanced design feature and full-bodied components as are regularly incorporated in "Precision's" larger multi-range test sets, including: Rotary Range Selection—1% shunts and multipliers—heavy duty insulated pin jacks—Large numeralled, easy reading meter. ALL RANGES, including 6000 volts and 5 Megohms, are SELF-CONTAINED NO EXTERNAL BATTERIES OR MULTIPLIERS ARE REQUIRED.

### RANGE SPECIFICATIONS

- \* 6 A.C.-D.C. AND OUTPUT VOLTAGE RANGES at 1000 ohms per volt. 0-3-12-60-300-1200-6000 volts.
- \* 4 D.C. CURRENT RANGES: 0-.6-6-60-600 MA.
- \* 3 RESISTANCE RANGES: 0-5000-500,000 ohms. 0-5 meg.
- \* 6 DECIBEL RANGES -22 to -70 DB.
- \* FULL SIZE 3" RECTANGULAR METER: 400 microamperes ±2% accuracy.
- \* 1% WIRE & FILM-TYPE RESISTORS.
- \* ONLY 2 PIN JACKS serve all standard ranges and functions.
- \* Recessed 6000 volt safety jack.
- \* Anodized, etched aluminum panel: resistant to moisture and wear.

LC-2 LEATHER INSTRUMENT CASE: Genuine top-grain heavy cowhide case, custom designed for the Series 40. Richly finished in dark brown. Code: Young. Net Price \$5.75

## Series 85 High Sensitivity Test Set

20,000 Ohms per Volt D.C. 1,000 Ohms per Volt A.C. 34 Self-Contained Ranges to 6000 Volts, 120 Microamperes, 12 Amperes, +70DB, 60 Megohms.

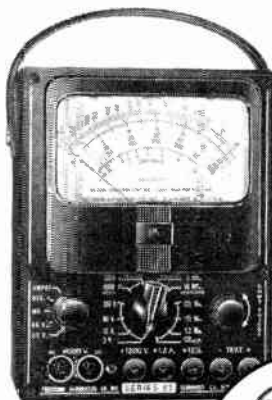
The Series 85 is a bakelite cased, laboratory styled, portable instrument.

Combining high sensitivity with small overall size, Series 85 is "Application Engineered" for production, lab., school and service-maintenance phases of modern electronics: A.M., F.M., and TV.

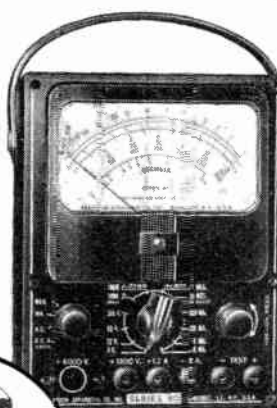
\* When used with the Series TV-2 super-high voltage test probe, D.C. voltage ranges up to 30,000 volts are provided for Television and similar high potential, low current circuits. See page F-45.

### SPECIFICATIONS

- \* 6 D.C. Voltage Ranges: 20,000 ohms per volt.
- \* 6 A.C.-Output Voltage Ranges: 1000 ohms per volt 0-3-12-60-300-1200-6000 volts.
- \* 6 D.C. Current Ranges: 0-120 microamps. 0-1.2-12-120 MA and 0-1.2-12 amps.
- \* 4 Resistance Ranges: Self-contained batteries. 0-6000-600,000 ohms; 0-6-60 meg.
- \* 6 Decibel Ranges: -26 to +70DB
- \* 4 5/8" Rectangular Meter. 50 Microampere. 2% accuracy.
- \* 1% Wire & Film-type Resistors.
- \* Rotary Range Selection: All standard functions at only 2 tip jacks.
- \* Recessed 6000 volt safety jacks.
- \* Anodized, heavy gauge, etched aluminum panel: resistant to moisture and wear.
- \* Series 85 (illustrated) in molded bakelite carrying case with plastic handle. 5 1/2" x 7 1/8" x 3". Complete with ohmmeter batteries and test leads. Code: Waist. Net Price \$39.95



Series 85



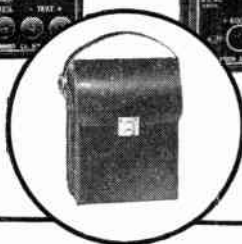
Series 80

The Series 80, laboratory styled, rotary selective, multi-range circuit tester has been designed to meet the same high calibre performance standards as the Series 85 (at left) but is specifically intended for use wherein greater resistance to electrical and physical overload is of more importance than extremely high sensitivity.

"Application Engineered" for general purpose industrial and radio service-maintenance-test requirements.

### SPECIFICATIONS

- \* 6 A.C.-D.C.-Output Voltage Ranges: 1000 ohms per volt. 0-6-12-60-300-1200-6000 volts.
- \* 6 D.C. Current Ranges: 0-.6-6-60-300 MA and 0-1.2-12 amps.
- \* 4 Resistance Ranges: Self-Contained batteries. 0-1000-100,000 ohms. 0-1-10 megohms.
- \* 6 Decibel Ranges: -20 to +70DB.
- \* 4 5/8" Rectangular Meter: 400 microampere, 2% accuracy.
- \* 1% Wire and Film-type Resistors.
- \* Rotary Range Selection: All standard functions at only 2 tip jacks.
- \* Recessed 6000 volt safety jack.
- \* Anodized, heavy gauge, etched aluminum panel: resistant to moisture and wear.
- \* Series 80 (illustrated) In molded bakelite carrying case with plastic handle. 5 1/2" x 7 1/8" x 3". Complete with ohmmeter batteries and test leads. Code: Waava. Net Price \$34.95



Series LC-1

### LC-1 LEATHER INSTRUMENT CASE

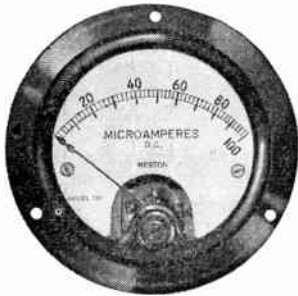
Custom designed for the Series 80 and 85. Includes a tool and test lead compartment.

Genuine-top-grain heavy cowhide with water-proof lined suede interior. Adjustable hand or shoulder strap. Positive snap-lock. Richly finished in dark brown. Code: Yearn.

Net Price \$9.50

All prices are subject to change without notice

# Weston RADIO INSTRUMENTS



Round Style

## PANEL INSTRUMENTS

These panel instruments reflect half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependability and service.

Models 301, 425 and 476 are available in round flush bakelite cases 3 1/2" or 3 3/8", and 3 1/4" metal cases with black finish; also in round surface metal and rectangular flush bakelite cases. Models 506, 507, 517 regularly supplied in round flush 2 1/2" bakelite and black finished metal cases; flush narrow flange metal and rectangular flush bakelite cases with a clamp for panel mounting. Model 506 available in surface metal case. All are calibrated normally for use on non-magnetic panels. For magnetic panel use, instruments will be adjusted for steel panel thickness of .09". Order instruments in bakelite cases for use on circuits above 300 volts when it is not possible to connect in grounded side of line. For other instrument prices, write to Weston Electrical Instrument Corporation, Newark 5, New Jersey.



Rectangular Style

## 3 1/2" PANEL INSTRUMENTS

### MODEL 301 — D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt — 1 to 40 volts, 62; 50 to 150 volts, 200; 200 volts, 250.

Range	Price	Range	Price	Range	Price
3	\$14.25	15	\$14.25	150	\$15.75
5	14.25	30	14.25	200	16.50
8	14.25	50	14.25		
10	14.25	100	15.00		

With Resistance of 1,000 ohms per volt

Range	Price	Range	Price	Range	Price
50	\$15.00	300	\$18.75	1.5KV	\$41.75*
100	15.75	500	23.25	2 KV	46.75*
200	17.25	1KV	30.75	3 KV	56.75*

\* Supplied with external resistor.

### MODEL 301 — D-C MILLIAMMETERS \*

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	\$14.25	30	1.2	\$14.25
1.5	27	14.25	50	2.0	14.25
2	27	14.25	100	1.0	14.25
5	5.7	14.25	150	0.66	14.25
10	2.0	14.25	200	0.5	14.25
15	2.0	14.25	300	0.33	14.25
20	2.0	14.25	500	0.2	14.25

\* Milliammeters with ranges above 40 MA. are shunted, and have a drop of approximately 100 MV.

### MODEL 301 — D-C AMMETERS \*

Single Ranges: 1/1.5/2/3/5/10/15/30/50 at \$14.25

\* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts.

### MODEL 301 — D-C MICROAMMETERS

Range	Price	Range	Price
20	\$30.00	100	\$27.00
30	30.00	200	18.00
50	28.25	500	18.00

## 2 1/2" PANEL INSTRUMENTS

### MODEL 506 — D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200; 300 volts, 1000.

Range	Price	Range	Price	Range	Price
3	\$11.25	10	\$11.25	100	\$12.00
5	11.25	15	11.25	150	12.75
8	11.25	50	11.25	300	15.75

### MODEL 506 — D-C AMMETERS

Single Ranges: 1/1.5/3/5/10/15/30/50 at \$11.25

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV ±5%

### MODEL 506 — D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	105	\$11.25	30	1.2	\$11.25
1.5	18	11.25	50	1	\$11.25
2	18	11.25	100	.5	11.25
3	18	11.25	150	.33	11.25
5	9.5	11.25	200	.25	11.25
10	3.2	11.25	300	.16	11.25
15	1.5	11.25	500	.1	11.25

Milliammeters above 40 MA are shunted — drop approximately 50 MV.

### MODEL 301 — RECTIFIER TYPE A-C VOLTMETERS

1000 ohms 2000 ohms

Range	per volt	per volt	Range	per volt	per volt
1	\$25.50	\$25.50	50	\$22.50	\$25.50
1.5	25.50	25.50	100	23.25	26.25
3	\$22.50	25.50	150	24.00	27.00
5	22.50	25.50	300	26.25	.....
15	22.50	25.50			

### MODEL 301 — RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	\$25.50	2	\$21.75
1	21.75	5	21.75

### MODEL 301 — RECTIFIER TYPE A-C MICROAMMETERS

Range	Price	Range	Price
100	\$34.50	250	\$25.50
200	25.50	500	25.50

### MODEL 301 VU METER

A OR B SCALE.....Price \$35.00

### MODEL 862 VU METER

A OR B SCALE.....Price \$50.00

### MODEL 476 — A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/30/50 at \$14.25

### MODEL 476 — A-C VOLTMETERS

Single Ranges: 1.5/3/5/8/10/15/30/50 at \$14.25

Range	Price	Range	Price
100	\$15.00	250	\$17.25
130	15.75	300	18.00
150	15.75	500	21.00

### MODEL 425 — THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/8/10/15/20 at \$21.00

### MODEL 425 — THERMO MILLIAMMETERS

Ranges: 10/20/50	.....\$52.50
100/115/120/150/200/300/500	.....\$24.00

### MODEL 507 — THERMO AMMETERS

For use on any frequency including radio frequency.

Single Ranges: 1/1.5/2/5/8/15/20 at \$18.00

### MODEL 517 — A-C AMMETERS

Range	Approx. Resis. in ohms	Price	Range	Approx. Resis. in ohms	Price
1	.17	\$13.50	20	.0012	\$13.50
3	.024	13.50	30	.00085	13.50
5	.01	13.50	50	.00072	13.50
10	.0037	13.50			

### MODEL 517 — A-C VOLTMETERS

Range	Approx. Ohms per volt	Price	Range	Approx. Ohms per volt	Price
5	10	\$13.50	50	52	\$13.50
10	14	13.50	130	110	15.00
15	14	13.50	150	110	15.00
25	26	13.50	250	167	16.50
			300	167	17.25

**SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE**

# WESTON INSTRUMENTS

## MODEL 769 HIGH FREQUENCY ELECTRONIC ANALYZER

A versatile three-in-one instrument built to Weston standards of quality. Provides a conventional Volt-Ohm-Milliammeter, a high impedance Electronic Volt-Ohmmeter, and a stable, probe type Vacuum Tube Voltmeter for use to 300 megacycles. RF and special D-C probe supplied. Complete stability is attained on all ranges from 3 to 1200 Volts and 200 Ohms to 2000 Megohms full scale.

### RANGES

#### VOLT-OHM-MILLIAMMETER

D-C VOLTS (at 10,000 ohms per volt):†  
3/12/30/120/300/1200.  
A-C VOLTS (at 1,000 ohms per volt):  
3/12/30/120/300/1200.  
DECIBELS: -6 to +62 in six ranges:  
1 milliwatt, 0 level, 600 ohm line.  
D-C CURRENT: 300 microamperes  
1/1.2/6/30/120/600 ma.  
RESISTANCE: 2,000 / 20,000 / 200,000 ohms  
full scale. 20/200/2,000 ohms center  
scale.\*  
ACCURACY: D-C ±3% A-C ±5%

† For higher ranges  
to 6000 volts d-c  
order Model 766  
Type 4 Televerter  
at \$21.00 list.

\* Ranges from 2 to  
2000 megohms oper-  
ate electronically.

\*\*300 volts a-c not usable above 50,000  
cycles.

#### PROBE TYPE VACUUM TUBE VOLT METER

A-C VOLTS: 3/12/30/120/300\*\*.  
DECIBELS: -6 to +42 in four ranges.  
1 milliwatt, 0 level, 600 ohm line.  
ACCURACY: ±5% (direct reading) at 50  
cycles to 150 megacycles.  
±12% (direct reading) at 150 to  
300 megacycles.  
±8% (with correction curve) at 150  
to 300 megacycles.

#### ELECTRONIC VOLT-OHMMETER

D-C VOLTS: ±3/12/30/120/300/1200.  
RESISTANCE: 2,000 / 20,000 / 200,000 ohms  
full scale. 2/20/2,000 megohms full  
scale.  
20/200/2,000/20,000/200,000 ohms  
center scale, 20 megohms center  
scale.

VOLTMETER RESISTANCE: 15 megohms on  
all ranges.  
ACCURACY: ±4% of full scale on all  
ranges.



MODEL 769

#### RF PROBE

FREQUENCY RANGE: 50 cycles to 300 mega-  
cycles.  
INPUT RESISTANCE: 5 megohms.  
INPUT CAPACITY: Approximately 5 micro-  
microfarads.  
DIMENSIONS: 3 1/2" x 3 1/4".

Size: 10" x 13" x 6 1/8".  
App. Wgt. 13 1/2 lbs.

PRICE.....\$247.50 List

## MODEL 779 SUPER-SENSITIVE ANALYZER

A compact 26 range ultra-sensitive analyzer with five d-c voltage ranges of a sensitivity of either 1,000 or 20,000 ohms per volt. A-C temperature compensated; precision resistors throughout. Supplied in a rugged solid oak case with a removable cover and convenient carrying handle.

Used for . . . measurement of tube circuits, as in electronic receivers, transmitters and elec-  
tronic control equipment . . . television and wire communication systems . . . power level in  
decibels in audio equipment, P.A., telephone or speech lines . . . maintenance of electronic  
control and alarm systems . . . leakage of condensers . . . resistance of all types of circuits.  
For application requiring higher d-c voltage measurements use Model 766 Televerters as  
listed on next page.

### RANGES

Volts		Current		Decibels		Ohms	
D-C	A-C	D-C Only		-	+		
2.5	2.5	.1 Ma		- 14 to	+ 2*		0-3000
10	10	1 Ma		- 2 to	+ 14*		0-30,000
50	50	10 Ma		+ 12 to	+ 28*		0-300,000
250	250	50 Ma		+ 26 to	+ 42†		0-300,000
1000	1000	250 Ma		+ 38 to	+ 54††		0-30 Meg
		1 Amp		(6 milliwatts, level)			
		10 Amp		500 ohms, zero level)			

\* Substantially flat to 10,000 cycles.  
† Substantially flat to 3,000 cycles.  
†† Substantially flat to 1,000 cycles.

Size: 6 3/8" x 9 1/8" x 4 7/8"  
Approx. Weight: 6 lbs.

Model 779 Type 1 (Incl. Test Leads).....\$127.50 List



MODEL 779

## MODEL 798 TUBE CHECKER

The Model 798 Tube Checker uses a new method of proportional mutual conductance test-  
ing . . . the differential frequency system which provides readings similar to actual oper-  
ating conditions. This tube checker supplies mutual conductance and "Good-Bad" readings  
on all receiving tube types . . . tests all Voltage Regulator and low power type Thyatron  
tubes . . . has adjustable plate, screen, signal and grid bias voltages. Only six settings re-  
quired for most tubes . . . switching flexibility provides for testing future tubes as they are  
announced.

### SPECIFICATIONS

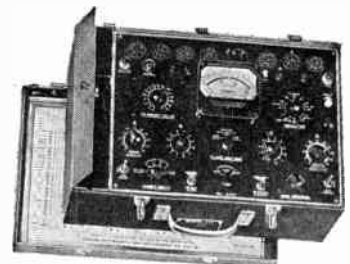
Tube Checker ranges: 3000/6000/12000  
micromhos.

Tube sockets: 4, 5, 6, and 7 prong, octal,  
loctal, miniature, acorn and 9 pin types.  
(Spare miniature socket provided.)

Power Requirements: 105/125 Volts, 50/60  
Cycles A-C.

Size: 17 3/4" x 11 3/4" x 6 1/8" — Weight: 23  
Lbs.

Price.....\$291.50 List



MODEL 798

**SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE**

# WESTON INSTRUMENTS

## MODEL 785 INDUSTRIAL CIRCUIT TESTER

Established in industry as the most complete single unit for general maintenance and ultra-sensitive test purposes, particularly on electronic equipment. Provides 28 ranges for measuring D-C

voltage and current; A-C voltage and current; and resistance. Current and voltage ranges can be extended for insulation testing. Provisions for instantaneous current and voltage readings.

### RANGES

**D-C Volts:** (Full scale) 1/10/50/200/500/1000 Volts (20,000 Ohms per volt), 100 Millivolts direct or with external shunt. Accurate within 2% to 500 V.; 3% at 1000 V.

**A-C Volts:** (Full scale) 5/15/30/150/300/750 Volts (1000 Ohms per volt). Accurate within 3%.

**D-C Current:** (Full scale) 50 Microamps; 1/10/100 Milliamps; 1/10 Amps. Accurate within 3%. Higher ranges with 100 mv. shunts.

**A-C Current:** (Full scale) .5/1/5/10 Amperes. Accurate within 3% on 60 cycles. Higher ranges with external current transformers.

**Resistance:** (Full scale) 3,000/30,000/300,000 Ohms; 3/30 Megohms. (Center scale) 25/250/2,500/25,000/250,000 Ohms. Accurate within 2% of linear arc length on any ohmmeter range.

**Sizes:** 13" x 12 1/2" x 5 1/2".  
Weight (complete) 13 1/2 lbs.

Model 785 (Oak carrying case).....\$157.50 List  
Model 785 (Steel case) ..... 127.50 List

### MODEL 785 ACCESSORIES

**Model 766 Televerter**—used with any 50 microampere D-C instrument or 20,000 ohm per volt analyzer to extend range to 5,000 or 10,000 volts.

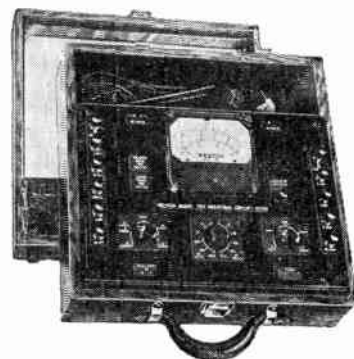
Type 1 (5,000 volts).....\$18.00 List  
Type 2 (10,000 volts)..... 24.00 List

**Model 792 Insulation Tester**—for insulation and cable resistance measurements to 900 megohms at a test potential of 500 volts. Operates from any 100-130 volt, 50 to 60 cycle line. \$37.50 List

**Model 604 Current Transformer**—inserted primary type used to increase A-C current. Type 1, accurate within 1% on frequencies from 25 to 125 cycles, capacity 2 volt-amperes. Type 2, accurate within 1% on frequencies from 50-215 cycles, capacity 5 volt-amperes. Ratios include 200:5, 300:5, 400:5, 500:5.

Type 1 .....(200:5, 300:5) \$18.00 List;  
(400:5, 500:5) \$16.50 List

Type 2 .....(200:5) \$30.00 List;  
(400:5, 500:5) \$28.50 List



MODEL 785

100 MV External Shunt—used for extending D-C current ranges of Model 785 beyond 10 amperes.

Price ..... 50 amp., \$12.75;  
100 amp., \$12.75;  
250 amp., \$14.00;  
500 amp., \$24.00 List

## WESTON POCKET-SIZE TESTERS

### Model 697 Volt-Ohm-Milliammeter



MODEL 697

#### SPECIFICATIONS —

Accurate within 2% D-C  
5% A-C  
Scale: 2.36"  
Ranges: 0-7.5/15/150/750 a-c  
and d-c (1000 ohms per volt)  
Current: 0-7.5/75 milliamperes  
d-c  
Resistance: Full scale 5,000/  
50,000 ohms. Center scale  
35/3500 ohms  
Size: 5 1/8" x 3 " x 3 1/8"  
Approx. Wt.: 1 3/4 lbs.

Model 697 (Incl. Test Leads) .....\$49.50 List

### Model 564 Volt-Ohmmeter

**SPECIFICATIONS —** Accurate within 2%  
Scale: 2.36"  
Ranges: 3/30/300/600 volts d-c (1000 ohms per volt)  
Resistances: Full scale — 1,000/10,000/100,000/  
1,000,000 ohms  
Size: 5-33/64" x 3-45/64" x 2-9/16"  
Approx. Wt.: 1 3/4 lbs.

Model 564, Type 3-C (Incl. Test Leads).....\$54.00 List

### Model 689 Ohmmeters

**SPECIFICATIONS —** Accurate within 2%  
Scale: 2.36"  
Ranges: Type 1-E—double range 0-5,000 and  
50,000 ohms-full scale.  
Type 1-F—double range 0-10 and 0-1,000  
ohms-full scale.  
5" x 2 7/8" x 1 7/8"  
Approx. Wt.: 1 lb.

Model 689, Type 1-E (Incl. Test Leads).....\$27.00 List  
Model 689, Type 1-F (Incl. Test Leads).....\$25.50 List

## Model 633 Clamp Volt-Ammeter and Clamp-Ammeter



MODEL 633 Type VA-1

Model 633 Type VA-1 (Incl. Potential Leads) — 1000/250/  
100/25/10 amperes a-c 700/350/175 volts a-c.....\$ 95.00

Model 633 Type A-1 — 500/250/100/50/25/10 amperes a-c...\$ 87.00

Model 633 Type A-2 — 1000/500/250/100/25/10 amperes a-c \$ 87.00

Model 633 Type A-3 — 2000/1000/500/250/100/50 amperes  
a-c .....\$ 95.00

Model 9958, 50 Foot Extension Cable, Plug & Receptacle for  
Model 633 Types A-1, A-2, A-3.....\$ 72.00

Leather Carrying Case (Model 633 Types VA-1, A-1, A-2, A-3) \$ 13.50

Leather Carrying Case (Model 9958—Cable, Plug and Re-  
ceptacle) .....\$ 22.50

#### — NOTE —

Model 633 instruments may be used for continuous duty up to  
500 amperes.

#### Approximate Dimensions and Weights

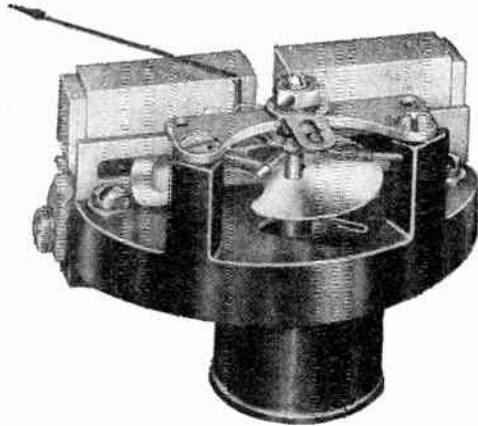
Model 633 Types VA-1, A-1, A-2, A-3.....13 5/8" x 4 3/8" x 2 1/2" 3 1/4 lbs.  
Leather Carrying Case (Types VA-1, A-1, A-2, A-3).....14 1/2" x 5 1/2" x 3 5/8"  
2 1/4 lbs.

Model 9958, 50 Foot Extension Cable, Plug & Receptacle...4 1/4 lbs.  
Leather Carrying Case (Model 9958—Cable, Plug & Receptacle)  
14" x 8 1/2" x 3 3/4" 4 1/4 lbs.

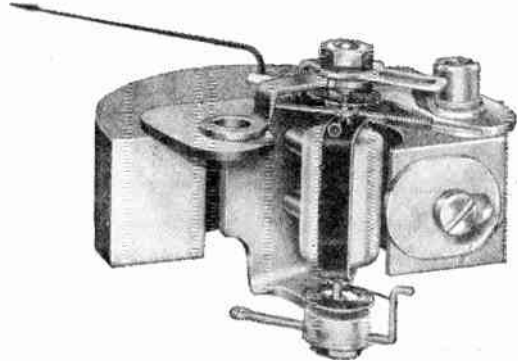
Prices Subject To Change Without Notice.



# Barlinton Improved PANEL INSTRUMENTS



**Alternating Current**



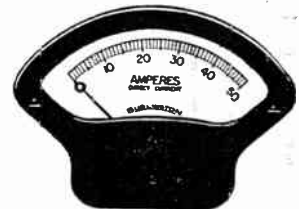
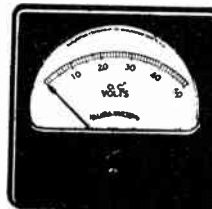
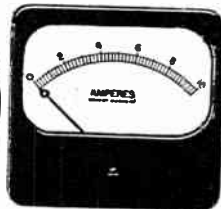
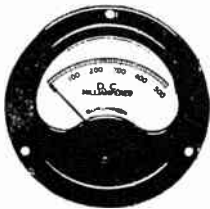
**Direct Current**

AC and DC types are accurate to within 2% of full scale value at any point on the scale.

DC instruments combine extremely light weight moving elements and powerful alnico magnets to produce a torque to weight ratio which reduces frictional error to a minimum. This high torque to weight ratio permits use of pivots with ample pivot bearing surface to overcome effects of rough handling, shock, and vibration.

AC instruments are accurate over entire range of commercial power frequencies (25 to 125 cycles). These instruments are of repulsion vane type using carefully aged and impregnated field coils and multipliers which are wound with conductors of ample size so that temperature rise of the windings may be maintained at a minimum, even though instrument is subjected to continuous use in the circuit.

Alnico magnets are used to obtain perfected damping characteristics found in no other AC instrument.



**MODELS**  
Direct Current  
221, 421, 431, 441  
Alternating Current  
222, 422, 432

**MODELS**  
Direct Current  
731, 741  
Alternating Current  
732, 742

**MODELS**  
Direct Current  
141  
Alternating Current  
142

**MODELS**  
Direct Current  
321, 331  
Alternating Current  
322, 332

**MODELS**  
Direct Current  
841

\*Request Catalog #47 for information on Hermetically Sealed Instruments in 1 1/2", 2 1/2", and 3 1/2" types  
**CASE DIMENSIONS**

Model No.		Body	Flange	Body Depth	Stud Length		Case
DC	AC				AC	DC	
141	142						
*311		1.500" Diam.	4" x 4 1/4"	2"	3/4"	1"	Rectangular, front-of-board Bakelite
221	222	2.062" Diam.	1.750" x 1.750"	1"	Solder type		Square, flush, Sealed
*321	322	2.068" Diam.	2.740" Diam.	1 29/64"	5/8"	25/32"	Round, flush, Metal
421	422	2.156" Diam.	2.695" Diam.	1 1/16"	Solder type		Round, flush, Sealed
*331	332	2.670" Diam.	2.690" Diam.	1.4062"	5/8"	25/32"	Round, flush, Bakelite
431	432	2.796" Diam.	3 1/2" Diam.	1 9/64"	Solder type		Round, flush, Sealed
441		3.5625" Diam.	3 1/2" Diam.	1 1/2"	3/4"	3/4"	Round, flush, Bakelite
521	522	2.156" Diam.	4 3/8" Diam.	1.4531"	3/4"		Round, flush, Bakelite
531	532	2.796" Diam.	2 3/8" x 2 3/8"	1 9/8"	5/8"	25/32"	Square, flush, Bakelite
731	732	2 1/4" Diam.	3" x 3"	1 1/2"	3/4"	3/4"	Square, flush, Bakelite
741	742	2 3/4" Diam.	3 11/16" x 3 5/16"	1.0156"	3/4"	5/8"	Rectangular, semi-flush, Bakelite
841		2 3/4" Diam.	4" x 4 1/4"	1"	3/4"	3/4"	Rectangular, semi-flush, Bakelite
				1.2187"	3/4"		Fan-shaped, semi-flush, Bakelite

See following page for prices and specifications.





# Burlington Improved

**DIRECT**

### D. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	MODEL 221		MODEL 421		MODEL 521		MODEL 531	
			Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-1	50	47 ohms	A82 x 5	\$7.50	A72 x 11	\$7.50	A73 x 11	\$7.50	A75 x 11	\$8.10
0-5	50	10 ohms	A82 x 6	7.50	A72 x 14	7.50	A73 x 14	7.50	A75 x 14	8.10
0-10	50	5 ohms	A82 x 7	7.50	A72 x 15	7.50	A73 x 15	7.50	A75 x 15	8.10
0-15	30	9.34 ohms	A82 x 8	7.50	A72 x 16	7.50	A73 x 16	7.50	A75 x 16	8.10
0-25	50	5.6 ohms	A82 x 9	7.50	A72 x 17	7.50	A73 x 17	7.50	A75 x 17	8.10
0-50	30	2.8 ohms	A82 x 10	7.50	A72 x 19	7.50	A73 x 19	7.50	A75 x 19	8.10
0-100	50	1.4 ohms	A82 x 11	7.50	A72 x 20	7.50	A73 x 20	7.50	A75 x 20	8.10
0-150	30	.94 ohms	A82 x 12	7.50	A72 x 21	7.50	A73 x 21	7.50	A75 x 21	8.10
0-200	40	.7 ohms	A82 x 13	7.50	A72 x 22	7.50	A73 x 22	7.50	A75 x 22	8.10
0-250	50	.56 ohms	A82 x 14	7.50	A72 x 23	7.50	A73 x 23	7.50	A75 x 23	8.10
0-300	30	.466 ohms	A82 x 15	7.50	A72 x 24	7.50	A73 x 24	7.50	A75 x 24	8.10
0-500	50	.28 ohms	A82 x 16	7.50	A72 x 25	7.50	A73 x 25	7.50	A75 x 25	8.10
0-750	75	.186 ohms	A82 x 17	7.50	A72 x 26	7.50	A73 x 26	7.50	A75 x 26	8.10
0-1000	50	.140 ohms	A82 x 18	7.50	A72 x 28	7.50	A73 x 28	7.50	A75 x 28	8.10

### D. C. AMMETERS

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-1	50	50M V	A82 x 19	\$7.50	A72 x 29	\$7.50	A73 x 29	\$7.50	A75 x 29	\$8.10
0-3	30	50M V	A82 x 20	7.50	A72 x 84	7.50	A73 x 84	7.50	A75 x 84	8.10
0-5	50	50M V	A82 x 21	7.50	A72 x 30	7.50	A73 x 30	7.50	A75 x 30	8.10
0-10	50	50M V	A82 x 22	7.50	A72 x 33	7.50	A73 x 33	7.50	A75 x 33	8.10
0-15	30	50M V	A82 x 48	7.50	A72 x 34	7.50	A73 x 34	7.50	A75 x 34	8.10
0-25	50	50M V	A82 x 23	7.50	A72 x 36	7.50	A73 x 36	7.50	A75 x 36	8.10
0-30	30	50M V	A82 x 24	7.50	A72 x 37	7.50	A73 x 37	7.50	A75 x 37	8.10
0-50	50	50M V	A82 x 25	7.50	A72 x 40	7.50	A73 x 40	7.50	A75 x 40	8.10
0-60	30	50M V	A82 x 26	7.50	A72 x 41	7.50	A73 x 41	7.50	A75 x 41	8.10
0-75	75	50M V	A82 x 27	7.50	A72 x 44	7.50	A73 x 44	7.50	A75 x 44	8.10

Ranges above 60 amp. are supplied as 50MV movements for use with 50MV external shunts.

### D. C. MICROAMMETERS

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-50	50	1150 ohms	A82 x 1	\$11.85	A72 x 1	\$11.85	A73 x 1	\$11.85	A75 x 1	\$12.45
0-100	50	1150 ohms	A82 x 2	10.50	A72 x 2	10.50	A73 x 2	10.50	A75 x 2	11.25
0-200	40	330 ohms	A82 x 3	8.55	A72 x 4	8.55	A73 x 4	8.55	A75 x 4	9.30
0-500	50	225 ohms	A82 x 4	7.95	A72 x 9	7.95	A73 x 9	7.95	A75 x 9	8.70

### D. C. VOLTMETERS—200 Ohms Per Volt

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-3	30	.....	A82 x 36	\$7.50	A72 x 59	\$7.50	A73 x 59	\$7.50	A75 x 59	\$8.10
0-5	50	.....	A82 x 37	7.50	A72 x 60	7.50	A73 x 60	7.50	A75 x 60	8.10
0-10	50	.....	A82 x 38	7.50	A72 x 61	7.50	A73 x 61	7.50	A75 x 61	8.10
0-15	30	.....	A82 x 39	7.50	A72 x 62	7.50	A73 x 62	7.50	A75 x 62	8.10
0-25	50	.....	A82 x 40	7.50	A72 x 64	7.50	A73 x 64	7.50	A75 x 64	8.10
0-50	50	.....	A82 x 41	7.50	A72 x 67	7.50	A73 x 67	7.50	A75 x 67	8.10
0-100	50	.....	A82 x 42	7.50	A72 x 70	7.50	A73 x 70	7.50	A75 x 70	8.10
0-150	30	.....	A82 x 43	7.50	A72 x 71	7.50	A73 x 71	7.50	A75 x 71	8.10
0-300	30	.....	.....	.....	.....	.....	.....	.....	A75 x 74	9.15

### D. C. VOLTMETERS—1000 Ohms Per Volt

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-50	50	.....	A82 x 44	\$8.55	A72 x 70	\$8.55	A73 x 70	\$8.55	A75 x 75	\$9.30
0-100	50	.....	A82 x 45	8.85	A72 x 72	8.85	A73 x 72	8.85	A75 x 77	9.75
0-150	30	.....	A82 x 46	8.30	A72 x 73	8.30	A73 x 73	8.30	A75 x 78	10.85
0-300	30	.....	A82 x 47	8.60	A72 x 76	8.60	A73 x 76	8.60	A75 x 81	10.35
0-500	50	.....	.....	.....	A72 x 78	8.90	A73 x 78	8.90	A75 x 82	10.65
0-1000	50	.....	.....	.....	.....	.....	.....	.....	A75 x 83	10.95

Ranges above those listed are supplied for use with external resistors.

## ALTERNATING

### A. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	MODEL 222		MODEL 422		MODEL 522		MODEL 532	
			Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-10	50	2020 ohms	A100 x 2	\$7.50	A90 x 1	\$7.50	A91 x 1	\$7.50	A93 x 1	\$8.10
0-15	30	1120 ohms	A100 x 3	7.50	A90 x 33	7.50	A91 x 33	7.50	A93 x 25	8.10
0-25	50	370 ohms	A100 x 4	7.50	A90 x 2	7.50	A91 x 2	7.50	A93 x 27	8.10
0-50	50	83 ohms	A100 x 5	7.50	A90 x 3	7.50	A91 x 3	7.50	A93 x 3	8.10
0-100	50	20 ohms	A100 x 6	7.50	A90 x 4	7.50	A91 x 4	7.50	A93 x 4	8.10
0-250	50	4 ohms	A100 x 7	7.50	A90 x 24	7.50	A91 x 24	7.50	A93 x 26	8.10
0-500	50	.8 ohms	A100 x 8	7.50	A90 x 5	7.50	A91 x 5	7.50	A93 x 5	8.10

### A. C. AMMETERS

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-1.5	30	.072 ohms	A100 x 9	\$7.50	A90 x 27	\$7.50	A91 x 27	\$7.50	A93 x 27	\$8.10
0-5	50	.0108 ohms	A100 x 10	7.50	A90 x 7	7.50	A91 x 7	7.50	A93 x 7	8.10
0-10	50	.0038 ohms	A100 x 11	7.50	A90 x 8	7.50	A91 x 8	7.50	A93 x 8	8.10
0-15	30	.0018 ohms	A100 x 12	7.50	A90 x 28	7.50	A91 x 28	7.50	A93 x 28	8.10
0-25	50	.0008 ohms	A100 x 13	7.50	A90 x 29	7.50	A91 x 29	7.50	A93 x 29	8.10
0-30	30	.00079 ohms	A100 x 14	7.50	A90 x 9	7.50	A91 x 9	7.50	A93 x 9	8.10
0-50	50	.00048 ohms	A100 x 15	7.50	A90 x 10	7.50	A91 x 10	7.50	A93 x 10	8.10
0-75	75	.00035 ohms	A100 x 16	*7.50	A90 x 11	*7.50	A91 x 11	7.50	A93 x 11	9.30

\* These and higher ranges are supplied as 5 amp. movement for use with current transformers.

### A. C. VOLTMETERS

Range	Scale Div.	Approx. Res.	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
0-1.5	30	3.3	A100 x 23	\$7.50	A90 x 24	\$7.50	A91 x 24	\$7.50	A93 x 33	\$8.10
0-3	30	10	A100 x 24	7.50	A90 x 25	7.50	A91 x 25	7.50	A93 x 34	8.10
0-5	50	10	A100 x 25	7.50	A90 x 16	7.50	A91 x 16	7.50	A93 x 16	8.10
0-10	50	13	A100 x 26	7.50	A90 x 17	7.50	A91 x 17	7.50	A93 x 17	8.10
0-15	30	13	A100 x 27	7.50	A90 x 18	7.50	A91 x 18	7.50	A93 x 18	8.10
0-25	50	26	A100 x 28	7.50	A90 x 26	7.50	A91 x 26	7.50	A93 x 35	8.10
0-50	50	50	A100 x 29	7.50	A90 x 20	7.50	A91 x 20	7.50	A93 x 20	8.10
0-100	50	110	A100 x 30	7.50	A90 x 21	7.50	A91 x 21	7.50	A93 x 21	8.10
0-150	30	110	A100 x 1	8.25	A90 x 22	8.25	A91 x 22	8.25	A93 x 22	8.85
0-300	30	165	A100 x 31	10.05	A90 x 23	10.05	A91 x 23	10.05	A93 x 23	10.85
0-500	50	165	.....	.....	.....	.....	.....	.....	A93 x 24	10.85
0-600	30	165	.....	.....	.....	.....	.....	.....	A93 x 36	13.80

Ranges above those shown require external resistors.

# PANEL INSTRUMENTS

## CURRENT

### D. C. MILLIAMMETERS

MODEL 731		MODEL 431		MODEL 741		MODEL 141		MODEL 441		MODEL #41	
Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
A76 x 11	\$8.40	A74 x 11	\$8.10	A79 x 11	\$9.15	A78 x 11	\$9.15	A77 x 11	\$8.70	A80 x 11	\$8.70
A76 x 14	8.40	A74 x 14	8.10	A79 x 14	9.15	A78 x 14	9.15	A77 x 14	8.70	A80 x 14	8.70
A76 x 15	8.40	A74 x 15	8.10	A79 x 15	9.15	A78 x 15	9.15	A77 x 15	8.70	A80 x 15	8.70
A76 x 16	8.40	A74 x 16	8.10	A79 x 16	9.15	A78 x 16	9.15	A77 x 16	8.70	A80 x 16	8.70
A76 x 17	8.40	A74 x 17	8.10	A79 x 17	9.15	A78 x 17	9.15	A77 x 17	8.70	A80 x 17	8.70
A76 x 19	8.40	A74 x 19	8.10	A79 x 19	9.15	A78 x 19	9.15	A77 x 19	8.70	A80 x 19	8.70
A76 x 20	8.40	A74 x 20	8.10	A79 x 20	9.15	A78 x 20	9.15	A77 x 20	8.70	A80 x 20	8.70
A76 x 21	8.40	A74 x 21	8.10	A79 x 21	9.15	A78 x 21	9.15	A77 x 21	8.70	A80 x 21	8.70
A76 x 22	8.40	A74 x 22	8.10	A79 x 22	9.15	A78 x 22	9.15	A77 x 22	8.70	A80 x 22	8.70
A76 x 23	8.40	A74 x 23	8.10	A79 x 23	9.15	A78 x 23	9.15	A77 x 23	8.70	A80 x 23	8.70
A76 x 24	8.40	A74 x 24	8.10	A79 x 24	9.15	A78 x 24	9.15	A77 x 24	8.70	A80 x 24	8.70
A76 x 25	8.40	A74 x 25	8.10	A79 x 25	9.15	A78 x 25	9.15	A77 x 25	8.70	A80 x 25	8.70
A76 x 26	8.40	A74 x 26	8.10	A79 x 26	9.15	A78 x 26	9.15	A77 x 26	8.70	A80 x 26	8.70
A76 x 28	8.40	A74 x 28	8.10	A79 x 28	9.15	A78 x 28	9.15	A77 x 28	8.70	A80 x 28	8.70

### D. C. AMMETERS

A76 x 29	\$8.40	A74 x 29	\$8.10	A79 x 29	\$9.15	A78 x 29	\$9.15	A77 x 29	\$8.70	A80 x 29	\$8.70
A76 x 84	8.40	A74 x 84	8.10	A79 x 84	9.15	A78 x 84	9.15	A77 x 84	8.70	A80 x 84	8.70
A76 x 30	8.40	A74 x 30	8.10	A79 x 30	9.15	A78 x 30	9.15	A77 x 30	8.70	A80 x 30	8.70
A76 x 33	8.40	A74 x 33	8.10	A79 x 33	9.15	A78 x 33	9.15	A77 x 33	8.70	A80 x 33	8.70*
A76 x 34	8.40	A74 x 34	8.10	A79 x 34	9.15	A78 x 34	9.15	A77 x 34	8.70	A80 x 34	8.70
A76 x 36	8.40	A74 x 36	8.10	A79 x 36	9.15	A78 x 36	9.15	A77 x 36	8.70	A80 x 36	8.70
A76 x 37	8.40	A74 x 37	8.10	A79 x 37	9.15	A78 x 37	9.15	A77 x 37	8.70	A80 x 37	8.70
A76 x 40	8.40	A74 x 40	8.10	A79 x 40	9.15	A78 x 40	9.15	A77 x 40	8.70	A80 x 40	8.70
A76 x 41	8.40	A74 x 41	8.10	A79 x 41	9.15	A78 x 41	9.15	A77 x 41	8.70	A80 x 41	8.70
A76 x 44	8.40	A74 x 44	8.10	A79 x 44	9.15	A78 x 44	9.15	A77 x 44	8.70	A80 x 44	8.70

### D. C. MICROAMMETERS

A76 x 1	\$12.75	A74 x 1	\$12.45	A79 x 1	\$13.95	A78 x 1	\$13.95	A77 x 1	\$13.50	A80 x 1	\$13.50
A76 x 2	11.55	A74 x 2	11.45	A79 x 2	12.00	A78 x 2	12.00	A77 x 2	12.30	A80 x 2	12.30
A76 x 4	9.75	A74 x 4	9.30	A79 x 4	10.00	A78 x 4	10.00	A77 x 4	10.35	A80 x 4	10.35
A76 x 9	9.00	A74 x 9	8.70	A79 x 9	10.20	A78 x 9	10.20	A77 x 9	9.75	A80 x 9	9.75

### D. C. VOLTMETERS - 200 Ohms Per Volt

A76 x 59	\$8.40	A74 x 59	\$8.10	A79 x 59	\$9.15	A78 x 59	\$9.15	A77 x 59	\$8.70	A80 x 59	\$8.70
A76 x 60	8.40	A74 x 60	8.10	A79 x 60	9.15	A78 x 60	9.15	A77 x 60	8.70	A80 x 60	8.70
A76 x 61	8.40	A74 x 61	8.10	A79 x 61	9.15	A78 x 61	9.15	A77 x 61	8.70	A80 x 61	8.70
A76 x 62	8.40	A74 x 62	8.10	A79 x 62	9.15	A78 x 62	9.15	A77 x 62	8.70	A80 x 62	8.70
A76 x 64	8.40	A74 x 64	8.10	A79 x 64	9.15	A78 x 64	9.15	A77 x 64	8.70	A80 x 64	8.70
A76 x 67	8.40	A74 x 67	8.10	A79 x 67	9.15	A78 x 67	9.15	A77 x 67	8.70	A80 x 67	8.70
A76 x 70	8.40	A74 x 70	8.10	A79 x 70	9.15	A78 x 70	9.15	A77 x 70	8.70	A80 x 70	8.70
A76 x 71	8.40	A74 x 71	8.10	A79 x 71	9.15	A78 x 71	9.15	A77 x 71	8.70	A80 x 71	8.70
		A74 x 74	8.15	A79 x 74	10.20	A78 x 74	10.20	A77 x 74	9.75	A80 x 74	9.75

### D. C. VOLTMETERS - 1000 Ohms Per Volt

A76 x 75	\$8.75	A74 x 75	\$8.30	A79 x 75	\$10.50	A78 x 75	\$10.50	A77 x 75	\$10.05	A80 x 75	\$10.05
A76 x 77	10.05	A74 x 77	9.55	A79 x 77	10.80	A78 x 77	10.80	A77 x 77	10.35	A80 x 77	10.35
A76 x 78	10.35	A74 x 78	10.05	A79 x 78	11.10	A78 x 78	11.10	A77 x 78	10.65	A80 x 78	10.65
A76 x 81	10.05	A74 x 81	10.35	A79 x 81	11.40	A78 x 81	11.40	A77 x 81	10.95	A80 x 81	10.95
A76 x 82	10.95	A74 x 82	10.45	A79 x 82	11.70	A78 x 82	11.70	A77 x 82	11.25	A80 x 82	11.25
		A74 x 83	10.95	A79 x 83	12.00	A78 x 83	12.00	A77 x 83	11.55	A80 x 83	11.55

## CURRENT

### A. C. MILLIAMMETERS

MODEL 732		MODEL 432		MODEL 742		MODEL 142	
A94 x 1	\$8.40	A92 x 1	\$8.10	A97 x 1	\$9.15	A96 x 1	\$9.15
A94 x 1.5	8.40	A92 x 25	8.10	A97 x 25	9.15	A96 x 25	9.15
A94 x 2	8.40	A92 x 2	8.10	A97 x 2	9.15	A96 x 2	9.15
A94 x 3	8.40	A92 x 3	8.10	A97 x 3	9.15	A96 x 3	9.15
A94 x 4	8.40	A92 x 4	8.10	A97 x 4	9.15	A96 x 4	9.15
A94 x 6	8.40	A92 x 26	8.10	A97 x 26	9.15	A96 x 26	9.15
A94 x 5	8.40	A92 x 5	8.10	A97 x 5	9.15	A96 x 5	9.15

### A. C. AMMETERS

A94 x 27	\$8.40	A92 x 27	\$8.10	A97 x 27	\$9.15	A96 x 27	\$9.15
A94 x 7	8.40	A92 x 7	8.10	A97 x 7	9.15	A96 x 7	9.15
A94 x 8	8.40	A92 x 8	8.10	A97 x 8	9.15	A96 x 8	9.15
A94 x 28	8.40	A92 x 28	8.10	A97 x 28	9.15	A96 x 28	9.15
A94 x 29	8.40	A92 x 29	8.10	A97 x 29	9.15	A96 x 29	9.15
A94 x 9	8.40	A92 x 9	8.10	A97 x 9	9.15	A96 x 9	9.15
A94 x 10	8.40	A92 x 10	8.10	A97 x 10	9.15	A96 x 10	9.15
A94 x 11	8.40	A92 x 11	8.10	A97 x 11	10.50	A96 x 11	10.50

### A. C. VOLTMETERS

A94 x 33	\$8.40	A92 x 33	\$8.10	A97 x 33	\$9.15	A96 x 33	\$9.15
A94 x 24	8.40	A92 x 34	8.10	A97 x 34	9.15	A96 x 34	9.15
A94 x 16	8.40	A92 x 16	8.10	A97 x 16	9.15	A96 x 16	9.15
A94 x 17	8.40	A92 x 17	8.10	A97 x 17	9.15	A96 x 17	9.15
A94 x 18	8.40	A92 x 18	8.10	A97 x 18	9.15	A96 x 18	9.15
A94 x 15	8.40	A92 x 35	8.10	A97 x 35	9.15	A96 x 35	9.15
A94 x 20	8.40	A92 x 20	8.10	A97 x 20	9.15	A96 x 20	9.15
A94 x 21	8.40	A92 x 21	8.10	A97 x 21	9.15	A96 x 21	9.15
A94 x 22	9.15	A92 x 22	8.85	A97 x 22	9.80	A96 x 22	9.80
A94 x 23	10.95	A92 x 24	10.65	A97 x 23	11.55	A96 x 23	11.55
		A92 x 23	13.05	A97 x 24	14.10	A96 x 24	14.10
		A92 x 45	15.60	A97 x 38	16.50	A96 x 36	16.50



# Burlington Improved

## PANEL INSTRUMENTS

### RUNNING TIME METERS

Model 538 3" Square Flush 0-9999.9 Hours .....	\$16.50
Model 438 3 1/2" Round Flush 0-9999.9 Hours .....	16.50

120 or 240 volt (specify when ordering)

### POWER LEVEL INDICATORS

#### VU METERS

Model 745 4 1/4" Rectangular Semi-flush .....	\$18.50
Model 535 3" Square Flush .....	18.00
Model 435 3 1/2" Round Flush .....	18.00

Supplied with "A" or "B" Scale (specify)

Illumination for Model 745 add \$3.00 extra. Complete with bulbs.

#### DB METERS

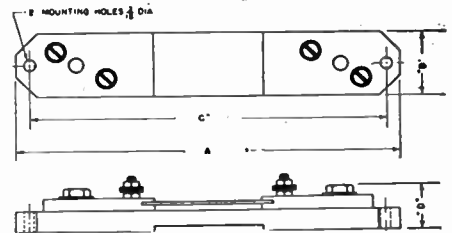
Model 425 2 1/2" Round Flush .....	\$14.40
Model 525 2 1/2" Square Flush .....	14.40
Model 435 3 1/2" Round Flush .....	15.00
Model 535 3" Square Flush .....	15.00
Model 735 3 1/2" Rectangular Semi-flush .....	15.15
Model 745 4 1/4" Rectangular Semi-flush .....	16.50

Illumination for Models 735-745 Add \$3.00 extra.

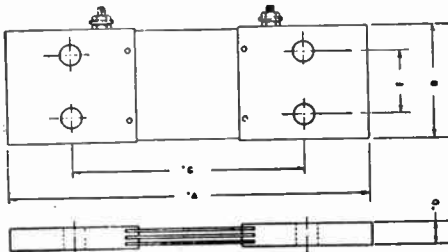
All other Models Add \$1.50 extra. Complete with bulbs.

### EXTERNAL SHUNTS

Range	Part No.	"A"	"B"	"C"	"D"	Price
25 amp.	A31 x 152	7 1/2"	1 1/4"	7"	6 1/8"	\$6.60
30 amp.	A31 x 153	7 1/2"	1 1/4"	7"	6 1/8"	6.60
50 amp.	A31 x 156	7 1/2"	1 1/4"	7"	6 1/8"	6.60
60 amp.	A31 x 157	7 1/2"	1 1/4"	7"	6 1/8"	6.60
75 amp.	A31 x 158	7 1/2"	1 1/4"	7"	6 1/8"	6.60
100 amp.	A31 x 160	7 1/2"	1 1/4"	7"	6 1/8"	6.60



25 to 100 Amp. Inclusive



150 to 1500 Amp. Inclusive

Range	Part No.	"A"	"B"	"C"	"D"	"E"	Mounting	Price
150 amp.	A31 x 163	5 1/2"	1 1/2"	4 1/4"	1 1/4"	On CL	1-Hole Each	\$7.65
200 amp.	A31 x 164	5 1/2"	2"	4 1/4"	1 1/4"	On CL	End 3/8" Dia.	7.65
300 amp.	A31 x 167	5 1/2"	1 1/2"	4 1/4"	3/8"	On CL		7.65
400 amp.	A31 x 169	7"	2 1/4"	4 1/2"	3/8"		1 1/4"	9.60
500 amp.	A31 x 170	7"	2 1/4"	4 1/2"	3/8"		1 1/4"	11.55
600 amp.	A31 x 171	8"	3"	5"	1/2"		2"	13.80
1000 amp.	A31 x 174	8 1/4"	3"	6 3/4"	1 1/2"		1 1/2"	22.50
1200 amp.	A31 x 175	8 1/4"	3"	6 3/4"	1 1/2"		1 1/2"	27.30
1500 amp.	A31 x 176	8 1/4"	3"	6 3/4"	1 1/2"		1 1/2"	33.60

Shunts or other than 50MV drop or ranges not listed quoted on request. 4 foot leads are supplied.

### CURRENT TRANSFORMERS

#### DONUT TYPE

RATIO	PART No.	PRIMARY TURNS	PRICE
50/5	A70 x 7	1	\$10.50
100/5	A70 x 21	1	7.80
150/5	A70 x 25	1	7.80
200/5	A70 x 27	1	7.80
250/5	A70 x 29	1	7.80
300/5	A70 x 31	1	9.50
400/5	A70 x 35	1	9.50
500/5	A70 x 36	1	10.50
600/5	A70 x 37	1	11.50
750/5	A70 x 38	1	13.75
1000/5	A70 x 40	1	14.50

If ranges or ratios other than those listed above are required, give full details as to range or ratio, length of leads, size etc., when ordering. 2 foot leads are standard.



TYPE NF-2C

# EMICO PRECISION INSTRUMENTS

FOR  
PANELS AND TEST SETS

Electro Mechanical Instrument Co.  
813 Chestnut Street, Perkasi, Pa.



TYPE RF-2C

**EMICO** panel and test meters are rugged and reliable instruments. Cases are of steel and finished in durable black. DC meters have the new HI-TORQ magnetic movements and are accurate to well within 5%. AC meters are of the moving iron type and are also accurate to within 5%.

**MOUNTING**—All model NF-2C and RF-2C meters will fit into a 2 1/8" diameter hole and are mounted by means of a U clamp.

**DESIGN**—EMICO meters are designed to give satisfactory service under the most severe conditions. They are styled to add to the prestige and appearance of electrical equipment.

**CALIBRATION**—Since the instruments are calibrated in steel cases, their accuracy is not affected by panels made of magnetic materials of nominal thickness.

**GUARANTEED**—All EMICO instruments are guaranteed against defective material and workmanship for a period of one year after date of purchase, and will be repaired or replaced if sent to the factory postpaid with a 50c handling charge.

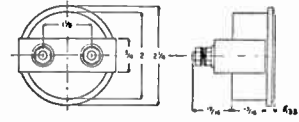
EMICO instruments are available in quantities to jobbers or manufacturers in the following sizes: NF-2", RF-2", RF-2 1/2", and RF-4 1/2" at 3% accuracy. We invite your inquiries on instruments for special application.

**PRICES**—Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.

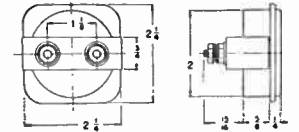
## DEALERS' PRICE LIST

### DC AMMETERS

Range	MODEL NF-2C			MODEL RF-2C		
	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-1	.15	2101	\$1.40	2201	\$1.50	
0-5	.016	2102	1.40	2202	1.50	
0-10	.00115	2103	1.40	2203	1.50	
0-15	.00115	2103-A	1.40	2203-A	1.50	
0-20	.00115	2104	1.40	2204	1.50	
0-30	.00115	2105	1.40	2205	1.50	
1-0-1	.08	2109	1.40	2209	1.50	
3-0-3	.00115	2110	1.40	2210	1.50	
6-0-6	.00115	2111	1.40	2211	1.50	
10-0-10	.00115	2112	1.40	2212	1.50	
15-0-15	.00115	2113	1.40	2213	1.50	
20-0-20	.00115	2114	1.40	2214	1.50	
30-0-30	.00115	2115	1.40	2215	1.50	



TYPE NF-2C



TYPE RF-2C

DC MILLIAMMETERS						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-1	1000	2120	\$3.20	2220	\$3.22	
0-3	500	2121	2.00	2221	2.10	
0-5	1250	2125	1.95	2225	2.05	
0-10	430	2126	1.85	2226	1.95	
0-20	70	2127	1.40	2227	1.50	
0-30	60	2128	1.40	2228	1.50	
0-50	15	2129	1.40	2229	1.50	
0-100	8	2130	1.40	2230	1.50	
0-150	2.75	2130-A	1.40	2230-A	1.50	
0-300	2.75	2130-B	1.40	2230-B	1.50	
0-300	.50	2131	1.40	2231	1.50	
0-500	.35	2132	1.40	2232	1.50	

DC VOLTMETERS (LOW RESISTANCE)						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-1	33	2134	\$1.40	2234	\$1.50	
0-3	100	2135	1.40	2235	1.50	
3-0-3	30	2136	1.40	2236	1.50	
0-5	140	2136-A	1.40	2236-A	1.50	
0-8	225	2136-B	1.40	2236-B	1.50	
0-10	280	2137	1.40	2237	1.50	
0-15	450	2137-A	1.40	2237-A	1.50	
0-50	1400	2138	1.40	2238	1.50	

DC VOLTMETERS (HIGH RESISTANCE)						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-10	1050	2140	\$2.10	2240	\$2.20	
0-30	2800	2141	2.35	2241	2.45	
0-50	4000	2142	2.70	2242	2.80	
0-150	28000	2143	2.80	2243	2.90	
0-300	55000	2144	2.80	2244	2.90	

AC AMMETERS						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-1	.385	6101	\$2.40	6201	\$2.55	
0-3	.078	6102	2.40	6202	2.55	
0-5	.023	6103	2.40	6203	2.55	
0-10	.013	6104	2.40	6204	2.55	
0-25	.007	6105	2.70	6205	2.80	

AC MILLIAMMETERS						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-25	750	6125	\$2.40	6225	\$2.45	
0-50	175	6126	2.40	6226	2.45	
0-100	58	6127	2.40	6227	2.45	
0-250	12	6128	2.40	6228	2.45	
0-500	1.75	6129	2.40	6229	2.45	

AC VOLTMETERS						
Range	Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	
0-5	50	6135	\$2.40	6235	\$2.55	
0-10	175	6136	2.40	6236	2.55	
0-15	300	6137	2.40	6237	2.55	
0-25	920	6137-A	2.40	6237-A	2.55	
0-50	1800	6138	2.40	6238	2.55	
0-150	9530	6139	3.50	6239	3.60	
0-300	32000	6140	4.10	6240	4.15	

## EMICO HEARING AID BATTERY TESTER

MODEL 103A

Note These Features:

- Unbreakable Metal Case
- Beautifully Finished Case
- Powerful Mechanism
- Color-Fast Metal Dial
- Easily Read Dial
- Reliably Accurate
- Will Not Drain Batteries



Designed to Test  
All Types of  
2 Volt "A" Batteries  
and 22 1/2, 30 and 45 Volt "B" Batteries

Available also in  
0-9 and 0-90 Volt Range —  
Specify Model 103B

Write to Factory for Prices

# Shurite PANEL METERS



Model 550-AC



Model 650-AC



Model 950-DC (or AC)



Model 550-DC  
with Zero Adjuster

Shurite panel meters are attractive, rugged, dependable instruments with accuracy well within 5%. All models have metal cases, telephone-black front; all require 2 1/2" hole. DC meters are polarized-vane solenoid type, AC meters are double vane repulsion type with jeweled bearing. All are guaranteed.

● **Guarantee:** All Shurite meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 40c handling charge within one year after date of purchase.

● **All-metal Dials—**age and moisture resistant, lithographed in black on white for high visibility.

● **Sturdy Design—**with new coil frames and attached insulators for greater rigidity, yet interchangeable in other respects with similar type of instrument formerly available.

● **Modern appearance—**with concealed coils, full view scales, and attractive styling and finish.

**TYPICAL USES:** Shurite products, with their rugged design, and ability to duplicate readings, enjoy wide acceptance in the electronic and electrical fields. Applications include transmitters, receivers, TV antenna rotator controls, battery indicators, appliances, power sources, battery eliminators, electric fence controllers, and the very popular basic meters in radio test kits.

Shurite products are also specified for battery voltage indicators on emergency lighting, burglar and fire alarm systems, output meters on rectifiers (copper oxide, tungar or selenium types), rate-of-charge indicators, testers for hearing aid and batteries and their chargers, ammeters for plating sets, and polarity indicators for metals analysis.

Other uses range from automotive test equipment to pin-ball circuit testers, and well depth indicators. Shurite has long been the favorite brand for those who take their hobbies and experiments seriously.

## DC MILLIAMMETERS

RANGE	RESIST.#	MODEL 550*		MODEL 650*		MODEL 950	
Ma.	Approx. Ohms	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-31.**	500	5332Z	\$2.80	6332Z	\$2.90	9332Z	\$2.95
0-3	5000	5301	2.15	6301	2.25	9301	2.30
0-5	2470	5302	1.95	6302	2.35	9302	2.10
0-10	557	5303	1.85	6303	1.95	9303	2.00
0-15	296	5304	1.50	6304	1.60	9304	1.65
0-25	87	5305	1.45	6305	1.55	9305	1.60
0-50	24	5306	1.45	6306	1.55	9306	1.60
0-100	6.2	5307	1.45	6307	1.55	9307	1.60
0-150	2.0	5308	1.45	6308	1.55	9308	1.60
0-200	1.5	5309	1.45	6309	1.55	9309	1.60
0-300	.90	5310	1.45	6310	1.55	9310	1.60
0-400	.46	5311	1.40	6311	1.50	9311	1.55
0-500	.25	5312	1.40	6312	1.50	9312	1.55

\*\* Low internal resistance, sensitive type, using steel case. Moving magnet construction, patent pending. Scale arc, 75°. Price includes zero adjuster.  
\* For zero adjusters add 35c to price and Z to stock number.  
No zero adjuster on Model 950 stock models; except 9332Z.

## AC MILLIAMMETERS

RANGE	RESIST.	MODEL 550		MODEL 650		MODEL 950	
Ma.	Approx. Ohms	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-10	4800	5607	\$2.85	6607	\$2.95	9607	\$3.00
0-25	750	5601	2.55	6601	2.65	9601	2.70
0-50	150	5602	2.55	6602	2.65	9602	2.70
0-100	37	5603	2.55	6603	2.65	9603	2.70
0-250	5.4	5604	2.55	6604	2.65	9604	2.70
0-500	1.34	5605	2.55	6605	2.65	9605	2.70

## DC AMMETERS

RANGE	RESIST.#	MODEL 550*		MODEL 650*		MODEL 950	
Amps.	Approx. Ohms	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-1	.105	5201	\$1.45	6201	\$1.55	9201	\$1.60
0-3	.02 Max	5202	1.45	6202	1.55	9202	1.60
0-5	.02 Max	5203	1.45	6203	1.55	9203	1.60
0-8	.02 Max	5204	1.45	6204	1.55	9204	1.60
0-10	.02 Max	5205	1.45	6205	1.55	9205	1.60
0-15	.02 Max	5206	1.55	6206	1.65	9206	1.70
0-25	.02 Max	5207	1.85	6207	1.95	9207	2.00
0-50	.02 Max	5208	2.15	6208	2.25	9208	2.30
1-0-1	.13	5209	1.55	6209	1.65	9209	1.70
3-0-3	.02 Max	5210	1.55	6210	1.65	9210	1.70
5-0-5	.022	5211	1.55	6211	1.65	9211	1.70
6-0-6	.02 Max	5212	1.55	6212	1.65	9212	1.70
10-0-10	.02 Max	5213	1.70	6213	1.80	9213	1.85
20-0-20	.02 Max	5214	1.75	6214	1.85	9214	1.90
30-0-30	.02 Max	5215	1.85	6215	1.95	9215	2.00
50-0-50	.02 Max	5216	2.00	6216	2.10	9216	2.15

\* For zero adjuster, add 35c to price and Z to stock number.  
No zero adjuster on Model 950 stock models.

## AC AMMETERS

RANGE	RESIST.	MODEL 550		MODEL 650		MODEL 950	
Amps.	Approx. Ohms	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-1	.42 Max	5501	\$2.55	6501	\$2.65	9501	\$2.70
0-3	.072 Max	5502	2.55	6502	2.65	9502	2.70
0-5	.041 Max	5503	2.55	6503	2.65	9503	2.70
0-10	.02 Max	5504	2.55	6504	2.65	9504	2.70
0-30	.02 Max	5505	2.85	6505	2.95	9505	3.00
0-50	.02 Max	5506	3.05	6506	3.15	9506	3.20

\* Resistance may be adjusted to meet government requirements. If this factor is important in your circuit, request factory engineering forecast.

## DC VOLTMETERS

RANGE	RESIST.#		MODEL 550*		MODEL 650*		MODEL 950	
	Volts	Approx. Ohms	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-1	22	5101	\$1.40	6101	\$1.50	9101	\$1.55	
0-3	205	5102	1.45	6102	1.55	9102	1.60	
0-5	265	5103	1.45	6103	1.55	9103	1.60	
0-10	525	5104	1.45	6104	1.55	9104	1.60	
0-20	570	5105	1.45	6105	1.55	9105	1.60	
0-8	970	5108	1.45	6106	1.55	9106	1.60	
0-10	1920	5107	1.50	6107	1.60	9107	1.65	
0-15	4200	5108	1.60	6108	1.70	9108	1.75	
0-20	1115	5121	1.65	6121	1.75	9121	1.80	
0-25	1380	5109	1.60	6109	1.70	9109	1.75	
0-25H**	6000	5110	2.30	6110	2.40	9110	2.45	
0-50	2630	5122	1.75	6122	1.85	9122	1.90	
0-50H**	12500	5111	2.45	6111	2.55	9111	2.60	
0-75	4000	5112	1.80	6112	1.90	9112	1.95	
0-100	5300	5113	1.90	6113	2.00	9113	2.05	
0-100H**	25600	5114	2.60	6114	2.70	9114	2.75	
0-150	8000	5115	2.00	6115	2.10	9115	2.15	
0-150H**	37200	5116	2.70	6116	2.80	9116	2.85	
0-300H**	74200	5117	2.95	6117	3.05	9117	3.10	
0-500H**†	174200	5118	3.90	6118	4.00	9118	4.05	
0-750H**††	184200	5119	4.65	6119	4.75	9119	4.80	
0-8-160	††	5120	2.40	6120	2.50	9120	2.55	

\*For zero adjuster, add 35c to price and Z to stock number. No zero adjuster on No. 950 stock models.  
 \*\*H denotes high resistance.  
 †Supplied with external resistors.  
 ††Approx. resistance 840 ohms at 8 volts. 17,340 ohms at 160 volts.

## AC VOLTMETERS

RANGE	RESIST.		MODEL 550		MODEL 650		MODEL 950	
	Volts	Approx. Ohms/Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0-4	11	5401	\$2.55	6401	\$2.65	9401	\$2.70	
0-6	15.8	5402	2.55	6402	2.65	9402	2.70	
0-10	27	5403	2.55	6403	2.65	9403	2.70	
0-15	32.3	5404	2.55	6404	2.65	9404	2.70	
0-50	96	5405	3.05	6405	3.15	9405	3.20	
0-150	135	5406	3.30	6406	3.40	9406	3.45	
0-300*	100	5407	3.70	6407	3.80	9407	3.85	
0-600*	100	5408	4.70	6408	4.80	9408	4.85	
0-7-10*	100	5409	5.30	6409	5.40	9409	5.45	

\*Supplied with external resistors.

## RESISTANCE METERS

RANGE	MODEL 50*		MODEL 650*		MODEL 950		
	Ohms	Volts	Stock No.	Net Each	Stock No.	Net Each	
10,000	4.5**	5701	\$2.00	6701	\$2.10	9701	\$2.15

\*For zero adjuster add 35c to price and Z to stock number. No zero adjuster on No. 950 stock models.  
 \*\*Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.  
 †Resistance may be adjusted to meet government requirements. If this factor is important in your circuit, request factory engineering forecast.

## POCKET TYPE METERS

Various Shurite pocket meters using the Model 450 case are in production. Model 450 has bright plated case, with two or three terminals, depending on ranges. Ranges suitable for pre-war and post-war batteries, portable radio batteries and many other electrical applications, including polarity indication types have been made, although they are not regularly stocked.



Model 450

Stock numbers begin with 4 as the first digit. For example, the 0-3 DC Ammeter, as illustrated, is Stock No. 4202. The bulletin, "Shurite Pocket Types", available on request, is periodically revised to indicate pocket meters which are authorized for production. Dealer net price is obtained by adding \$0.40 to the price of 550 Model meters as shown in this catalog at \$1.70 or less, or by adding \$0.30 for meters at \$1.75 or above.

(PRICES SHOWN ARE U.S.A. DEALER NET FOR INDIVIDUALLY BOXED METERS)

# SHURITE METERS

NEW HAVEN 8, CONNECTICUT

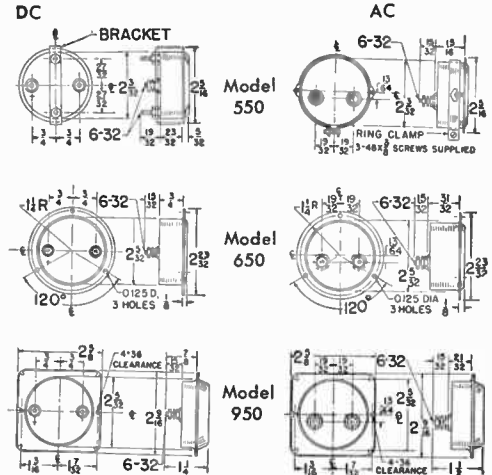
## FLANGE ADAPTER RING

A sturdy flange ring for use with any Model 550 (round) Shurite meter where a flange mount is preferred. Makes appearance similar to Model 650. Wide flange, 2 3/4" dia. Telephone black finish. Screws, lockwashers and nuts included.

Model 5-A, Net.....\$0.18

### MOUNTING DETAILS

All Shurite Panel Meters have flush cases and require 2 5/8" hole. Most standard ranges have 6-32 studs, and are mounted as follows:



### IMPORTANT—HOW TO ORDER:

For all standard models, give: (1) Model Number, (2) Range, (3) Stock Number. If Model number and stock number are not stated, Model 550 will be supplied.

#### ZERO ADJUSTERS (Z)

Zero Adjusters are available only on Models 550-DC and 650-DC. No zero adjuster on models using 950 case. When ordering, add Z to stock number. Example: Stock number for Model 550-DC voltmeter, 0-1 volt range — without zero adjuster is 5101. With zero adjuster, it is 5101-Z.

#### PANEL CALIBRATION (S)

Meters are calibrated for non-magnetic panels. If for magnetic (steel) panel mounting, specify thickness and overall size of panel, and add -S to stock number when ordering, as 5101-S. If thickness of steel panel is not specified, meter will be supplied for .040 panel.

#### VISCOSITY DAMPING (V)

Careful application of new silicone compound on bearing surfaces damps pointer overtravel. Add -V to stock number, as 5406-V, and 5 cents to price. Not regularly stocked; available only on quantity orders.

#### SEE YOUR DISTRIBUTOR

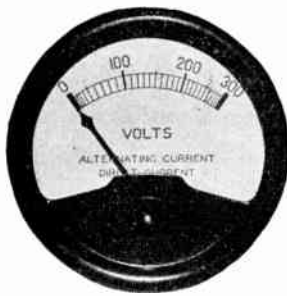
Besides carrying most types, and being able to obtain your other needs on reasonable notice, your authorized Shurite distributor of electronic parts is qualified to suggest the right meter for your need.

# STERLING PANEL METERS



**TYPE 80**

Flush case, narrow flange, standard finish black enamel. Speed Nut Mounting. Diam. flange  $2\frac{3}{8}$ ". Speed Diam. case 2". Depth case  $\frac{3}{4}$ ". Requires hole  $2\frac{3}{32}$ " in diam. Length terminals  $\frac{1}{16}$ ".



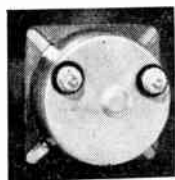
**TYPE 88**

Flush case, narrow apron flange. Standard finish black enamel. Same dimensions as Type 80. Speed Nut Mounting.



**TYPE 70**

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting. Diam. flange  $2\frac{5}{8}$ ". Diam. case 2". Depth case  $\frac{7}{8}$ ". Requires hole  $2\frac{3}{32}$ " in diam.



**STERLING'S NEW SPEED NUT CLAMP**



**REGULAR BACK CLAMP**

## ALTERNATING CURRENT METERS

### A.C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	\$3.50
871	0-6 Volts	3.50
872	0-10 Volts	3.50
873	0-15 Volts	3.50
910	0-30 Volts	3.50
879	0-50 Volts	4.00
911	0-75 Volts	4.00
874	0-150 VHR†	5.25
912	0-250 Volts	5.75
875	0-300 Volts	6.00
913	0-500 Volts	7.00
876	0-600 Volts	7.00
877	0-750 Volts	8.50
878	0-10-140 Volts	5.25

†VHR—Volts High Resistance

### A.C. MILLIAMMETERS

Number	Range	List Price
880	0-25 Milliamperes	\$3.50
881	0-50 Milliamperes	3.50
882	0-100 Milliamperes	3.50
883	0-250 Milliamperes	3.50
914	0-300 Milliamperes	3.50
884	0-500 Milliamperes	3.50

### A.C. AMMETERS

Number	Range	List Price
886	0-1 Amperes	\$3.50
915	0-2 Amperes	3.50
887	0-3 Amperes	3.50
888	0-5 Amperes	3.50
916	0-7 1/2 Amperes	3.50
889	0-10 Amperes	3.50
917	0-15 Amperes	3.50
890	0-20 Amperes	3.75
918	0-25 Amperes	3.75
892	0-30 Amperes	3.75
891	0-60 Amperes	4.00
893	0-60 Amperes	4.25
894	0-75 Amperes	4.25
895	0-100 Amperes	4.25
919	0-125 Amperes	**

\*Special Price on application.

## DIRECT CURRENT METERS

### D.C. VOLTMETERS

Number	Range	List Price
801	0-1 Volts	\$2.00
802	0-3 Volts	2.00
803	3-0-3 Volts	2.00
804	0-5 Volts	2.00
805	0-6 Volts	2.00
806	0-8 Volts	2.00
807	0-10 Volts	2.00
808	0-15 Volts	2.00
809	0-25 Volts	2.00
810	0-25 Volts High Res.	3.50
811	0-50 Volts	2.00
812	0-50 Volts High Res.	4.00
823	0-75 Volts	2.25
813	0-100 Volts	2.25
814	0-100 Volts High Res.	4.00
815	0-150 Volts	2.50
816	0-150 Volts High Res.	4.00
817	0-300 Volts	4.00
818	0-500 Volts	5.50
819	0-750 Volts	6.50
820	0-8-160 Volts	3.50

### RESISTANCE METERS

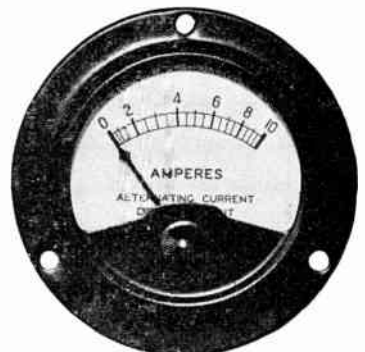
Number	Range	List Price
901.....	4.5 Volts, 10,000 Ohms	
3 Flashlight cells required		
	List Price	\$3.50
902....	2 M.A., 9 Volts, 100,000 Ohms, 6 Flashlight cells required	\$5.00

### D.C. MILLIAMMETERS

Number	Range	List Price
835	0-3 Milliamps.	\$4.50
836	0-5 Milliamps.	3.00
837	0-10 Milliamps.	2.50
838	0-15 Milliamps.	2.00
839	0-25 Milliamps.	2.00
840	0-50 Milliamps.	2.00
841	0-100 Milliamps.	2.00
842	0-150 Milliamps.	2.00
843	0-200 Milliamps.	2.00
844	0-300 Milliamps.	2.00
845	0-400 Milliamps.	2.00
846	0-20-100 Milliamps.	2.75
847	0-15-150 Milliamps.	2.75
848	0-500 Milliamps.	2.00

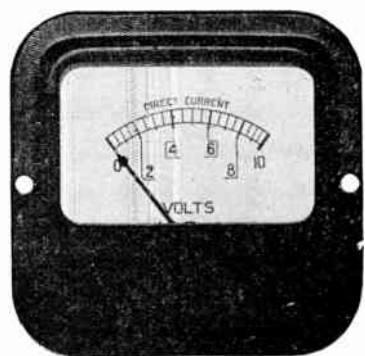
### D.C. AMMETERS

Number	Range	List Price	Number	Range	List Price
855	0-1 Amperes	\$2.00	868	0-20 Amperes	\$2.25
859	1-0-1 Amperes	2.00	863	20-0-20 Amperes	2.00
856	0-3 Amperes	2.00	865	0-30 Amperes	2.50
860	3-0-3 Amperes	2.00	867	30-0-30 Amperes	2.50
857	0-5 Amperes	2.00	869	0-40 Amperes	3.25
861	6-0-6 Amperes	2.00	866	0-50 Amperes	3.25
858	0-10 Amperes	2.00	925	50-0-50 Amperes	3.50
862	10-0-10 Amperes	2.00	926	60-0-60 Amperes	3.50
864	0-15 Amperes	2.00	927	75-0-75 Amperes	3.75



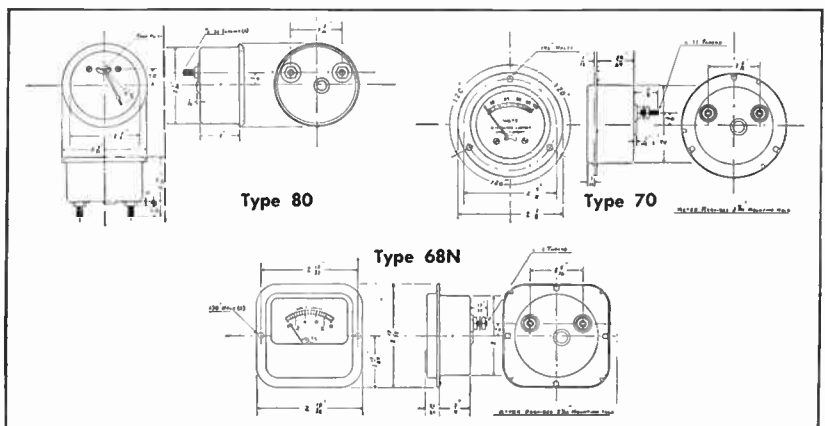
**TYPE 78**

Flush case, wide flange with apron. Standard finish black, screw holes in flange for mounting. Same dimensions as Type 70.



**TYPE 68N**

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange  $2\frac{5}{8}$ ". Diam. case  $2\frac{3}{8}$ ". Depth case  $\frac{3}{4}$ ".



## TYPE 70 PRICES LISTED

Note: Specify if for magnetic steel panel mounting.

Type 80, 88, 78, and 68N square flange case furnished for any range of meter at an additional list price of 25c each.

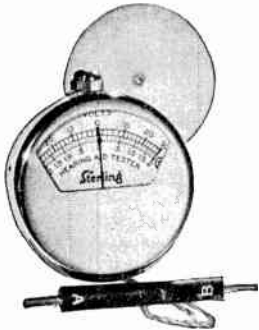
# Sterling Hearing Aid Battery Testers



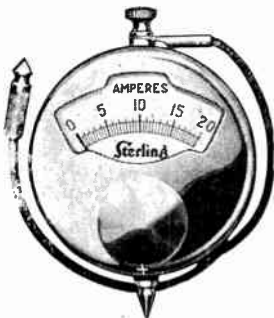
No. 31A



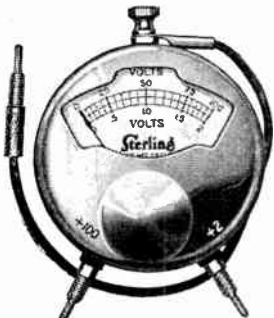
No. 12



No. 23



No. 23A



No. 38A

**NO. 31A DOUBLE VOLTMETER**—for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v. 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs..... Price \$4.00

**NO. 32A DOUBLE VOLTMETER**—for special 30 v. "B" batteries and 1½ v. "A" batteries, scale 0-35 v. 1 v. div. scale 0-2 v. 1/10 v. divisions. Equipped with new STERLING flexible plugs..... Price \$4.00

**NO. 10 DUAL CONTACT PROD METER** in pocket or desk model. Marked "A" at one contact and "B" at the other, the prod is simply inserted into the corresponding battery for quick and easy reading. No. 10 is for earlier type hearing aid batteries. Scale 50-0-50 v., 2 v. div. and 2-0-2 v., 1/10 v. div. No. 10 has one cord and one plug. Price \$4.75

**NO. 11** Formerly called the 10S this tester is used on 22½ v. and 30 v. "B" batteries. The load requirement is proportionately less than 1 mil. No. 11 has one cord and one plug..... Price \$7.50

**NO. 12** This new meter has no spur and a new voltage scale 30-0-30 v., 1 v. div. and 2-0-2 v., 1/10 v. div. Made extra sensitive for the latest type miniature batteries. Load: on 22½ v. batteries approx. 565 micro-amperes, on 15 v. batteries approx. 375 micro-amperes, on 1½ v. batteries approx. 40 mils..... Price \$7.50

## Sterling Pocket Meters

Standard Line Direct Current Pocket Ammeters, Voltmeters and Voltammeters.

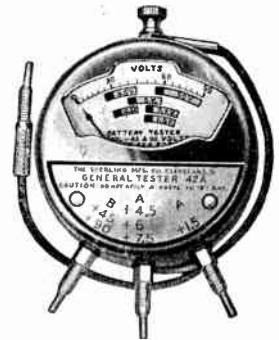
	Ammeters	LIST PRICE
No. 23	for photo-flash dry batteries. 0-20 amp. scale, ½ amp. div.	\$2.50
No. 24	for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions	\$2.25
No. 24A	for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions	\$2.30

	Voltmeters	LIST PRICE
No. 33	for ordinary single cells and Flashlight" cells, 0-3 v. scale 1/10 v. div.	\$2.30
No. 34	for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt. div.	\$2.30
No. 34A	for 12 volt batteries. 0-16 volt scale, ½ volt divisions	\$2.50
No. 34B	for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions	\$2.50
No. 34C	for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div.	\$3.00

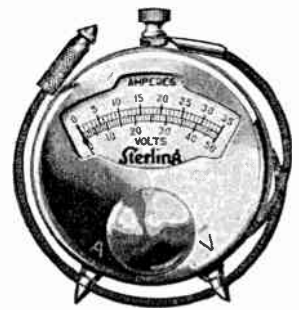
	Voltammeters	LIST PRICE
No. 44	for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions	\$2.75
No. 44A	for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, ½ volt divisions	\$3.00
No. 45	for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale; 1 volt divisions	\$4.00
No. 45A	for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div.	\$4.25

### SPECIAL PURPOSE POCKET METERS

	Voltmeters	LIST PRICE
No. 37A	for 45 v. "B" batteries and 1.5 "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries	\$3.50
No. 38A	for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries	\$3.75
No. 39A	for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5-v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries	\$3.75
No. 40A	for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries	\$4.00
No. 42A	Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., 6 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries	\$6.00



No. 42A GENERAL TESTER



No. 45 VOLTAMMETER

**STANDARD LINE**—Sterling's direct current pocket ammeters, voltmeters and voltammeters may be used in all kinds of battery testing, in railroad signal work, for photo flash purposes and in telephone and low-voltage electrical work generally. They are polarity indicators. Meters 2½" in diameter and 5/8" thick. Nickel finish. Standard package, ten instruments. Shipping Weight 4 lbs.



## APPLIANCE TEMPERATURE TESTERS

**A NEW IDEA IN TESTERS** — The need for scientific but sturdy portable test equipment in the appliance service field is met by this exclusive line. Here the user profits from J-B-T's wide experience in building field test sets for many well-known manufacturers of ranges, irons, refrigerators, deep freeze units, and similar equipment. All J-B-T testers include the principle of remote reading of temperature, and temperature measures the real usefulness of the appliance. Although called appliance testers, these handy portable testers have found a multitude of uses for trouble-shooting, experimenting and research in industry and in laboratories.

**NEW**



ware. Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error as temperatures change inside the instrument itself, and gives fool-proof direct readings. Supplied with attached SA-116 5½" calibrated thermocouple, clip, and convection shield. **\$23.50**

**MODEL 32-JP-3.** This sturdy, fast reading portable is by far the most widely used oven tester in the country. The rigid outer carrying case 6" x 3⅞" x 3¾" is covered in black leatherette; the glass-covered indicator fits in a 3¼" flanged metal case. The dial shows 0-650°F. in 10° divisions readable to 2½°.



Exceptionally fast, continuous response. Automatic compensation for ambient temperature is valuable feature whether the tester is used for service work, sales demonstrations, or inspection. More details on the 32-JP-3 are available in Bulletin JP-103. Price includes attached SA-116 5½" calibrated thermocouple, clip for attaching to grill, and convection shield for steady readings. **\$25.05**

**MODEL 32-JP-4.** Companion tester to the 32-JP-3 with all the features of that tester, plus a leather carrying strap, and binding posts for quick attachment and interchanging of various thermocouples listed on this page, to check irons, washers, waffle-bakers, toasters, roasters, clothes dryers, etc. Range, 0-650°F; black leatherette case 6" x 3⅞" x 3¾". More details on the 32-JP-4 are available in Bulletin JP-104. Price includes SA-116 5½" calibrated thermocouple, clip and convection shield. **\$26.15**

### IRON TESTER

**MODEL 32-JIT.** Self-contained bench type tester; checks all makes of irons; measures thermostat temperatures; and shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal case; overall size 10" x 12" x 5½", scale 0-650°F, 15 amp. fuse, 6' cord, 110-volt, 50-60 cycles. **\$31.65**

Note: Orders for 32-JIT Iron Testers are occasionally filled with 23-JIT Iron Testers. Identical with 32-JIT illustrated, but using indicators with all-plastic front.

### ALL-PURPOSE TESTER

**MODEL 61-JRT.** This 9 - in - 1 tester speeds accurate temperature adjustment and current analysis of ranges, refrigerators, etc. Rapidly reads four cold zones, -100° F. to +80° F. up to 14' distant; two heat zones 0-600° F. up to 5½' distant; one voltage range 0-300 AC; and with transformer, two current ranges, 0-30 and 0-60 amperes, AC. Sturdy, polished walnut case 15½" x 10¾" x 4¾" with handle and slip hinges. Two-color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature scale accuracy ±2% of full scale. AC readings ±5% with rectifier. Accessories listed below may be added for testing irons, grills, roasters, washers, etc. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, necessary electrical leads, and AS-TR-2 built-in transformer. **\$107.25**

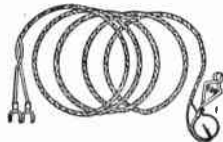


For more details, see Bulletin JRT-349.

**MODEL 61-JRT (LESS TRANSFORMER).** Same unit, same scales, except does not read in amperes; AS-TR-2 transformer assembly omitted. **\$93.50**

### THERMOCOUPLES

(See next page for Resistance Bulbs and Transformers)



**SA-116 with SHIELD and CLIP.** Standard flexible No. 22 gauge iron constantan, asbestos insulated, 5½", with attachment clip and convection shield as normally supplied with 23-JP-1, 32-JP-1, 32-JP-2, 32-JP-3, 32-JP-4, 60-JRT and 61-JRT Testers. (See SA-199 for extra quality, glass insulated type). SA-118. **\$1.80**

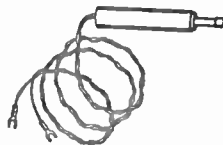
**SA-170 (REPLACEMENT THERMOCOUPLE for IRON TESTERS 32-JIT and IT-1).** Thermocouple and lead, including aluminum plate and special tip, quickly installed in the field. **\$2.10**

**SA-175 (PLAIN TIP).** For roasters, waffle irons, etc., 5½" iron constantan flexible No. 22 gauge, asbestos insulated, with small ball tip; used where clip and shield of SA-116 not suitable; for Models 32-JP-2, 32-JP-4, 60-JRT, and 61-JRT. **\$1.45**

**SA-176 (for TOASTERS, etc.)** 5½" iron constantan No. 22 gauge asbestos insulated, with special disc to collect heat; easily attached to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT. **\$2.55**

**SA-188 (for AUTOMATIC WASHER TEMPERATURES, etc.)** ¾" diameter copper tube, 4" long, encloses thermocouple for insertion in pipe or sample of water. Has 6' leads for attachment to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT. **\$3.85**

**SA-199 with SHIELD and CLIP.** Same as SA-116 above, except duplex, non-fraying glass braid construction; diameter .115"; recommended for frequent use with these testers at temperatures above 400°F. **\$2.25**



**SA-300 (for SURFACE READINGS).** Spring-type iron constantan in Transite tip with handle and 5' No. 22 gauge lead for extremely rapid heat readings; for attachment to 32-JP-2, 32-JP-4, 60-JRT and 61-JRT appliance testers. **\$5.50**

**SA-301 (REPLACEMENT TIP FOR SA-300).** Transite tip and thermal element only. **\$2.75**



**IRON TESTER THERMOCOUPLE, MODEL IT-1.** This attachment is identical with the 32-JIT, except there is no meter. It is easily connected to Models 32-JP-2, 32-JP-4, 60-JRT and 61-JRT. Shows open circuits and shorts, checks sole plate temperatures and thermostats on all types of irons. **\$16.25**

## TEMPERATURE INDICATORS

**WHERE TO USE:** To determine heat rise of motors, transformers and coils; for laboratory furnaces, inspection set-ups, for remote indication of infra-red and other oven temperatures; and to check temperatures in industrial processes such as heat treating and annealing.

When used with selector switch, permits centralized reading of one to ten thermocouples, as in Diesel exhaust manifold applications.

### MODEL 32-J

**MODEL 32-J PYROMETER IN SN-3 STAND.** Mounted in sloping front black metal stand, 4 1/4" high x 4 7/8" deep x 4 1/8" wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2 7/8" scale, assures ruggedness and pointer stability. To retain the ±2% accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead—coil it—change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.



### MODEL 32-J IN SN-3 STAND

0°—650° F—350° C, includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block.....\$30.25  
 0°—1200° F—650° C, includes SA-87, SA-82, and CB-1.....30.25  
 0°—2000° F—1100° C, includes SA-87, SA-82, and CB-1.....30.25

**MODEL 32-J IN SN-5 STAND** (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations.

0°—650° F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible lead and thermocouple.....\$34.10

### MODEL 60-JPS

**MODEL 60-JPS.** This portable makes it easy to know temperatures at one to ten locations. Excellent for study of heat in various parts of the same equipment, or in a battery of units. Knife-edge pointer, 5.6" scale. Heavy-duty thermocouple switch has average contact resistance of .00075 ohms or less. Automatically compensated for ambient temperature, indoors or outdoors. To retain accuracy of 1% full scale, use leads and thermocouples equal to resistance and e.m.f. vs. temperature characteristics for which instrument is calibrated. Medium resistance system assures portability. Housed in natural-finish wood case 1 1/8" x 8 3/8" x 4 3/8" over rubber feet. A "must" for inspection, maintenance, and engineering.



60-JP—0°—600° F with SA-86, 7' thermocouple and lead for small apertures.....\$101.85  
 60-JPS—0°—1200° F with SA-88, SA-82, and CB-1.....104.50  
 60-JPS—0°—2000° F with SA-88, SA-82, and CB-1.....104.50  
 60-JP—For one thermocouple only; furnished with thermocouple and lead same as 60-JPS, but without selector switch.  
 0°—600° F, with SA-86.....\$74.35  
 60-JP—0°—1200° F, with SA-88, SA-82, and CB-1.....77.00  
 60-JP—0°—2000° F, with SA-88, SA-82, and CB-1.....77.00  
 Note: When ordering additional thermocouples, specify couples and leads as above. Centigrade equivalent scales available on order.

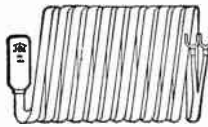
### MODEL 70-J

**MODEL 70-J PYROMETER,** for accurate reading at a distance, has full 6" scale and spade pointer, with accuracy of 1% of total scale deflection. Automatically compensated for ambient temperature. Molded case mounted in metal protecting shell 7 3/8" x 8 1/8" x 1 1/2". Connections through bottom of case for wall or front-of-board mounting. When ordering, specify which standard scale range: 0°—600° F for 1938 std. I-C; 0°—1200° F for C-A; 0°—2000° F for C-A thermocouples.



PRICE, including 24" thermocouple and 26' lead.....\$66.00  
 Note: Centigrade equivalent scales available on order.

### RESISTANCE BULBS (FOR COLD TESTING)



SA-142. For use only with Model 60-JRT; calibration is not interchangeable with SA-162; has no embossed number.....\$5.50

SA-162. For use only with Models 50-50 and 61-JRT; identified by embossed part number.....\$5.50

CL-90 CLAMP. Metal clamp for holding SA-142 and SA-162 resistance bulbs in contact with surfaces up to 1/4".....\$0.28

### TRANSFORMERS

AS-TR-2. Attachment for compartment of 61-JRT all-purpose tester, completely housed, with jumper lead and panel; reads 30 and 60 AC amp. scales on tester.....\$16.50

AS-TR-3. Attachment for increasing usefulness of 60-JRT all-purpose tester. Includes side rails for attaching inside compartment; fully housed. Reads 30 and 60 AC amp. by dividing volt scale by 10 or 5.....\$18.15

### TEMPERATURE ACCESSORIES

**LEAD WIRES.** To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include:

SA-82 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block.....\$1.55

SA-83 26' compensating lead for chromel-alumel as above.....\$4.85

SA-84 6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; prepared as above.....\$1.55

SA-85 26' extension lead for iron-constantan, 1938 calibration; similar to above.....\$4.85

SA-86 7' iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 650° F scales; terminals at meter end; other end welded. (Resistance not interchangeable with SA-84 or SA-85).....\$1.85



**THERMOCOUPLES.** For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

SA-87 12" No. 14 Ga. chromel-alumel, 2-hole ceramic beads, fits 5/16" hole; welded tip.....\$3.10

SA-88 same except 24" No. 14 Ga.....\$3.85

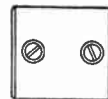
SA-89 12" No. 8 Ga. chromel-alumel, 2-hole ceramic beads, fits 7/16" hole; welded tip.....\$3.10

SA-90 same except 24" No. 8 Ga.....\$3.85

SA-91 12" No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits 5/16" hole; welded tip.....\$2.60  
 Flexible Thermocouple, 7' length, see SA-86 lead wire

### CONNECTOR BLOCK Model CB-1.

Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head.....\$1.65



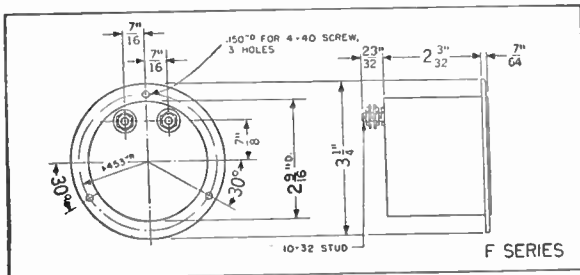
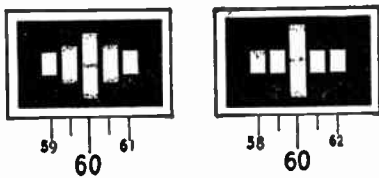
## VIBRATING REED FREQUENCY METERS (PATENTED)

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards in central stations and industrial plants—wherever constant or known frequency is important to efficient operation of equipment. More than ten years of continuous experience covering many thousands of these instruments are your assurance of quality for both commercial and defense applications.

The response patterns differ with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right.

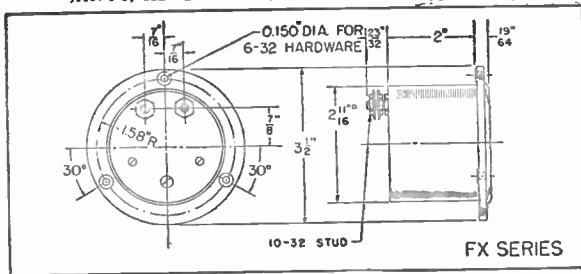
The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. The instrument consists of a case, base, dial and central mounting frame, with a series of spring steel reeds screwed to a reed mounting bar, individual driving coil surrounding each bank of reeds, permanent magnet, series resistor and terminal studs.

Each reed is adjusted to respond by resonance to but one frequency. As the alternating current (or interrupted direct current) excites the driving coil, the one reed "in tune" with the frequency in the coils will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. Frequency of the current is read on the graduated face of the instrument.



Above: Models 30-F, 31-F, 33-F, 34-F; 3/4" Metal Case

Below: Models 30-FX, 31-FX, 33-FX, and 34-FX; Molded Case Meets Mounting Dimensions of JAN-I-6; ASAC39.1-1951; and MIL-M-6A (Type MR35)



**ADVANTAGES:** Guaranteed accuracy at reference temperature of 77°F is  $\pm 0.3\%$  or better of the frequency being measured, unless otherwise stated. High fatigue safety factor for continuous operation. Temperature compensations are not required as temperature coefficient of reeds is only approximately 75 parts per million per degree F., negative.

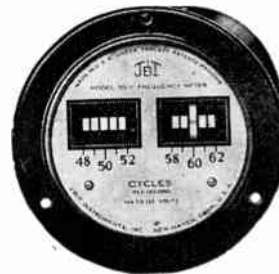
All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Accuracy is not affected by wave form or external magnetic fields. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

**CAUTION:** If a meter plugged in on a 60 cycle AC power line does not indicate a frequency of exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions beyond the control of the Utility. All J-B-T Vibrating Reed Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standard frequency signals.

### MODEL 30-F

Range: 48-52 and 58-62 cycles. Double window for ease of reading frequency in either range. Often specified for export. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy  $\pm 0.3\%$  at reference temperature. Flush panel mounting.

30-F, 48-52 and 58-62 cy., 3/4" Metal Case ..... \$27.50  
30-FX, 48-52 and 58-62 cy., 3/2" Molded Case, JAN-I-6 mtg. .... \$27.50



MODEL 30-F (Operating at 60 cy.)

### MODEL 31-F

Used in standby power equipment. Handy for accurately measuring frequency of power source. Five reeds, 58-62 cycles 100-130 volts. Other characteristics same as Model 30-F.

31-F, 58-62 cy., 3/4" Metal Case ..... \$23.65  
31-FX, 58-62 cy., 3/2" Molded Case, JAN-I-6 mtg. .... \$23.65



MODEL 31-F

### MODEL 34-FX

Used where a broader frequency band is desirable. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy  $\pm 0.2\%$ ) 58-62 cycles. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting.

34-F, 56-64 cy., 3/4" Metal Case ..... \$27.25  
34-FX, 56-64 cy., 3/2" Molded Case, JAN-I-6 mtg. .... \$27.25  
34-F, 58-62 cy., 3/4" Metal Case ..... \$28.90  
34-FX, 58-62 cy., 3/2" Molded Case, JAN-I-6 mtg. .... \$28.90



MODEL 34-FX

### MODEL 33-F

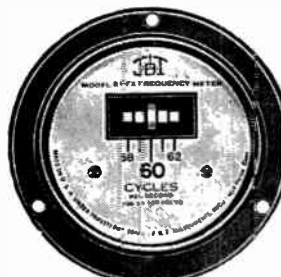
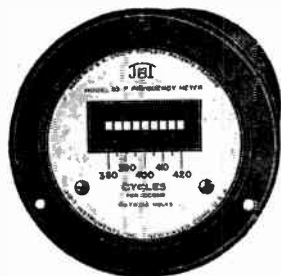
400-cycle. Used for measuring frequency of high-cycle power sources, including new heavy aircraft. Accuracy  $\pm 0.3\%$  at reference temperature. Nine reeds, 380 to 420-cycle range. 100-130 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting.

33-F, 380-420 cy., 3/4" Metal Case \$34.10  
 33-FX, 380-420 cy., 3/2" Molded Case, JAN-I-6 mtg. \$34.10

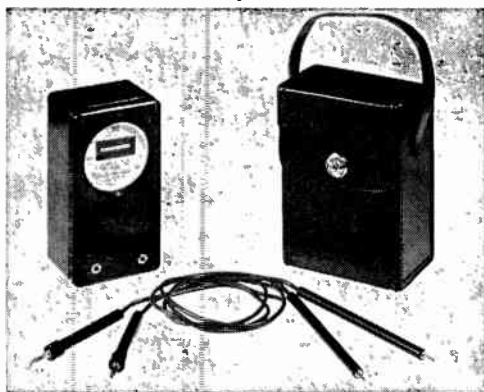
### MODEL 21-FX

Matches other 2 1/2" panel instruments. Meets ASA C39.1-1951 and MIL-M-6A (Type MR25) in depth of case as well as mounting dimensions and mounting hardware. Weighs only 4 1/2 oz.; 5 reeds; 58-62 cycles; 100-130 volts; 190 ohms per volt; 0.6 watt power consumption. Also 116 to 124 cy.; 160 ohms per volt; 0.7 watt power consumption. 390 to 410 cy.; 85 ohms per volt; 1.3 watts power consumption. Flush panel mounting, see Print MD-20. 400 cy. type also available 380-420 cy.

21-FX, 58-62 cy., 2-11/16" Molded Case \$22.55  
 21-FX, 116-124 cy., 2-11/16" Molded Case \$25.30  
 21-FX, 390-410 cy., 2-11/16" Molded Case \$27.50



### PORTABLE FREQUENCY TESTERS



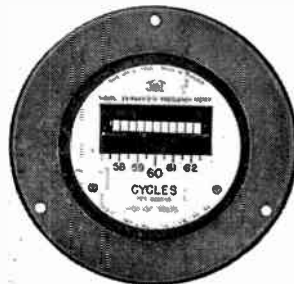
**MODEL 33-FP-9L.** Handy, compact, portable instrument of exceptional accuracy even under poor wave-form conditions, fluctuating voltage or external magnetic disturbances. Meets exacting test requirements of aviation, signal and communication equipment. Housed in sturdy molded case 5 7/8" x 3 3/4" x 2 3/8" with leather carrying case 6 1/2" x 4 1/4" x 2 3/4". 4' leads are supplied complete with sharp 5" insulated test picks and banana plugs. Electrical characteristics identical with 400 cycle 33-F. Model 34-FP-9L electrical characteristics are identical with 60-cycle 34-FX.  
 33-FP-9L, 380-420 cy., 100-130 volts, nine reeds. \$47.60  
 34-FP-9L, 56-64 cy., 100-130 volts, nine reeds. \$40.70

### NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made only for the purpose of reading two or more voltages, not additional phases.

### 3 1/2" SEALED METERS

**FHXX TYPE METERS,** sealed instrument, glass-to-metal construction, with solder terminals and detachable flange now supersede the FHX sealed meters (Print SK-24). While JAN-I-6 and MIL-M-6A (Type MR36) do not refer to frequency indicators, the FHXX series uses the front mounting dimensions, and meets or exceeds the sealing and electrical requirements including the 3000 volt breakdown. Mounting dimensions are shown below. Standard voltage is 100-130. Electrical characteristics and accuracy are the same as for corresponding models without the HXX designation. Every meter tested for 55,000 ft. altitude. While not regularly stocked, these meters are in production.



- 30-FHXX, 10 reeds, 48-52 cy. and 58-62 cy. \$34.30
- 31-FHXX, 5 reeds, 58-62 cy. 30.45
- 33-FHXX, 9 reeds, 380-420 cy. 40.90
- 34-FHXX, 9 reeds, 56-64 cy. 34.05
- 34-FHXX-11, 11 reeds, 55-65 cy. 36.25
- 34-FHXX-Z-11, illustrated, 11 reeds, 57.5-62.5 cy. 37.90

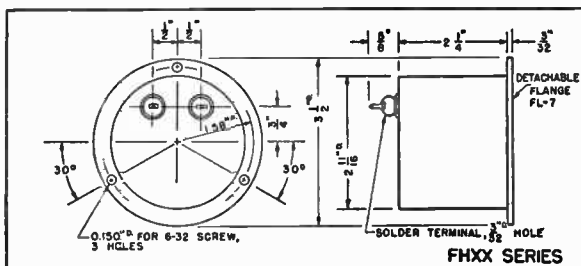
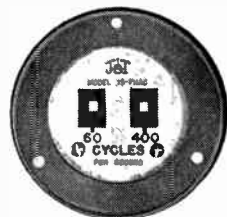
### 1 1/2" SEALED METERS

**MODEL 15-FHAC.** Now used extensively on audio-oscillators as the frequency standard, the model illustrated operates 2 reeds, 60 and 400 cycles, at approximately 8-10 volts for cathode follower circuit. Accuracy  $\pm 0.5\%$  at 77°F. Steel case has black telephone finish; solder terminals. Barrel is 1 1/2" diameter; 2.094" detachable flange covers glass-to-metal seal. See complete dimensions below.

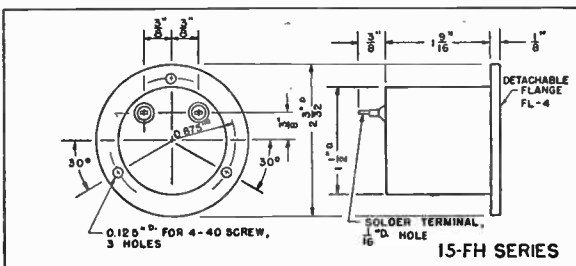
15-FHAC \$20.30

**15-FH-5 METERS.** Use the same 1 1/2" black metal case, glass-to-metal seal, and 2.094" detachable flange as the Model 15-FHAC. The 15-FH-5 series provides 5 reeds in a row for 100-130 volt operation. Used where size and weight are design considerations. 100% inspected for 55,000 ft. altitude. Standard meter, but not regularly stocked. See complete dimensions below.

- 15-FH-54, 5 reeds, 390-410 cy. \$25.85
- 15-FH-56, 5 reeds, 58-62 cy. 21.45



All FHXX Type Frequency Meters;  
 Sealed Metal Case (Type MR36 of MIL-M-6A)



Sealed Models 15-FHAC, 15-FH-54 and 15-FH-56.  
 (Military specifications covering this size of instrument pending)

## ELAPSED TIME METERS AND NEW FREQUENCY METERS

Now 400-cycle Total Time Meters — 400-cycle Broad and Vernier Indicator



**MODEL 41-FX.** This 2-window instrument is extensively used for electronic and aircraft testing in commercial and military applications. The lower window shows a broad range of 300-500 cycles, with 21 reeds in 10-cycle steps. The upper window gives a vernier effect with 13 reeds indicating 380-420 cycles in 4-cycle steps, with 2-cycle increments in the critical range of 396-404 cycles. Housed in black molded case with flush front 4" x 4", and 2 3/8" deep

behind panel over studs, the instrument blends well with other types of panel meters. Made for 100-130 volt operation. Also available with 4 studs for 200-240, 115, and 30 volts as used in aircraft analyzers. Full dimensions on drawing SK-38.

41-FX, 100-130 V .....\$120.00  
41-FX, triple voltage, without switch..... 135.00

### ELAPSED TIME METERS—60 Cycles



**MODEL 31-EX.** To record operating time of AC electrical and electronic equipment, this self-starting instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically re-sets. Shows tenths in red numerals, all others in black. Black molded case per diagram below matches FX, 3 1/2" frequency meters, and fully encloses all parts. J-B-T engineers recommend AC elapsed time meters for superior accuracy, especially where voltage or ambient temperatures vary widely. Popular for tube

life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc.  
31-EX, 60 cy., 110-125 volts .....\$15.95  
31-EX, 60 cy., 230 volt (not regularly stocked) .....\$17.05  
**MODEL 31-ES.** Same as 31-EX except black molded, square case 3" x 3", per print SK-34; 60 cy., 110-125 volts (not regularly stocked) .....\$17.05

### SEALED ELAPSED TIME METER—60 Cycles

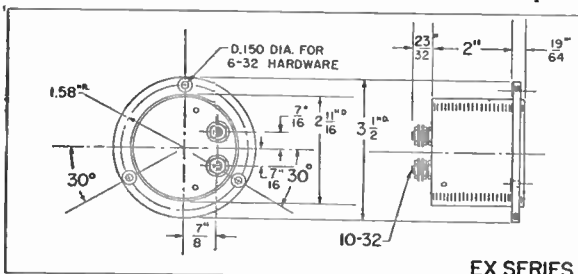
**MODEL 31-EHXX.** Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction, with flat glass front and 3 1/2" diameter separable flange, often is specified. Heavy-duty solder terminals meet or exceed 3,000 volt breakdown test. Every instrument is inspected in a vacuum chamber. Overall dimensions and appearance match the FHXX series sealed frequency meters per drawing on preceding page. See print SK-53 for complete mounting data. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically re-sets. Tenths indicator is in red, all others in black.  
31-EHXX, 60 cy., 110-125 volts .....\$19.75

**NEW**

### SEALED ELAPSED TIME METER—400 Cycles

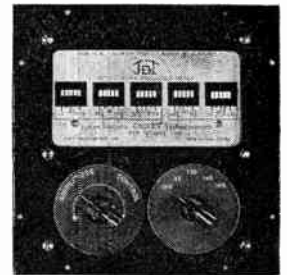
**MODEL 33-EHXX.** The answer to the long-felt need for a stable 400-cycle elapsed time meter compact enough to fit in a 3 1/2" flanged case, with all parts enclosed, is this new 400-cycle elapsed time meter. The instrument initially is being produced only in sealed construction, glass-to-metal, with separable flange, solder terminals, and flat glass front. External appearance matches FHXX series and Model 31-EHXX sealed, 60-cycle, elapsed time meter. A slightly larger case is used per drawing in the next column.

33-EHXX, 400 cy., 0-9,999.9 hours in 1/10 hour steps, 110-125 volts. Price on Request



Model 31-EX Molded Case, meets type MR-35 flange dimensions of MIL-M-6A, also JAN-1-6 and ASA C39.1-1951

**MODEL 61-FX.** Telephone ringing circuits are among the frequencies checked regularly with this panel mounting, 25-reed, 5-window instrument. The first three bands cover 16 to 17-1/3 cycles, 24-1/3 to 25-2/3 cycles, and 32-2/3 to 34 cycles in 1/3 cycle steps. The last two bands show 48-2/3 to 51-1/3 cycles, and 65-1/3 to 68 cycles, with 2/3 cycle reeds. The selector switch provides taps for 85, 110, 145 and 165 volts. An amplitude control knob facilitates maximum reed vibration. Black bakelite front 6 7/8" x 7 1/8" x 3-1/16" deep behind panel. This instrument is typical of the specialized applications in panel and portable meters which J-B-T engineering and production know-how supply on special order.



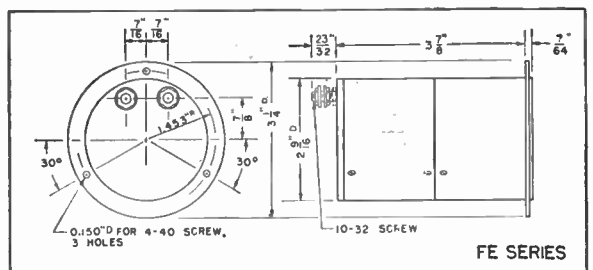
61-FX (not regularly stocked), mounting to Print MD-37 .....\$149.50

### ELAPSED TIME AND FREQUENCY METERS

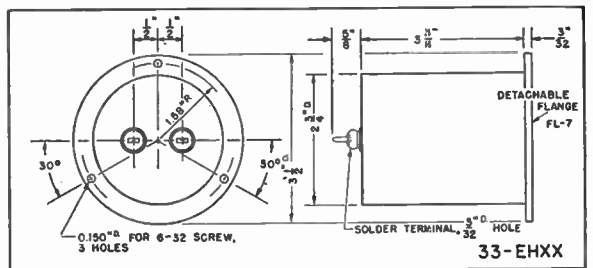
**31-FE SERIES.** To conserve panel space and centralize information, this panel instrument combines the elapsed time or running time meter with frequency reeds. It is used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours, and 58-62 cycles with 5 reeds, for 100-130 volt operation; self starting. Tenths shown in red, all other numerals in black. Black metal case with front mounting same as model 31-F. Other dimensions per drawing below. For variations having 7, 9, or 11 reeds, on special order only, see revised print SK-45.



31-FE, 3 1/4" metal case .....\$33.00  
31-FEX-1, (per print SK-44—not regularly stocked) 3 1/2" metal flange permanently attached .....\$34.10



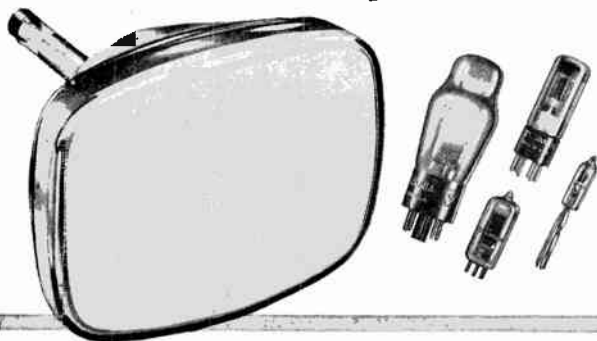
Model 31-FE and variations in 3 1/4" metal case; 2 5/8" diameter recommended drill hole for barrel.



Model 33-EHXX elapsed time meter, 400 cycles only, 3 1/2" metal case; meets type MR-36 flange dimensions of MIL-M-6A, also JAN-1-6 and ASA C39.1-1951

# IMPROVE YOUR BUSINESS...

## with famous Sylvania Tubes and Test Equipment



Your customers know about Sylvania's dependability and fine performance. So, whether it's tubes or test equipment, you'll enjoy the advantage of working with a recognized leader when you say SYLVANIA.

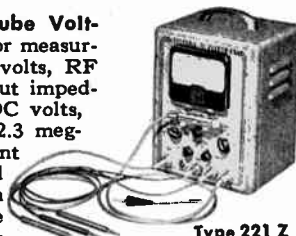
Sylvania Tubes are produced under the most rigid standards of quality control. Made in types for every need . . . from tiny subminiature receiving tubes to large glass, round and rectangular Television Picture Tubes.



Type 216

**FM-AM Signal Generator.** Useful as a TV Marker. A versatile AM-FM generator, doubly useful for peaking alignment of TV and as a TV marker. Calibrated to 0.05%. Fundamentals 80 kc to 120 mc; harmonics to 240 mc. Modulation: 0-100% AM; 0-30/150/700 kc FM. 1.0 volt max. output. Low leakage. Built-in crystal circuit. Size:  $11\frac{3}{8}$ " x  $17\frac{1}{8}$ " x  $10\frac{5}{8}$ ". Price: \$139.50.

**Polymer — a Vacuum Tube Voltmeter** of high sensitivity for measuring ohms, DC volts, AC volts, RF volts and DC current. Input impedance is 17 megohms on DC volts, 2.7 megohms on AC and 2.3 megohms (with only  $3\mu\text{mf}$  shunt capacitance) on RF. Special subminiature diode tube in RF probe gives flat response to 300 megacycles on scales from 3 volts to 300 volts in five ranges. Zero center seals for FM. Illuminated meter. Accessory probes (type 225) for 30,000 volts DC. Price: \$99.50.



Type 221 Z

**Type 500 Sweep Generator** — No mechanical sweep. Uses reactance tube sweep in two ranges; 0-15 MC for TV, 0-600 KC for FM. Fundamentals from 2 to 230 MC. Special circuits to assure extreme linearity. Output 300 to 100,000 microvolts. Companion to 501 Marker. Price: \$139.50.



Type 500

**Tube Testers—219 counter type, 220 portable type.** Composite mutual conductance and emission checker rejects tubes failing either requirement. Relative amount of heater-cathode and inter-element shorts or leakage shown on METER. Designed by a tube manufacturer to check tubes for modern applications. Price: \$114.50.



Type 220

**Television Oscilloscope.** An exceptionally high-gain, wide-band oscilloscope designed for television. Accurately displays any TV pulse or wave-shape on a large, eye-saving 7" screen. Sensitivity: 0:01 v./in. Vert. response useful to 4.0 mc. Recommended for servicemen; laboratories; advanced schools and industry. Price: \$249.50.



Type 400

**Marker Generator (Type 501).** Provides 2 separate signals for marking an oscilloscope trace of response curves. Accurate adjustment of traps, frequency spotting, measuring band width, and correct adjustment of the popular 4.5 mc. intercarrier sound circuits. VFO covers 15 to 240 mc range. Price: \$129.50.



Type 501



Type 300

**Voltage Calibrator — Type 300.** Accurately measures peak to peak voltage of any wave-form displayed on scope. Uses voltage regulated clipper circuit to give extreme accuracy in spite of line voltage fluctuation. Switch feeds either calibrating voltage or signal voltage to scope. Essential instrument for better service shops and laboratories. Price: \$44.50.

**Modulation Meter.** Directly indicates per cent of AM modulation. Compact; requires no direct connection to circuit. Used by amateurs, transmitter builders and others. Indicates carrier shift. Price: \$29.50.



Type X-7018

For full details concerning Sylvania Tubes or Test Equipment address: Sylvania Electric Products Inc., Dept. R-2952, Emporium, Pa.

RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; FLUORESCENT TUBES, FIXTURES, SIGN TUBING, WIRING DEVICES; LIGHT BULBS; PHOTOLAMPS; TELEVISION SETS



# SYLVANIA

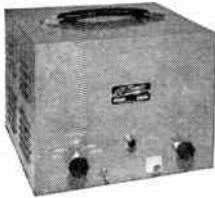
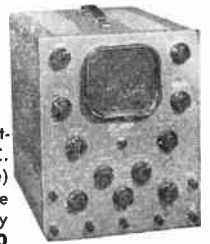
# El-Tronics INC.

# Manufacturers of

## LABORATORY TEST EQUIPMENT

**WIDE BAND LABORATORY OSCILLOSCOPE** — A laboratory quality oscilloscope possessing many outstanding features. Has vertical amplifier with 5MC bandwidth and sweep oscillator variable to 150 KC. Sensitivity of vertical amplifier 20 millivolts RMS per inch of deflection. Frequency response (sine wave) 20 cycles to 5 megacycles. Down 3 DB at 5 MC. Excellent reproduction of 1 MC square waves. 30 cycle square wave tilt less than 5%. Full 4" vertical deflection without overload. Slotted plastic bezel for easy insertion of graduated screen and light filter.

**MODEL WBO-50 Price \$249.50**



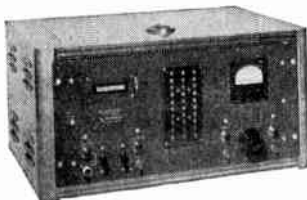
**SQUARE WAVE GENERATOR** — An inexpensive step frequency type square wave generator with 5 fixed output frequencies of 50, 1000, 10,000, or 500,000 PPS. Rise time .05 microseconds. Output amplitude variable 0.8 to 8V. peak to peak. This instrument is small, compact and portable. Entirely AC operated. A reliable accurate instrument at low cost for accurate high speed testing at wide band amplifier response.

**MODEL 5G5 Price \$119.50**

## NUCLEAR INSTRUMENTS & ACCESSORIES

**DELUXE LABORATORY SCINTILLATION SCALER** — This extremely accurate Binary laboratory scintillation scaler makes precise measurements of radiation intensities. Employs reliable Higinbotham scaling circuit with a built-in impulse register. Incorporates wide band pre-amplifier followed by scale of 64 scaling circuit with predetermined counting features. Automatic shut-off at 1, 10, 100, and 1000 register counts.

**MODEL LS6455 Price \$475.00**



**DECADE LABORATORY SCALER** — Scale of 1000 decimal decade type laboratory scaler uses reliable Higinbotham circuit operating a built-in impulse register. Transformers are hermetically sealed for long life, and high voltage capacitors are oil filled. Counts up to one billion before recycling. Direct reading. The light bank is arranged for easy reading and close association with the impulse register. Counts over 10,000 evenly spaced pulses per second. Terminations for other instruments, such as pre-amplifier and running time meter, make this a reliable, versatile instrument for accurate laboratory counting. Built in high voltage supply for GM tube 700-1500V.

**MODEL LS1000A Price \$425.00**

**IONIZATION CHAMBER TYPE SURVEY METER** A wide range ionization chamber type gamma survey meter for rugged field or portable laboratory use. Five full ranges of 5, 50, 500, 5000, and 50,000 MR/HR are read directly from a large 4 inch meter. Meter scale changes range and color to correspond with position of range switch to eliminate visual error of reading range. Off, battery check, and zero adjust positions are provided. Construction is unique, in that the entire assembly can be removed from case for speedy service. This meter meets all requirements for Civil Defense. Constructed to military specifications. Will operate from -10 to 115°F with a calibration accuracy of  $\pm 15\%$ . Commercial version of famous military Radiac Set AN/PDR-T1.

**MODEL PR50 Price \$225.00**



**PREFLUSH GAS COUNTER** — This new preflush gas counter for alpha and weak beta radiation has design characteristics to speed work and increase reliability of results. The gear driven platform is rotated by control knob which also provides automatic raising and lowering of sample at loading point. Load, preflush, and count positions are possible with the rotating sample holder. Preflush position has separate gas entrance, exit, and bubbler to prevent contamination backup from test chamber. A completely self-contained unit of brass construction, heavily chrome plated.

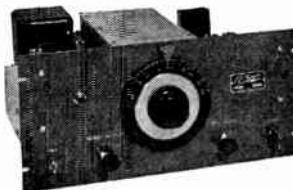
**MODEL FGG3 Price \$285.00**

**Write for a copy of our new comprehensive catalog which gives full information on the entire El-tronics instrument line. Also available is a separate bulletin on each individual instrument.**

\*Prices subject to change.

# Precision Laboratory Instruments...

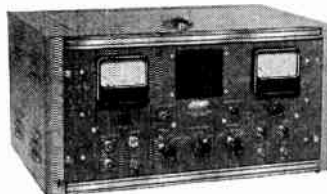
**LABORATORY AUDIO OSCILLATOR** — This wide range audio oscillator is designed for trouble-free operation under the most adverse conditions. Low distortion and extremely accurate dial calibration. Distortion below 1% throughout audio range. Thermal drift is minimized through use of low temperature coefficient elements in the resistance network. No electrolytic capacitors are used. All capacitors are hermetically sealed in oil or micro. Frequency response  $\pm 1$  DB from 20 to 200,000 C.P.S. Output voltage in 0 to 10 volts continuously variable. Covers from 20 cycles to 200,000 cycles in four ranges. Has electronically regulated power supply for stable operation.



**INSULATION RESISTANCE TESTER** — A small compact portable battery operated insulation resistance tester, with a battery operated power supply as a source of high potential. Operates from two self-contained  $1\frac{1}{2}$  volt batteries. Resistance range 5000 megohms at 2000 volt DC potential. Large  $4\frac{1}{2}$ " meter with easy-to-read calibrations in megohms.

**MODEL MOS Price \$99.50**

**DELUXE COUNTING RATE METER** — A complete counting rate meter of laboratory accuracy for use with Scintillation, Geiger or Flow Gas Counters has input sensitivity of  $\frac{1}{4}$  volt. Gives fast indication of radiation intensity. Meter is calibrated in both counts per second and counts per minute. Ranges of 5, 50, 500, and 5000 counts per second and 300, 3000, 30,000 and 300,000 counts per minute are provided. A loudspeaker permits aural monitoring. Regulated high voltage supply applies constant potential to the counter tube. Terminals provided for recording instruments and pre-amplifier.



**MODEL RM4-B Price \$350.00**



**DELUXE GM SURVEY INSTRUMENT** — Specially designed for portable field and laboratory use, this Radiation survey instrument offers 3 individual scales of .2, 2.0, and 20 MR/HR on 4" Navy type meter. Scales are in distinctive colors which change with range switch, automatically preventing visual reading error. Easily accessible battery compartment permits speedy change of inexpensive "A" and "B" batteries. A 30 inch probe cable permits measurements or searching places of difficult accessibility. Built-in regulated 900 V. power supply for GM tube. This instrument is rugged and lightweight — weighing only 8 $\frac{1}{2}$  lbs.

**MODEL PR3 Price \$225.00**

**"CUTIE-PIE" SURVEY METER** — Compact portable instrument extremely sensitive to alpha, beta and gamma radiation. Three full scale ranges of 25, 250, and 2500 MR/HR are read directly on meter. Can also be had in ranges of 50, 500, 5000 MR/HR and 100, 1000, and 10,000 MR/HR. Easy access to batteries and tubes is provided, as well as a removable cover that exposes entire circuit for fast service. Weight less than 4 pounds. A fine portable instrument for laboratory or field use. New improved reliable and accurate design. Low drift.

**MODEL CP-3 Price \$245.00**



**SHIELDED SAMPLE TEST CHANGER** — Accurate readings through lowered background count make this shielded sample test changer unusually reliable. Two inches of lead at front and back of sample drawer cause sample to be completely enclosed when sample is inserted. GM tube readily accessible from top. The sample drawer is provided with removable shelves so that fast sample changes are possible. Samples may be placed on plonchettes or filter paper rings. Inner shell is made of  $\frac{1}{8}$ " aluminum tubing to minimize scattering.

**MODEL LSC Price \$225.00**

**El-Tronics**  
INC.

Precision Laboratory Instruments Since 1933

2647 N. HOWARD STREET, PHILADELPHIA 33, PA.



MARION ELECTRICAL INSTRUMENT CO., 410 CANAL ST., MANCHESTER, N. H.

# marion meters

MANUFACTURERS OF MARION



*uggedized* PANEL METERS

In Canada: H. Roy Gray, 44 Danforth Road, Toronto, Ontario

## MARION TEST EQUIPMENT



### MARION MULTI-RANGE METERTESTER

With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing, and calibration of DC instruments. The MARION METERTESTER is designed with many operational features which will definitely improve the production rates of any meter inspection department. Moreover, its accuracy is such that it may be used for checking purposes in any department and all laboratories employing instruments. It may also be used as a precise source of DC current and voltage. Overall accuracy is better than  $\frac{1}{2}$  of 1%. Basic sensitivity of the Mirror Scale Standard Instrument is 10 milliamperes. The complete unit is housed in a hand-rubbed, solid walnut carrying case.

For use in any department and all laboratories where instruments are employed and their performance must be carefully checked.

With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing and calibration of DC instruments. No additional accessories are required. Merely connect the two clips to the instrument under test, and proceed to analyze its accuracy and general performance.

#### INCLUDES . . .

- Regulated Power Supply.
- Stepless Vacuum Tube Voltage Control.
- Large  $8\frac{1}{2}$ " Mirror Scale Standard Instrument, Hand Calibrated.
- Decade of .1% Accurate Manganin Wire Wound Resistors.

#### Ranges of Meter Tester

0-25 UA	0-800 UA
0-50 UA	0-1 MA
0-100 UA	0-5 MA
0-200 UA	0-10 MA
0-400 UA	0-100 Volts
0-500 UA	

## BUILD YOUR OWN TEST EQUIPMENT

with the **MARION MULTI-RANGER METER**  
**ACCURATE DURABLE DEPENDABLE**  
**A GREAT VARIETY OF SIZES**

When it comes to TEST EQUIPMENT build your own with Marion Multi-Ranger Meters. They will solve your problem of finding reasonably priced instruments with the critical accuracy you demand for test equipment or other auxiliary equipment with multiple functions.

These Multi-Ranger Meters permit you to assemble a highly accurate instrument for use as a voltmeter, milliammeter, high and low resistance ohmmeter, AC voltmeter and decibel meter. — Build As Many Ranges As You Desire.

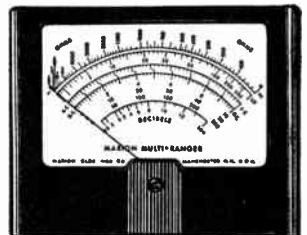
All instruments use Alnico Magnets, have full 100° three-color scales, feature the new, tough Marion "Bulldozer" moving system that insures long life under severe operating conditions plus the highest degree of accuracy.

### MARION RESISTOR KIT LOW-PRICED! VERSATILE!

Contains: 18 Resistors Ranging from .4 Ohms to 750,000 Ohms. A Schematic Diagram for Constructing Your Own Test Equipment. It's easy to construct accurate, useful, versatile test equipment with the Marion Resistor Kit, used in conjunction with Marion Multi-Ranger Instruments. List \$13.75

Model 56  
List \$19.25

Model 57S  
List \$22.00



Model 53SN  
List \$13.20



Model 55  
List \$16.50

#### SCALE RANGES POSSIBLE WITH STANDARD RESISTOR KIT

VOLTS AC-DC			
0-10 Volts	0-50 Volts	0-250 Volts	0-1000 Volts
MILLIAMPERES			
0-1 MA	0-10 MA	0-50 MA	0-500 MA
OHMS			
0-500 Ohms	0-100 M	0-10 MEG	0-1 MEG
DECIBELS			
-10	+14	+18	+42
+4	+28	+30	+54

ALSO AVAILABLE WITH VTVM SCALES

# marion meters

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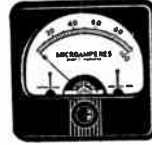
## MARION STANDARD INSTRUMENTS

### SERIES 52

Space saver, yet has superior damping characteristics. 2 1/2" JAN Spec. round case (52N). Also available in standard 2 1/2" square (Model 52S) or with narrow flange brass case for R.F. Shielding (Model 52RM). Dependable, extra strong — has well-aged Alnico magnet and heavy flanged construction. Popular for pocket test, portable radio, medical equipment and general electrical service where size and dependability count.



52N



52S



52RM

### SERIES 53

Standard commercial 3 1/2" rectangular type (53SN). Also available in 3 1/2" JAN Spec., round case (53RN). All Alnico construction. Excellent scale distribution characteristics. Ideal for portable test equipment and general electronic equipment application.



53SN



53RN

### SERIES 55



Large, 4 3/4" x 4 1/4". Gives real microamp readability on 100° scale. Alnico V magnets for sensitive range; heavy Alnico for standard ranges. Extreme accuracy assured. Designed for permanent and portable test equipment.

### SERIES 56

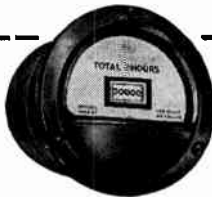


New 6 1/2" x 5 1/4" bakelite cased meter. Easy reading at a distance. Large open face has 100° scale in 5 1/2" arc. Room for multirange scale if needed. Milliamp ranges are Alnico II constructed, Alnico V for microamps. Strong, accurate, efficient, dependable.

### SERIES 57S



Superb milliammeter — more than a mere overgrown 3 inch. 8 1/2" x 7", open face, extra long scale. Enlarged pole shoes — higher torque movement — higher damping factor. Accuracy within 1%. Used in large vacuum tube voltmeters, multimeters and production testing.



### RUNNING TIME METER

Absolutely tamper-proof because it is hermetically sealed, glass to metal, in a drawn steel case, Marion's Running Time Meter registers operating time of machine tools, electronic, electrical or general industrial equipment. Registers in 1/10 hour steps to 9999.9 or hour steps to 99999. Moisture-proof, dust-proof. Powered by a durable, self-starting synchronous motor, available for 110-125, 220-250 volts . . . 50 or 60 cycle A.C.

#### RANGES—For The Models Illustrated

DC MICROAMPERES	DC MILLIAMPERES	DC AMPERES	DC MILLIVOLTS	DC VOLTS	AC VOLTS
0-20	0-1	0-250	0-1	0-15	0-1.5
0-30	0-1.5	0-250	0-1.5	0-25	0-3
0-50	0-3	0-800	0-3	0-50	0-5
0-100	0-5		0-5	0-100	0-10
0-200	0-10		0-10		0-15
0-500	0-15		0-15		0-25
0-800	0-25		0-25		0-50
	0-50		Self-		0-150
	0-100		contained		0-250
	0-200		Shunts		0-500

AVAILABLE IN ZERO CENTER AND OTHER RANGES ON SPECIAL ORDER

# marion meters

MANUFACTURERS OF MARION  *uggedized* PANEL METERS

MARION ELECTRICAL INSTRUMENT CO., 410 CANAL ST., MANCHESTER, N. H.

# marion meters

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*uggedized* PANEL METERS

In Canada: H. Roy Gray, 44 Danforth Road, Toronto, Ontario

## MARION HERMETICALLY SEALED METERS

### SEALED LIKE A VACUUM TUBE FOR GUARANTEED PERFORMANCE

Magnetically shielded. 2½" x 3½". Dustproof and moistureproof. Unaffected by heat, cold, humidity. Made to JAN specifications, giving peak performance with critical accuracy. Interchangeable round and square colored flanges for different panel needs. One year unconditional guarantee on materials and workmanship. Extra guarantee for replacement of burned out or abused hermetically sealed meter. (On flat fee basis, \$1.50 for 200 microamps upward; \$2.50 if more sensitive than 200 microamps.)



HM3



HM2

#### R A N G E S

##### DC INSTRUMENTS

DC MICROAMPERES	DC MILLIAMPERES	DC MILLIVOLTS	DC VOLTS
0-30	0-1	0-15	0-1.5
0-50	0-1.5	0-100	0-25
0-100	0-3	0-200	0-3
0-200	0.5	0-250	0-5
0-500	0-10	0-500	0-10
0-800	0-15	0-800	0-15
	0-25		0-500

##### AC INSTRUMENTS

0-5 Volts AC	0-150 Volts AC
0-15 Volts AC	0-250 Volts AC
0-50 Volts AC	0-500 Volts AC



#### ADVANTAGES

- Speeds soldering operations by generating heat within the work in localized area.
- Improves quality by producing cleaner work. Avoids oxidation and scaling.
- Prevents damage to surface finish. This is important in glass-to-metal applications.
- Permits soldering of an entire seam or several jig-located parts at one time.
- Provides complete control, timing or duplication of soldering processes.
- Prevents mistakes and reduces rejects.
- Provides local heat for otherwise inaccessible parts.
- Gives expert results with inexperienced operators.
- Saves time, money, effort. Draws only 775 watts and then only at full load. Only 100 watts are used on standby.
- Practically free from maintenance. No moving parts to wear out. Uses only low-priced, easily replaceable tubes. Has high safety factor.
- Offers less hazard but does a neater, cleaner, faster job. No danger of sparking or RF burns from output terminal or work coils.

#### MARION "4 FOR 1" FEATURE

Interchangeable Round and Square Colored Flanges . . . one instrument can thus fill four different needs:

##### 1. ROUND



##### 2. ROUND FOR STEEL PANEL



##### 3. RECTANGULAR



##### 4. RECTANGULAR FOR STEEL PANEL



### MARION PORTABLE BENCH TYPE INDUCTION SOLDERING UNIT

COMPACT . . . ADAPTABLE . . . EFFICIENT  
ECONOMICAL . . . SAFE . . . EASY TO USE

#### FOR QUANTITY PRODUCTION

Use this low-cost, low-powered portable Marion Induction Heating Unit wherever production soldering of small metal parts and assemblies is required. It cuts costs by minimizing time, reducing labor, improving quality and eliminating the need for a high degree of skill. The unit has made a place for itself in the field of Radio, Electronics, Jewelry, Watches, Electrical Fixture Components, Toys, Automotive Parts, Household Fixtures and other fabrication applications requiring Small Part Assemblies.

#### FOR GLASS-TO-METAL SOLDERING

With the Marion Portable Bench-Type Induction Unit you can do glass-to-metal soldering on Resistors, Relays, Photo Cells, Meters, Capacitors, etc. It makes true hermetic sealing possible right in your own plant. Also, it is ideal for terminal, magnet and bearing assembly. It gives machinelike uniformity to a normally inexact operation.

#### SPECIFICATIONS

Power Supply: 115 volts, 60 cycle.  
Size: 15¾" x 21½" x 15".  
Mounting: Standard relay rack cabinet.  
Weight: 150 pounds.

Power: 775 watts at full power output, 100 watts standby.  
The entire unit is rigidly assembled and mounted to prevent arc-over and failure of components.

# marion meters

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*uggedized* PANEL METERS

MARION ELECTRICAL INSTRUMENT CO., 410 CANAL ST., MANCHESTER, N. H.

# marion meters

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## MARION RUGGEDIZED METERS

### HERMETICALLY SEALED



New Marion ruggedized meters are an especially accurate and sensitive means for electrical measurement, even under extreme conditions of shock, vibration, mechanical stress and strain, weather conditions, and climate.

Ruggedized meters offer new freedom of application. They give faster response time, more sustained accuracy, lower bearing friction and longer life.

Ruggedized instruments meet the dimensional requirements of JAN I-6 and are completely interchangeable with existing 2½" and 3½" types. They are manufactured in standard 1½", 2½", and 3½" sizes.

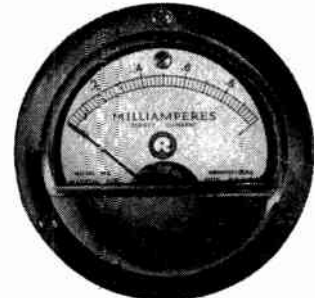
When you want the finest in electrical instruments you can depend upon these new Marion ruggedized meters.



HS1 - 1½"



HS2 - 2½"



HS3 - 3½"

#### RANGES DC INSTRUMENTS

<b>DC MICROAMPERES</b>	<b>DC MILLIAMPERES</b>	
0-30	0-1	0-50
0-50	0-1.5	0-100
0-100	0-3	0-200
0-200	0-5	0-250
0-500	0-10	0-500
0-800	0-15	0-800
	0-25	

<b>DC MILLIVOLTS</b>	<b>DC VOLTS</b>	
0-15	0-1.5	0-25
0-25	0-3	0-50
0-50	0-5	0-150
0-100	0-10	0-250
	0-15	0-500

#### AC INSTRUMENTS

0-5 Volts AC	0-150 Volts AC
0-15 Volts AC	0-250 Volts AC
0-50 Volts AC	0-500 Volts AC



#### NULL INDICATORS

Marion Ruggedized Hermetically Sealed Null Indicators are now available in models HS2 and HS3. They are used primarily as bridge and potentiometer balance indicators and in any application where an

instrument with very high sensitivity about the zero or balance point is desired. The sensitivity at this point is 1 microampere per mm. or higher; the meter's shaded pole face and shielded core construction gives sharply logarithmic attenuation as it departs from null point, and provides ample overload protection. This Ruggedized meter opens up new applications for Null Indicators, for it permits use of the null system for precise measurement under field conditions that have been prohibitively severe up to now.

# marion meters

MANUFACTURERS OF MARION  *Ruggedized* PANEL METERS

# JACKSON



# "SERVICE ENGINEERED" TEST INSTRUMENTS

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 2, OHIO

## TELEVISION SIGNAL GENERATOR

No other instrument has ever equaled the Model TVG-2 for quality, desirable and necessary TV alignment features. Just read these brief specifications and make comparisons.

**Sweep Oscillator:** Three convenient ranges, 2 MC thru 38 MC; 38 MC thru 108 MC; 174 MC thru 216 MC are all on fundamentals. Continuous tuning over all ranges. Large accurately calibrated dial with the TV channels clearly indicated. Reversible direction of sweep.

**Sweep Width:** Provided by electro-mechanical sweep. Adjustable from .1 MC thru 18 MC in 7 steps for fast resetability. Provides that extra width for badly detuned circuits.

**Marker Oscillator:** Accurately calibrated dial gives complete marker coverage from 4 MC thru 216 MC with all the Television IF frequencies on highly stable fundamentals.

**Crystal Oscillator:** Separate crystal oscillator for use either as marker or calibrator. Stable circuit oscillates on any crystal fundamental from 4 MC to 20 MC. Output is controlled by selector

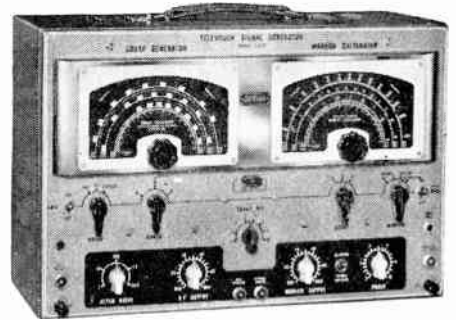
### Model TVG-2

switch to provide variable marker, crystal marker or both for calibration purposes. A BEAT DETECTOR is also incorporated for audible or visual checking of beat between variable marker oscillator and crystal.

**400 Cycle Modulation:** Provided for use with either the variable or crystal marker so traps can be adjusted by either audible or meter method.

**Oscilloscope Timing:** A phased 60 cycle sine wave timing voltage is provided with PHASE CONTROL to provide adjustment of double pattern. BLANKING is also available for single pattern trace with reference base line for measurement.

**Video Modulation:** Provision made for



insertion of video signal to modulate the external marker output making possible "rebroadcasting" of television signals on any channel. Also an audio signal may be used to produce horizontal or vertical lines for linearity checks.

**RF Output:** Completely controllable with output control and step attenuator. Output impedance 30 ohms. Complete flexibility right at your finger tips.

**Size:** Same height as other Jackson TV instruments. Dimensions 13" high, 8 1/4" deep, 19 1/8" wide.

**Finish and Weight:** An all steel gray Ham-R-Tex cabinet—total net weight 30 pounds.

Dealer Net Price.....\$245.00

## 5-INCH OSCILLOSCOPE Model CRO-2

**Wide Band Amplifier:** Flat within 1.5 db from 20 cycles thru 4.5 megacycles dropping smoothly to a still useful value at 6 megacycles. This feature is absolutely essential for correct showing of TV sync. pulses.

**Vertical Deflection Sensitivity:** Two ranges with three positions for each range. Has fully compensated attenuators. Excellent transient response. Each unit completely tested for "tilt" and "overshoot."

**Sensitivity Ranges:** With a band width of 20 cycles thru 100 KC, the sensitivity ranges are .018, .18, 1.8 RMS volts per inch. The wide band position 20 cycles thru 4.5 MC has sensitivity ranges of .25, 2.5, 25 RMS volts per inch.

**Horizontal Deflection Sensitivity:** Push-pull horizontal amplifiers have a sensitivity for all applications of .55 RMS volts per inch.

**Vertical Input Impedance:** 1.5 megohms, shunted by 20 micromicrofarads. Direct to plates balanced 6 megohms, shunted by 11 micromicrofarads.

**Horizontal Input Impedance:** 1.1 megohms.

**Linear Sweep Oscillator:** Saw tooth wave 20 cycles thru 50 Kilocycles per second in 5 steps. Sine wave sweep of

60 cycles also available. Provision for external sweep synchronization.

**Input Calibration:** A standard voltage is provided for use in determining unknown voltages. Permits peak-to-peak measurement of all waveforms.

**Vertical Polarity Reversal:** By merely flipping a switch you can reverse the polarity of the voltage being supplied to the vertical deflection plates, also provides a means for choosing either positive or negative sync. voltages.

**Return Trace Blanking:** A new amplifier-timer combination for blanking return traces, providing a clearer, sharper image at all times. Prevents confusion in waveform analysis.

**Synchronizing Input Control:** Four input control positions, Internal—External—60 cycle—120 cycle.

**Deflection Plate Connections:** Direct connections thru capacitors for AC only to deflection plates of CR tube by means of terminal block at back of instrument.

**Intensity Modulation:** Either 60 cycle internal intensity modulation or external intensity modulation through binding posts on front panel.

**Removable Calibration Screen:** Clear plastic screen marked in grids of 1/10 inch per division. Easily removable.



**Accessory:** Demodulation probe available for using scope as signal tracing instrument.

**Size:** Same height as other Jackson TV instruments. Dimensions 13" high, 10 1/4" wide, 15 1/8" deep.

**Finish and Weight:** An all steel gray Ham-R-Tex cabinet—total net weight 26 pounds.

Model CRO-2, Dealer Net....\$197.50

Model CR-P, Probe ..... \$9.95



# JACKSON



## "SERVICE ENGINEERED" TEST INSTRUMENTS

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 2, OHIO

### DYNAMIC TUBE TESTER

#### Model 648

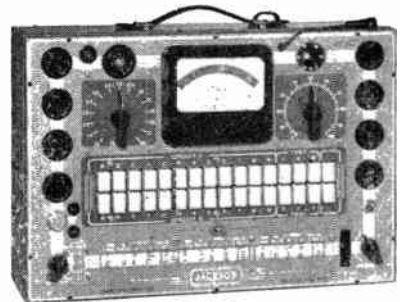
This tester incorporates the most important engineering advancements in 12 years of tube tester research, such as the Dynamic test method and sequence switching. The Jackson Dynamic test circuit applies separate element voltages to each tube element. Separate load circuits are also used. These voltages and loads have been carefully selected for each tube to meet most ideally the normal operating condition of the tube. The current flowing only in the plate circuit of the tube under test is indicated on the 4 inch meter in easy-to-read terms.

Sequence Switching makes possible **SIMPLIFIED OPERATION**, formerly unattainable in Dynamic test methods. There are actually only three control units to be set according to rotary chart listing for each tube. These are: Heater Voltage (upper left), Plate Control (upper right) and the Sequence Switch (center). The only other adjust-

ments are line voltage control and shorts test.

Fast, Accurate Shorts Test lamp indicates only when tube is shorted. The shorts test control moves only through 4 positions—yet completely tests each tube element for possible shorts or leakage. The tube is tested under a heated cathode condition.

Correct Test Voltage and Load Circuits protect tubes under test against damage by overload. Even low voltage battery types are provided with suitably low operating potentials. The full GOOD-BAD scale of the meter is used for each test. The meter is sufficiently sensitive that special "Low scale" readings are not required (such as for diodes, etc.).



Life-line test shows you accurate forecast of end of tube life. Reduced output caused by over-age gives reduced reading on meter. Lets you catch bad tubes before they actually go bad.

Steel cases and panels finished in gray Ham-R-Tex—approximate net weight of each model 16 pounds.

- Counter-Base Only ..... \$6.00
- Model 648C  
(With Counter-Base) ..... \$99.50
- Model 648B (Beuch-type  
steel case) ..... \$94.50
- Model 648P (Portable Tester  
in wood case) ..... \$99.50

### AUDIO OSCILLATOR Model 655

The model 655 provides an audio frequency voltage DEVELOPED AT ITS FUNDAMENTAL FREQUENCY. The basic design of this instrument is entirely different from the "beat frequency" type of Audio Oscillator.

#### FEATURES

**Resistance Capacity Tuned Circuit Design**, engineered for improved operating characteristics of audio measurements.

**No Zero Adjustment** — Tuned Fundamental Frequency method provides permanently locked calibration.

**Output Characteristics** — A choice of either transformer coupled or resistive output is available. The Model 655 meets the most exacting requirements as to

**Waveform-Uniform Frequency Characteristics and Output Load Impedance Selection.** A special feature of the output system is the 10 ohm tap for low impedance circuits such as speaker voice coils, etc. **Variable Frequency Selection** throughout the four bands. There are over 33 inches of scale length making Exact settings possible.

**Complete Stability** — The stability of frequency calibration is constant throughout the entire range. The stabilized circuit permits large changes in line voltage to occur without affecting frequency or waveform and having negligible effect on output voltage.

**Simplified Operation** — It is only necessary to select desired Frequency and Output. **There Are No Other**



**Controls** — The possibility of errors in operation is therefore eliminated.

**High Output Power** — More than **Three Times** the output usually available from ordinary audio oscillators.

**Construction** — Frequency dial is glass enclosed so that calibrations cannot become disfigured. Rugged mechanical features assure trouble free operation under service conditions.

#### SPECIFICATIONS

**Frequency Range** — 20 cycles to 200,000 cycles in 4 ranges: 20-200 cycles/200-2000 cycles/2000 to 20,000 cycles/20,000 cycles to 200,000 cycles.

**Calibration** — Logarithmic variation of frequency over the scale provides constant percentage accuracy at all frequencies.

**Scale Length** — Over 33 inches.

**Output Impedance** — Five values of output impedance: 10 ohms/250 ohms/

500 ohms/5000 ohms/RESISTIVE. Controlled by selector switch.

**Output Power** — 500 Milliwatts (20 to 20,000 cycles transformer coupled).

**Output Control** — Continuously variable from zero to maximum.

**Waveform** — Less than 5% distortion at all frequencies between 30 and 15,000 cycles.

**Frequency Characteristics** — Plus or minus 1 DB 30-15,000 cycles using trans-

former coupled output.

**Hum Level** — Down more than 60 DB of maximum.

**Accuracy** — 3% or 1 cycle whichever is greater.

**Tubes** — 1-6G6G, 1-6SL7GT, 2-6V6GT, 1-5Y3GT furnished installed.

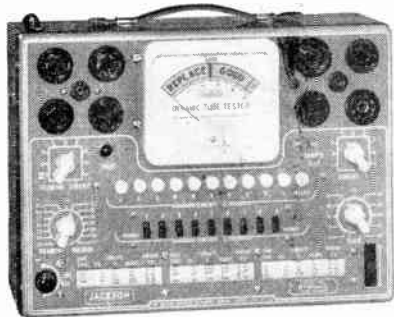
**Dimensions** — 13" wide x 9½" high x 9½" deep.

**Dealer Net Price**.....\$135.00

# JACKSON "SERVICE ENGINEERED" TEST INSTRUMENTS

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 2, OHIO

## CHALLENGER DYNAMIC TUBE TESTER



### Model 115

Uses famous Jackson Dynamic Test Principle. Applies separate element voltages to each tube element, making tests under actual use conditions. High Voltage Power Supply is a feature of this tester. By testing tubes at higher plate voltages (over 200 volts for some types) more accurate results are obtained. The improved switching system provides spare circuits, switch and socket positions for future use. Simplified operation, uses push-button and selector

switch controls. Large 4" square meter for better readability. Complete shorts test. Tests all tubes (over 700 types) including television amplifiers and rectifiers. Built-in roll chart. Finished in attractive Challenger Green, with harmonizing Ivory knobs, meter cover and push-buttons. Free one year chart service on new tube types. Net weight 11 lbs.

Dealer Net Price.....\$67.50



## CHALLENGER CONDENSER TESTER

### Model 112

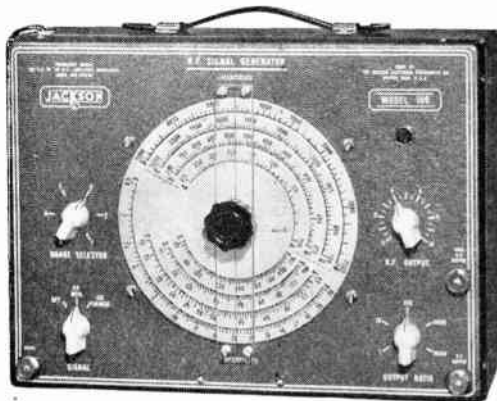


This new instrument is push-button controlled, providing fast positive range selection for capacity and leakage tests. Checks all type faulty condensers—Electrolytic, Paper, Mica, etc. Using a new method for leakage tests and eliminating the counting of flashes on the

electron ray tube indicator. Six test voltages from 20 volts to 500 volts. Dial is glass-enclosed and equipped with the Jackson "Scale Expander" pointer which doubles effective scale length. Measures power factor on Direct Reading Scale calibrated from 0 to 60%.

Ranges from .00001 to 1000 mfd. in four steps. Finished in beautiful Challenger Green Ham-R-Tex with ivory knobs and dial cover. Net weight 11 lbs.

Dealer Net Price.....\$59.50



## CHALLENGER TEST OSCILLATOR

### Model 106

Standard AM Oscillator for testing AM and FM radios and using as auxiliary TV marker generator. Fundamental frequencies from 100 KC to 54 MC. Harmonics 54 MC to 216 MC. Two-circuit

attenuator for controlling signal strength. Has 400 cycle audio modulation, or may be used for straight RF unmodulated signal. Accuracy is 1/2 of 1% on all ranges. Compare this popular priced

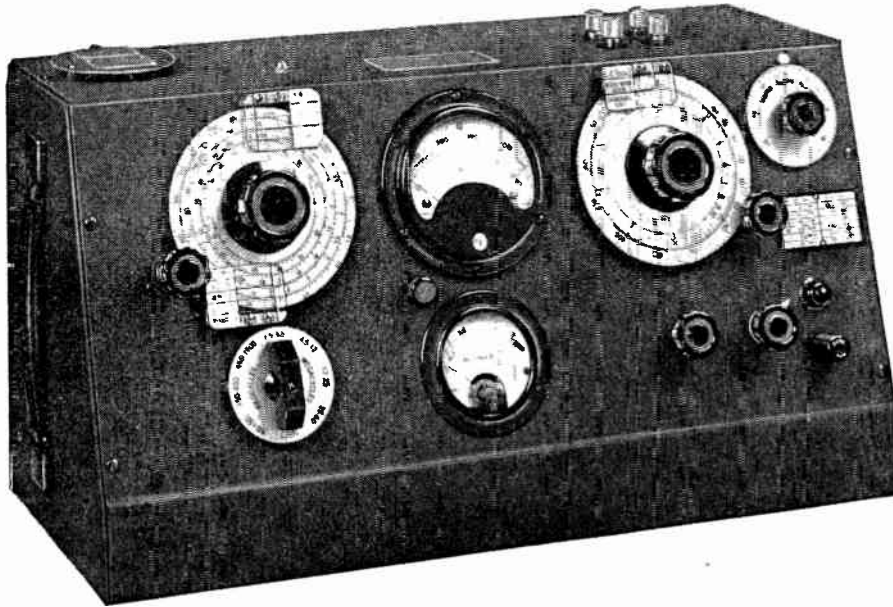
factory calibrated Signal Generator with any competitive make or so-called "kits." Attractive Challenger Green Finish. Net weight 10 lbs.

Dealer Net Price.....\$59.50

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## Q-METER

TYPE 160-A

Freq. Range 50 kc. to 75 mc.

Radio frequency circuit design often requires the accurate measurement of Q, inductance, and capacitance values. For this application, the 160-A Q-Meter has become the universal choice of radio and electronic engineers throughout the country.

Each component part and assembly used in the manufacture of this instrument is designed with the utmost care and exactness. Circuit tolerances are held to values attainable only in custom built instruments.

The 160-A Q-Meter is designed specifically for the accurate and rapid measurement of Q, inductance, and capacitance. The basic method of measurement consists of measuring the voltage developed across a variable air capacitor connected as an element in a series resonant circuit. Essentially the Q-Meter is comprised of an 8 range RF oscillator, a Q measuring circuit with a main and vernier section tuning condenser, a vacuum tube voltmeter of special design which reads the voltage across the tuning condenser, and a voltage injection circuit which applies an accurately known voltage to the terminals of the series resonant circuit. In operation the Q circuit is resonated by means of the variable Q tuning capacitor and the voltage developed across this capacitor is indicated by means of the vacuum tube voltmeter which is calibrated directly in terms of Q. This method of measuring Q is simple, accurate, and requires only a single operation—resonating the circuit—to measure Q. Variations of this basic method of measurement are employed to determine effective inductance and capacitance as well as the dielectric properties of insulating materials.

### SPECIFICATIONS

**Oscillator Frequency Range:** Continuously variable from 50 kc. to 75 mc. in eight self-contained ranges. (In conjunction with an external oscillator the frequency range of the Type 160-A Q-Meter may be extended from 50 kc. to 1 kc. for coil measurements).

**Oscillator Frequency Accuracy:** Generally better than  $\pm 1\%$ , except the 50-75 mc. range which is approximately  $\pm 3\%$ .  
**Range of Q Measurements:** The Q voltmeter is calibrated directly

in Q, 20-250. The "Multiply-Q-By" meter, which measures the oscillator voltage injected in the Q measuring circuit, is calibrated from x1 to x2 and also at x2.5. The reading of the Q voltmeter scale is multiplied by the setting of the "Multiply-Q-By" meter. Hence, the total range of circuit Q measurements is from 20 to 625. Condensers, dielectrics, etc., which are measured by placing these in parallel with the measuring circuit, may have Q's as high as 5,000.

**Accuracy of Q Measurements:** The accuracy of the direct reading measurement of circuit Q (for Q voltmeter readings between Q=50 and Q=250) is approximately 5% for all frequencies up to the region of 30 mc. and decreases with increasing frequency. Correction may be made for the error above 30 mc. as it is principally a frequency effect. The accuracy of the measurement of condensers, dielectrics, etc. is generally better than 10% for Q's below 5,000 and up to 30 mc.

**Capacitance Calibration Range:** Main tuning condenser 30-450 mmf. calibrated in 1 mmf. divisions from 30 to 100 mmf. and in 5 mmf. divisions from 100 to 450 mmf. Vernier condenser, plus 3 mmf., zero, minus 3 mmf., calibrated in 0.1 mmf. divisions.

**Accuracy of Capacitance Calibration:** Main tuning condenser, generally better than 1% or 1 mmf., whichever is the greater. Vernier tuning condenser,  $\pm 0.1$  mmf. The internal inductance of the tuning condenser at the binding posts is approximately .015 microhenry.

**Voltmeter:** The Q voltmeter is also calibrated in volts. A specially calibrated tube, Type BRC 105-A tube, is used. Replacements may be made without recalibration.

**Power Supply:** 105-120 volts, 50-60 cycles. Also 210-240 volts, 50-60 cycles. Power consumption 50 watts.

**Dimensions:** Height 12.5", length 20", depth 8.5".

**Weight:** 25 lbs.

**Price:** \$625.00, F.O.B. Boonton, N. J., U.S.A.

**BOONTON RADIO**

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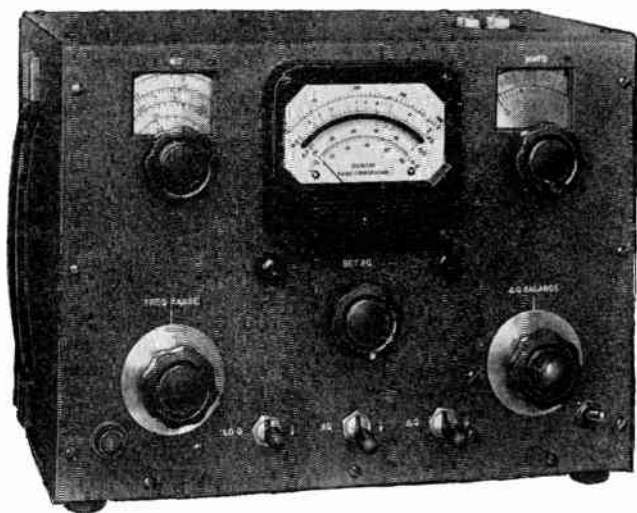


INSTRUMENTS  
ELECTRONIC INDUSTRY

## Q-METER

TYPE 190-A

Frequency Range 20 mc. to 260 mc.



The Q Meter Type 190-A measures Q over a very wide range at VHF. It also measures differences in Q between a reference circuit and other circuit configurations on a sensitive Differential Q Scale. All of the indications are made on a single parallax free meter. The internal variable condenser used to resonate external coils is calibrated at 0.1 mmf intervals and ten complete turns of the dial are required to cover the capacitance range. This new design includes the results of many years experience in the development and application of Q Meters.

### SPECIFICATIONS

Frequency Coverage: 20 mc to 260 mc. Continuously variable in four ranges.

Frequency Accuracy: Calibrated to  $\pm 1\%$ .

Range of Q Measurements: 5 to 1200.

Range of Differential Q Measurements: 0 to 100.

Accuracy of Q Measurements: Circuit Q of 400 read directly on meter can be determined to accuracy of  $\pm 5\%$  to 100 mc and to  $\pm 12\%$  to 260 mc.

Internal Resonating Capacitance Range: 7.5 mmf to 100 mmf (direct reading) calibrated in 0.1 mmf increments.

Accuracy of Resonating Capacitor:  $\pm 0.2$  mmf to 20 mmf  
 $\pm 0.3$  mmf to 50 mmf  
 $\pm 0.5$  mmf to 100 mmf

Power Supply: 90-130 volts—60 cps (internally regulated).

Power Consumption—55 watts.

Weight: 24½ lbs.

Price: \$625.00 F.O.B. Boonton, N. J., U.S.A.

(Specifications subject to change without notice)

## QX CHECKER TYPE 110-A

Frequency Range 100 kc. to 25 mc.

The QX-Checker is a production type test instrument specifically designed to compare reactance and relative Q of RF components with approved standards. The two factors, reactance and relative Q, are separately indicated, one on a meter and the other on a condenser dial, so that the deviation of either from established tolerances is immediately shown. Built to laboratory standards, the QX-Checker is a sturdy, fool-proof instrument for use in production work by factory personnel.

### SPECIFICATIONS

Oscillator Frequency Range: 100 kc. to 25 mc. in 6 ranges using accessory plug-in coils (two coils furnished with each instrument).

Accuracy of Coil Checks: Coils may be checked against a standard to within about 0.2% with inductance values of 10 microhenries to 10 millihenries and Q of 100 or greater.



Capacitance Range: Capacitance values ranging between approximately 2-1000 mmf. may be checked against a standard to an accuracy of a few tenths of one mmf. if the Q of the capacitor is high.

Power Supply: 110-125 volts, 50-60 cycles, also 200-250 volts, 50 cycles.

Dimensions: Width 12¼", Depth 18", Height 8".

Weight: 26 lbs.

Price: \$340.00, F.O.B. Boonton, N. J., U.S.A.

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# FM SIGNAL GENERATOR

TYPE 202-B

Frequency Range 54 mc. to 216 mc.

The type 202-B FM Signal Generator has been developed to meet the needs of engineers engaged in the design of FM and television receivers for operation within the frequency range of from 54 megacycles to 216 megacycles.

This instrument has been proportioned for maximum conservation of laboratory bench space, with frequency dial, modulation and output meters positioned at eyelevel for maximum readability. The unit is finished in grey wrinkle enamel with engraved panel and is supplied complete with tubes and standard output cable.

## SPECIFICATIONS

**RF Range:** Frequencies from 54 mc. to 216 mc. are covered in two ranges, 54-108 mc. and 108-216 mc.

**Main Frequency Dial:** The two RF ranges are calibrated directly in megacycles to an accuracy of within  $\pm 0.5\%$ . The dial is also divided in 24 equal divisions for use with the vernier frequency dial.

**Vernier Frequency Dial:** The vernier frequency dial is divided in 100 divisions and is geared to the main dial through a gear train having a 24:1 ratio. The approximate frequency change per vernier division is 26 kc. on the low range and 52 kc. on the high range.

**Frequency Modulation (Deviation):** The FM deviation is continuously variable from zero to 240 kc. The modulation meter is calibrated in three FM ranges (1) zero to 24 kc., (2) zero to 80 kc. and (3) zero to 240 kc. deviation.

**Amplitude Modulation:** The modulation meter is calibrated at 30% and 50% amplitude modulation. AM is continuously variable from zero to 50%.

**Modulation Controls:** Separate potentiometers are provided for continuous control of FM and AM levels.

**Modulating Oscillator:** The internal AF oscillator may be switched to provide either frequency or amplitude modulation; it may also be switched off. External binding posts permit the use of an external AF oscillator for either FM or AM. Both internal and external AF oscillators may be used simultaneously, thus providing either FM or AM at two modulation frequencies simultaneously or simultaneous FM and AM. The internal AF oscillator provides eight fixed frequencies which may be selected by a rotary type switch—50, 100, 400 cycles and 1, 5, 7.5, 10 and 15 kilocycles, accurate to within 5%. The output voltage of the internal AF oscillator is available at the external binding posts for synchronizing or other purposes.

**RF Output Voltage:** The RF output voltage is continuously variable over a range from 0.1 microvolt to 0.2 volts at the terminals of the output cable. The impedance at the RF output jack, looking into the instrument, is 53 ohms resistive. The output cable has a 53 ohm resistance termination at the terminal end hence the output impedance of the unit with cable attached is 26.5 ohms.

Copyright by U. C. P., Inc.



**Distortion:** FM distortion at 75 kc. deviation is less than 2% when modulated with the internal AF oscillator or an external AF oscillator having 0.5% distortion or less. At 50% amplitude modulation the distortion is about 5% using the internal AF oscillator and decreases as the modulation percentage is reduced. An external AF oscillator may be employed for amplitude modulation if desired.

**Spurious RF Output:** All spurious RF output voltages are at least 30 db. below the desired fundamental. The RF leakage is very low.

**Fidelity Characteristics:** The deviation sensitivity of the FM modulation system as a function of frequency is constant from dc. to over 10 kc. At 15 kc. the deviation as indicated on the modulation meter is 0.5 db. higher than the true value. The amplitude modulation system is also flat from dc. to 10 kc., and departs from nominal by 1.0 db. at 15 kilocycles.

**Power Supply:** The power supply is self-contained in the instrument for use on 60 cycles, 110 volts.

**Accessories:** 203-A Frequency Converter (Frequency range 0.4 mc. to 25 mc.).

**Dimensions:** Height: 17"; Width: 13½"; Depth: 11½".

**Weight:** 35 lbs.

**Price:** \$975.00, F.O.B. Boonton, N. J., U.S.A.



Prices subject to change without notice

Radios Master — 17th Edition

F-77



## UNIVERTER TYPE 207-A

Frequency Range 0.1 mc. to 55 mc.

The Type 207-A Univerter, a frequency converter accessory having unity gain, was designed for use with the Type 202-B FM-AM Signal Generator to provide frequency coverage from 0.1 mc. to 55 mc. Thus the Type 207-A Univerter when used with the Type 202-B Signal Generator will provide complete FM-AM Signal Generator coverage from 100 kc. to 216 mc. This instrument also enables the frequency and amplitude modulation features of the 202-B instrument, as well as the attenuator calibration, to be utilized at these lower frequencies without causing any appreciable distortion. The 207-A Univerter matches the 202-B FM Signal Generator in styling and finish, and is supplied complete with tubes and instruction book.

### SPECIFICATIONS

**RF Range:** The Univerter, in combination with the 202-B FM Signal Generator, covers a frequency spectrum from 0.1 mc. to 55 mc. (0.3 mc. to 55 mc. with 200 kc. carrier deviation.)

**Frequency Increment Dial:** This dial is calibrated in increments of 5 kc. from plus 300 kc. through zero to minus 300 kc.

**X1 Output:** The RF output voltage at the X1 output jack is continuously variable from 0.1 microvolt to 0.1 volt across a 53 ohm load by means of the 202-B Signal Generator attenuator. The gain is constant within  $\pm 1$  db over the frequency range of the instrument.

**High Output:** A front panel pin jack makes available an uncalibrated high voltage output. The voltage gain at this jack is approximately 7.5.

**Output Impedance:** The output impedance at the X1 jack is about 53 ohms, the impedance looking into a terminated 53 ohm cable connected to the jack is 26.5 ohms. The impedance at the high output pin jack is approximately 330 ohms.



**Power Supply:** The 207-A Univerter is designed for use on 50-60 cycles, 95-130 volts, 45 watts.

**Dimensions:** H: 11 1/2" W: 7 3/8" D: 10 1/2"

**Weight:** 20 lbs.

**Price:** \$345.00 F.O.B. Boonton, New Jersey

## TELEMETERING SIGNAL GENERATOR TYPE 202-D

Frequency Range 175 mc. to 250 mc.

The Type 202-D Signal Generator is a precise and reliable instrument well suited to the specialized requirements of telemetering engineers for rapidly analyzing and evaluating over-all system performance.

### SPECIFICATIONS

**RF Range:** 175-250 megacycles in one range, accurate to  $\pm 0.5\%$ . Main frequency dial also calibrated in 24 equal divisions for use with vernier frequency dial.

**Frequency Modulation (Deviation):** The FM deviation is continuously variable from zero to 240 kc. The modulation meter is calibrated in three FM ranges: (1) 0-24 kc., (2) 0-80 kc., and (3) 0-240 kc. deviation.

**Amplitude Modulation:** Utilizing the internal audio oscillator amplitude modulation at any one of eight audio frequencies between 50 c. and 15 kc. may be obtained over the range of 0-50%, with meter calibration points at 30% and 50%. By means of an external audio oscillator the RF carrier may be amplitude modulated to substantially 100%. A front panel jack is provided which permits direct connection of an external modulating voltage source to the final stage for pulse and square wave modulation.

**RF Output Voltage:** The RF output voltage is continuously variable over a range from 0.1 microvolt to 0.2 volt at the terminals of the output cable. The impedance at the RF output jack, looking into the instrument, is 53 ohms resistive.



**Distortion: FM:** The over-all distortion at 75 kc. is less than 2% and at 240 kc. less than 10%. **AM:** The distortion present at the RF output for 30% amplitude modulation is less than 3% and for 50% AM less than 6.5. At 100% the distortion is 12% to 15% depending upon the modulating frequency.

**Outside Cabinet Dimensions:** 17" H, 13 1/2" W, 11 1/2" D.

**Weight:** 35 lbs.

**Price:** \$980.00, F.O.B. Boonton, N. J., U.S.A.

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## OMNI RANGE SIGNAL GENERATOR

TYPE 211-A Frequency Range 88 mc. to 140 mc.

The Type 211-A Signal Generator is specifically designed for the testing and calibrating of omni-range radio receiving equipment. It is also well suited for laboratory and development work where a precision type amplitude modulated R.F. signal source is required.

### SPECIFICATIONS

**Frequency Range:** Master Oscillator: 88-140 megacycles in one range. Vernier frequency dial has 100 divisions and is coupled to the main tuning capacitor through a 120:1 gear drive. Each vernier division is equivalent to a 10 kc. change in frequency.

**Crystal Controlled Frequencies:** Either of two crystals 110,100 mc. and 114,900 mc., accurate to  $\pm 0.0035\%$ , may be selected by a switch for use individually or in combination with the master oscillator to standardize its output frequency.

**Amplitude Modulation Characteristics:** Two amplitude modulation ranges, 0-30% and 0-100%, are provided for use with the internal oscillator or a low distortion external oscillator. Distortion is 5% or less at 95% amplitude modulation.

**Internal Audio Oscillator:** Two modulating frequencies, 400 and 1000 cycles.

**Modulation Amplifier:** The internal modulating amplifier has the following characteristics:

- Uniform response within  $\pm 0.5$  db. 30 cycles to 11 kc.
- Uniform response within  $\pm 0.1$  db. 90 cycles to 150 cycles.
- Uniform response within  $\pm 0.1$  db. 9500 cycles to 10.5 kc.

**Phase Distortion:** (up to 60% amplitude modulation.)  
Less than 0.25 degrees at 30 cycles.  
Less than 10 degrees at 11 kc.

**Audio Test Voltage:** This instrument contains a demodulator or detector



which supplies to front panel terminals a portion of the demodulated carrier.

**Spurious FM:** Less than 1 kc. at 60% AM.

**Output Attenuator:** Single ended piston type, adjustable from 0.2 volt to 0.1 microvolt. Output impedance as seen looking in at terminals of output cable is 26.5 ohms. (Relay Rock not included.)

Price: \$1800.00, F.O.B. Boonton, N. J., U.S.A.

## GLIDE SLOPE TEST SET TYPE 212-A Freq. Range 329-335 mc.

The Type 212-A Glide Slope Test Set has been developed for use with the Type 211-A VHF Signal Generator to provide additional frequency coverage from 329 mc. to 335 mc. for testing glide slope receivers. Three crystal spot frequencies are also provided for checking the intermediate frequency sections of these receivers.

Basically, the Type 212-A Test Set may be considered as having two separate systems, (A) a unity gain radio frequency converter (or Univerter) which adds 200 megacycles to the input frequency from the 211-A Signal Generator and (B) a crystal controlled I.F. Signal Generator.

### SPECIFICATIONS

#### A—Univerter:

**Frequency Range:** 329 mc. to 335 mc.

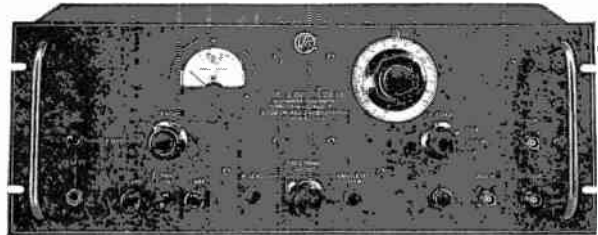
**Maximum Input Signal:** 0.1 volt (0.05 volt modulated to 100%).

**Input Impedance:** 53 ohms, unbalanced.

**Output Frequency:** Input Frequency plus (200,000 mc.  $\pm 0.005\%$ ).

**Amplitude:** The output into a 53 ohm load can be set equal to the input signal ( $\pm 1$  db) in the frequency range 329 to 335 mc.

**RF Monitor Meter:** A center scale type front panel meter indi-



cates the RF output voltage variations when the input is held constant at 0.1 volt.

**Envelope Distortion:** Less than 5% for an 0.05 volt signal modulated 95%.

**Output Impedance:** 53 ohms unbalanced.

#### B—IF Generator:

**Output Frequencies:** 20,700 mc.  $\pm .0035\%$ ; 20,400 mc.  $\pm .005\%$ ; 21,000 mc.  $\pm .005\%$ .

**RF Output:** Continuously variable from 1 microvolt to 1 volt across a 53 ohm unbalanced load by means of a piston type attenuator.

**RF Monitor:** Continuous monitoring with the same set-to-line type meter used with the Univerter.

**Amplitude Modulation Capabilities:** A maximum of 30% modulation can be obtained by means of an external signal source capable of developing 2 volts across a 250,000-ohm load, or by means of the self-contained 1000 cycle source.

**Power Requirement:** 105-125 volts, 50-60 cycles, 40 watts.

**Weight** 27 1/2 lbs.

**Dimensions:** Panel, 19" Wide x 7" High. Depth, 10 1/2" over-all. Unit designed for rack mounting and supplied with dust cover.

Price: \$875.00, F.O.B. Boonton, N. J., U.S.A.

**BOONTON RADIO**  
BOONTON · N · J · U · S · A · Corporation

# RADIO CITY PRODUCTS CO., Inc.

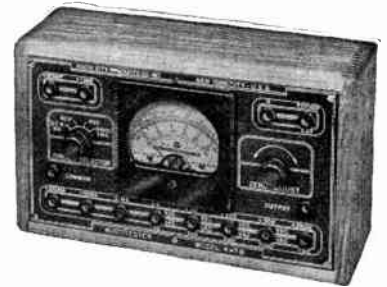
NEW YORK 1, N. Y.

## TEST EQUIPMENT

### MODELS 447B AND 447BP - AC-DC MULTITESTER

The exceptional value in the 447B Model is made possible by the tremendous quantities produced. The resulting very low price is responsible for its great popularity. These units are in a class with other makes of testers that sell for considerably more. A 3" square D'Arsonval meter is used, having an accuracy of 2%. Accuracy of AC voltage measurements are improved by use of a new gold plated copper oxide rectifier.

**RANGES**  
 DC VOLTMETER: 0-5-50-250-500-2500 Volts.  
 AC VOLTMETER: 0-10-100-500-1000 Volts.  
 OUTPUT VOLTMETER: 0-10-100-500-1000 Volts.  
 DC MILLIAMMETER: 0-1-10-100-1000 MA.  
**MODEL 447B**—Open face instruments supplied in hardwood case. Size 5"x8½"x3". Weight 21 oz. Complete with batteries, ready to operate. Net Price..... **\$17.95**  
**MODEL 447BP**—Portable type supplied in hardwood case with carrying handle, cover and test leads. Size 6½"x 8½"x 4½". Weight 24 oz. Complete with batteries, ready to operate. Net Price..... **\$21.95**



### MODEL 488-A All Coverage DELUXE MULTITESTER

The one best multitester covering all requirements (40 ranges) in the TV - FM and general radio and electrical service fields.

LOWEST VOLTAGE SCALE DIVISION—0.05 v.  
 DUAL SENSITIVITY—20,000 ohms per volt—8 voltage ranges; 1,000 ohms per volt—7 voltage ranges.  
 A.C. Measurements of CURRENT—by current transformer method—very low impedance so as not to change normal circuit current.  
 DIVISORS and multipliers are matched for an accuracy within 1%.  
 OHMMETER—completely self-contained—no soldering for battery replacement. Ranges—

0-3,000-300,000 ohms 0-30 megohms.  
 DC VOLTMETER—20,000 ohms per volt—0-3-12-60-300-600-1200-6000 volts.  
 DC VOLTMETER—1000 ohms per volt—0-3-12-60-300-600-1200-6000 volts.  
 AC VOLTMETER—0-3-12-60-300-600-1200-6000.  
 DC MICROAMMETER—0-60-300.  
 DC MILLIAMMETER—0-3-20-120-600.  
 DC AMMETER—0-12.  
 AC AMMETER—0-3-6-12.  
 OUTPUT VOLTMETER—0-3-12-60-300-600-1200.

Complete with Test Leads. Natural finish oak carrying case ready to use.

**\$61<sup>50</sup>**  
NET



### MODEL 807 COMBINATION TUBE AND SET TESTER

This advance design combines all of the features of new Model 323 Free Point Dynoptimum Tube Tester with a complete modern multitester set and condenser tester. Has unique advantage of burn out protection. Power Supply has fuse protection and meter has fuse protection.

RCP's reputation for value in combination tube and set testers is not only nation wide but world wide. Thousands and thousands of the 800 series testers are in use. New Model 807 is the best of all in performance and value.

Tube Tester—identical to Model 323.  
 Condenser tester tests paper-mica and electrolytic condensers for leakage.

Housed in handsome hand-rubbed carrying case with test leads — batteries, etc. — complete, ready to operate. Size 12½" x 12¾" x 4¾" inches. Weight 12¼ lbs. Net Price.....

#### MULTITESTER RANGES:

DC VOLTMETER—0-10-50-500-1000-2500.  
 AC VOLTMETER—0-10-50-500-1000-2500.  
 DC MILLIAMMETER—0-10-100-1000.  
 DC AMMETER—0-10.  
 DECIBEL METER—8 to + 15, 15 to 29, 29 to 49, 32 to 55.  
 OHMMETER—0-500-5000 ohms, 0-0.1-1-10 megohms.

**\$79<sup>50</sup>**  
NET



### MODEL 8773 - SERVISHOP EQUIVALENT TO A COMPLETE SERVICE SHOP

- ★ Tube Tester
- ★ Condenser Tester
- ★ Set Tester
- ★ AM Generator
- ★ FM Generator
- ★ AF Generator
- ★ Fuse Protected Meter

Never before has there been available an up-to-date tube tester for testing modern, miniature, novel base and sub-miniature tubes with the new, speedy Rollindex Roll Chart —combined with a complete multitester measuring AC and DC volts—DC milliamperes and amperes—ohms and megohms, decibels and output volts and also a condenser tester, AM signal generator, FM signal generator and audio oscillator.

The amazing fine performance of this equipment is the result of the latest engineering design in the 807 combination tube and set tester combined with the all purpose Model 730 signal generator.

Model 8773—Complete with tubes, batteries and test leads, output leads, etc.—housed in beautiful natural finish oak case. Weight 18 lbs. Overall size 16½" x 12¾" x 5¼".

An outstanding value at all times at.....

**\$99<sup>95</sup>**  
NET

# RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

## TEST EQUIPMENT



### MODEL 740 TV "DO-ALL" GENERATOR

TELEVISION • FM • AUDIO • TV MARKER • TV PATTERN

This is the only single easily portable instruments that provides for alignment of:

1. Front Ends
2. IF's
3. Horizontal Linearity
4. Vertical Linearity
5. Picture Size
6. Picture Position
7. Focus Coil
8. Ion Trap

Covers every band, every channel of Television and FM receivers—VHF—all on Fundamental Frequencies.

**RANGE:** 9 Megacycles to 220 Megacycles with skips ALL FUNDAMENTALS—Bands 9-11 Megacycles, 21-47 Megacycles, 54 to 220 Megacycles.

**ACCURACY:** Better than 1/10 of 1 per cent tolerance on 9-11 Megacycles frequencies, and better than 1/2 of 1 per cent on 21 to 220 Megacycles. An excellent Marker-Generator.

**PATTERN GENERATOR:** Modulation can be either Horizontal Bar—Vertical Bar or Cross-Hatch.

**TUNING:** Dial is continuously calibrated through 340, giving an extremely long calibration scale; enables easy reading and tuning. Each TV channel is marked specially on the dial, facilitating alignment.

**AUDIO OUTPUT:** Both 540 Cycles and 220.5 KC are available.

**ATTENUATION:** Complete variation through 200 ohm control.

Unusually fine circuit design — rugged mechanical construction.

Complete ready to operate—105-125 volts—60 cycles. Size: 10x6x6

Weight: 9 lbs. Net Price

**\$69<sup>50</sup>**



### MODEL 323 - New Dynoptimum Free Point TUBE TESTER

Very latest design in an accurate, speedy tube tester that protects against obsolescence in the event of new tubes with more elements or different positioning of elements, etc.; includes new 8 prong subminiature socket. Extreme free point flexibility permits any socket terminal to be used for any tube element and allows detailed open short-leakage tests of each element as well as filament-heater continuity tests. Ten active lever switches take care of every receiving tube now on the market. Two more spare lever switches are provided (12 in all) for ample capacity for all future additions. Two extra socket blanks provide spares for possible future additions for tube base designs. TESTS modern tubes, miniatures, subminiature—mobile transmitting—hearing aid—ballasts—pilot lights—gaseous rectifiers—tuning indicators. New Rollindex—fast operating, smooth running, roll chart with approximately 1000 tube listings. Neon lamp indicator—quick checking of short-leakage on each individual tube element. Famous Dynoptimum Test for accuracy on 4 1/2 inch meter, 1 milliamper sensitivity. A beautiful instrument that will enhance any test bench or store counter.

**MODEL 323C**—Open style metal case, easily portable. Size 12 1/2 x 11 7/8 x 4". Weight 9 1/2 lbs. Net Price

**\$54.95**

**MODEL 323 P-C** — Combination portable — counter model—in beautiful oak carrying case with slip hinge cover. Size 12 1/2 x 12 1/4 x 4 1/4". Weight 11 lbs. Net Price

**\$58.95**

**MODEL 323M** — Tube merchandiser in large counter handsome steel case. Net Price

**\$87.95**



### MODEL 706A - SIGNAL GENERATOR

NEW! "WIDE RANGE" SIGNAL GENERATOR

This new signal generator provides highly satisfactory performance in continuous coverage of 150 KC to 220 M.C. in 8 ranges. Six fundamental ranges cover up through 55 Megacycles. **ACCURACY** maintained within 1% of calibration adjustment and recalibration is readily available by air trimmers. **STABILITY** and **Consistency** of calibration is assured by special electron-coupled circuit design, permeability, adjusted coils and air trimmer capacitors. **SHIELDING**—Thorough shielding of all critical circuits and components either individually or in compartment or both. This includes oscillator tube, coil assembly, attenuator, switching circuit. Transformer is electrostatically shielded. **UNMODULATED SIGNAL**—Available if desired. **MODULATION**—400 cycle sine wave audio oscillator with per cent modulation continuously variable from 0% to 80%. Above 80% modulation has no practical application because tremendous distortion occurs in all signal generators. External modulation can be used through input jack provided for same. **AUDIO OSCILLATOR** output at 400 cycles available for external use—terminates on panel—at 50 ohms output impedance. **OUTPUT**—High and low level. **ATTENUATION**—Ladder type step attenuator consisting of a multiplier and fine attenuator control. **DIAL**—Eight Scales distinctly calibrated—continuity of easy reading from 150 Kilocycles to 220 Megacycles. Planetary drive gives vernier tuning with no backlash. Tube Complement—6BA6 — 6SJ7 — 6X4. A high quality instrument in performance—construction and appearance—size 15" x 9" x 7" — weight 14 lbs. Complete with tubes and accessories for operation on 105-130 volts 60 cycles. Net Price

**\$67<sup>50</sup>**



### NEW MODEL 654 V.T. VOLTMETER

A 17 range instrument—employs an electronic balanced bridge type push pull circuit and draws negligible current from any circuit because of high impedance of 25 megohms. It is a V.T. voltmeter for A.C. measurements, as well as D.C.

A discriminator alignment scale with zero center permits operation in both directions. Ohmmeter measurements—0.2 ohm to 1000 megohms in 5 ranges.

DC VOLTS: 0-5-25-100-250-1000.

AC VOLTS: 0-5-25-100-250-1000.

DB: —20 to 16, —6 to 30, 6 to 42, 14 to 50, 26 to 62.

Complete with isolation probe and leads for operation on 105-130 volts, 50-60 cycles. Attractive grey and white finish in steel panel and case. Size 10"x6"x5". Weight 8 1/2 lbs. Net Price

**\$57<sup>50</sup>**



for  
PRECISION

# FREED TEST INSTRUMENTS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## LOW FREQUENCY "Q" INDICATOR TYPE NO. 1030



### USES

The Type 1030 Low Frequency "Q" Indicator measures directly the "Q" factor of coils. The instrument can also be used to measure the inductance of coils, distributed capacity, impedances, and dielectric losses. The "Q" Indicator can be used to study the magnetic properties of iron, such as stability of iron cores in function of applied voltages, and iron losses as a function of the frequency.

### FEATURES

The main and essential feature of the instrument is that the "Q" factor is read directly without any complicated computations. The possibility of measuring "Q" through the whole audio and supersonic frequency range is provided. The setting up and the measuring of the "Q" of coils is practically instantaneous. The instrument is unaffected by line voltage variations, is entirely self-contained and A.C. operated. Both meters ("multiply-by" and "Q") are protected against overloads and cannot be burned out. The effective frequency range for "Q" measurements is 50 to 50,000 cycles. Due to the fact that the R. C. Oscillator frequency range is from 20 to 200,000 cycles, comparative "Q" Measurements can be made below 50 cycles and above 50,000 cycles. Since the "Q" factor appears as a relative quantity, i.e., a ratio of two voltages, the tracking of the two meters is such that a reasonably good accuracy of "Q" factors is obtained for frequencies above 50,000 cycles. The terminals of the variable decade condensers are available directly on the front panel of the instrument and can therefore be used as a high quality precision variable condenser. The R. C. Oscillator and variable impedance amplifier can be used as a separate low frequency generator with a maximum output power of five watts into a 50 ohm load. The "Q" scale is calibrated from 0 to 50. A high accuracy of measurement is obtained, since for any position of the multipliers, a total of "Q" variation from 0 to 50 is read on a 4 inch meter. "Q" factors of coils can be measured with up to 50 volts across the coil, and therefore makes it possible to determine the stability and the variations of the "Q" factor of coils in function of the applied voltage. The voltage fed into the series circuit is variable from 10 volts to .01 volt.

### SPECIFICATIONS

**Range of "Q" Measurements:** The range of "Q" factors is from .5 to 500 over the frequency range from 50 to 50,000 cycles. The accuracy of "Q" measurement is approximately 5% for frequencies up to 50,000 cycles.

**Oscillator Frequency Range:** Continuously variable from 20 to 200,000 cycles in four ranges.

**Frequency Accuracy:** 1% under normal temperature conditions. The frequency stability is better than 2% over a long period of time.

**Output Impedance and Voltage:** Four output impedances are available.

- (a) 10 ohms impedance — 10 V Output Voltage
- (b) 1 ohm impedance — 1 V Output Voltage
- (c) .2 ohm impedance — .1 V Output Voltage
- (d) .1 ohm impedance — .01 V Output Voltage

Those Impedances are measured at 50,000 cy.

**Variable Condenser:** The variable condenser is composed of a 10 x 1 mf., 10 x 0.1 mf., 10 x 0.01 mf., 10 x 0.001 mf. decade condenser and a 0.001 mf. variable air condenser.

**Power Supply:** The instrument is entirely self-contained and A.C. operated. Total consumption 200 watts.

	W.	D.	H.
Dimension .....	19 1/2"	14 1/2"	23"
Weight .....	120 lbs.		

## TYPE 1020-B MEGOHMMETER

**USES:** The Freed Type 1020-B Megohmmeter is a self contained and a-c operated instrument equally useful in the laboratory or for production testing of the leakage resistance of insulation materials, condensers, cables, motors and transformer windings.

**FEATURES:** Resistance values indicated directly on a four inch meter protected against over-load.

Rapid and safe to use, test voltage removed from terminals and capacitive component discharged to ground in all positions of multiplier switch. Low resistance in series with component under test provides very short charging time for even the very largest capacitors. Calibration position provided to check accuracy of 500 volts d-c potential. 500 volt test supply electronically regulated.

### SPECIFICATIONS

**Range:** 1 megohm to 2,000,000 megohms in six overlapping ranges selected by a multiplier switch.

**Accuracy:** Plus or minus 3% on resistance values up to 100,000 megohms; plus or minus 5% from 100,000 to 2,000,000 megohms.

**Voltages on Unknown:** The voltage applied to the unknown terminals is 500 volts d-c and is independent (less than 1%) of the value of the unknown.

**Stability:** Line voltage variations from 105-125 volts will cause less than 2% variation in the meter reading.

**Power Supply:** 105-125 volts A.C. 50-60 cycles 30 watts.

**Dimensions:** 9 1/2 x 10 1/2 x 8 inches.

**Net Weight:** 18 pounds.



For Freed Transformers, please refer to Section N, pages N-98 to N-116

for  
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# FREED TEST INSTRUMENTS

for  
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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGWOOD) 27, N. Y.

## TYPE 1110-A INCREMENTAL INDUCTANCE BRIDGE



**Frequency Range:** The bridge is calibrated and adjusted at both 60 and 1000 cycles, but can be used at any frequency up to 10,000 cycles. Errors resulting from stray capacity increase with frequency. Coils having a high inductance should be measured at a low frequency to avoid resonance effect.

**Range of Superimposed D.C.:** On multiplier switch position L X 100 the D.C. is limited to 10 ma.

On the position L X 10, the D.C. is limited to 250 ma.  
On all other positions the D.C. can be one ampere maximum.

### USES

The Incremental Inductance Bridge is designed for measuring the inductance of Iron Core components at any frequency up to 10,000 cycles. Inductors can be measured with a superimposed direct current, therefore, the bridge will measure the incremental inductance of coils. The bridge can be used for determination of storage factor, "Q", either at a given frequency in function of the applied voltage or at a given voltage in function of the applied frequency. The bridge can be used by the manufacturers of iron core components, such as filter chokes, high Q coils, and iron core audio and supersonic frequency components. Due to its very wide inductance range the instrument can be used as a general purpose laboratory inductance bridge.

### SPECIFICATIONS

**Inductance Ranges:** One millihenry to one thousand henries in five ranges. Inductance values are read directly from a four dial decade and a multiplier switch. The last range may be extended to 10,000 henries through the use of an external resistance.

**Conductance Ranges:** One micromho to one mho in five ranges, read directly from a four dial decade and a multiplier switch. This conductance represents the reciprocal of the A.C. resistance of the coil.

**"Q" Range:** "Q" is measured as the product of Inductance (L) and Conductance (G). The range of "Q" measured on the bridge is 0.5 to 100. Measurement of inductance is independent of the values of "Q".

**Accuracy:** 1% through the frequency range from 60-1000 cycles 2% for frequencies from 1000 to 10,000 cycles. This accuracy is decreased for extreme positions of the multiplier. Conductance measurements 5% from 60-1000 cycles.

**Mounting:** The bridge is supplied in a walnut cabinet or on special order for standard rack mounting.

W H D

**Dimensions:** Rack: 19" x 8" x 14"  
Cabinet: 21" x 8" x 14 1/2"

**Net Weight:** Rack—37 lbs.; Cabinet—48 lbs.

## TYPE 1150 UNIVERSAL BRIDGE

### FEATURES

The Universal Bridge offers a variety of five possible bridge circuits. A wide range of capacitance, inductance, impedance, and phase angle measurement can be made throughout the frequency spectrum from 20 cycles to 20,000 cycles. By using decade resistors in the variable arms the unknown can be measured to four significant figures.

Operation is simple and both terminals and controls are arranged for convenience and ease of measurements.

### SPECIFICATIONS

**Frequency Range:** The bridge can be used at frequencies from 20 cycles to 20,000 cycles.

**Accuracy:** All resistors of the bridge arms are adjusted to 0.1%. The absolute accuracy of measurement will depend upon the accuracy of standards used.

**Inductance Range:** The bridge will measure inductance of coils from 0.1 mh to 1000 henries with an accuracy of 0.5% at 1000 cycles.

**Capacitance Range:** Condensers from .001 mf to 1 mf can be measured to within 0.5% at 1000 cycles. Condensers below .001 mf should be measured by the substitution method.

**Mounting:** The bridge is supplied in a walnut cabinet or on special order for standard rack mounting.

W D H

**Dimensions:** 19" x 8 1/2" x 12"

**Weight:** 32 lbs.



## NO. 1180 A.C. SUPPLY

A valuable laboratory instrument with continuously variable output from 1/10 volt to 100 volts at 60 cycles.

**Dimensions:** Width—19"; Depth 3"; Height 7"

**Weight:** 13 1/2 pounds.



For Freed Transformers, please refer to Section N, pages N-98 to N-116



for  
PRECISION

# FREED TEST INSTRUMENTS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## TYPE NO. 1170 D.C. SUPPLY

### USES

The Type 1170 Power Supply is intended to be used as a dependable source of direct current for the Incremental Inductance Bridge Type No. 1110A. The supply can also be used as a general laboratory substitute for a high voltage storage battery.

### DESCRIPTION

The Type 1170 D.C. supply consists of an electronically regulated high voltage supply. Four independent control circuits provide four current ranges, namely 5 milliamperes, 25 milliamperes, 100 milliamperes and 500 milliamperes. The output current is indicated by a multirange 4" meter.

### SPECIFICATIONS

**Current Ranges:** Four current ranges—5, 25, 100 and 500 milliamperes.  
**Voltage Ranges:** The maximum no load voltages corresponding to the four current ranges are the following: 500 MA—270 volts, 100 MA—270 volts, 25 MA—55 volts, 5 MA—25 volts. On both 500 MA and 100 MA range with the control set to zero, the output voltage is independent of the load.  
**Voltage Regulation:** The unit operates from a 115 volts, 50-60 cycle line. For a line variation of plus or minus 10%, the output voltage shall not vary more than  $\pm 1\frac{1}{2}\%$ .  
**Power Consumption:** Under 500 MA full load the power consumption is 360 watts. Under no load conditions the consumption is 150 watts.  
**Hum Level:** On the 270 volt, 500 milliamperes range the hum level under full load condition is 6 millivolts which corresponds to -93 Db.  
**Mounting:** The instrument is supplied for mounting on a 19 inch relay rack or for cabinet mounting.  
**Dimensions:** Rack: 19" W. x 12 $\frac{3}{8}$ " D. x 12 $\frac{1}{4}$ "; Cabinet: 21 $\frac{1}{2}$ " W. x 15" D. x 14" H.  
**Net Weight:** Rack Mounted—68 lbs. In Cabinet—89 lbs.



## NO. 1210 NULL DETECTOR AND VACUUM TUBE VOLTMETER

### USES

The Type 1210 Null Detector and Vacuum Tube Voltmeter is primarily designed for bridge measurements. The Null Detector indicates the balance of the bridge, and the Vacuum Tube Voltmeter indicates the voltage across the unknown two terminal or four terminal network. The three selective circuits provide means for sharply tuning the instrument to audio frequencies commonly used for measurements. The Vacuum Tube Voltmeter can be used as a general purpose audio Vacuum Tube Voltmeter.

### DESCRIPTION

The Type 1210 Null Detector and Vacuum Tube Voltmeter is a combination of the Model 1140 Null Detector Amplifier, and a modified model 1060 high input impedance Vacuum Tube Voltmeter. Both instruments are independent and feed two separate 4" meters.

### SPECIFICATIONS

**NULL DETECTOR**  
**Input Impedance:** 1 megohm in parallel with 25 mmf.  
**Frequency Response:** 2 Db from 20 to 20,000 cycles—5 Db at 50,000 cycles.  
**Null Detector Sensitivity:** At 1000 cycles, 100 microvolts will give a 15% meter deflection.  
**Selective Amplifier:** 23 Db second harmonic attenuation at 60 cycles, 400 cycles and 1000 cycles.  
**VACUUM TUBE VOLTMETER**  
**Voltage Ranges:** .01 volts to 100 volts in four ranges—(.1—1—10—100 volts at  $\frac{1}{4}$  of scale.)  
**Accuracy:** 2% of full scale on all four ranges.  
**Waveform Error:** The instrument is a full wave average meter and is free of turnover effects. For small amounts of distortion the accuracy of the instrument is independent of the waveform.



**Frequency Range:** 20 cycles to 20,000 cycles (1 Db).  
**Input Impedance:** Equivalent to 50 megohms resistance in parallel with a 15 mmf condenser.  
**Meter Scale:** Voltage scale calibrated from 0 to 150. Decibel scale calibrated from -6Db to +3 Db.  
**Dimensions:** Rack Mounting 19" x 9" x 11 $\frac{1}{2}$ ".  
**Net Weight:** 25 Lbs.

## MODEL 1140 NULL DETECTOR-AMPLIFIER

### USES

The Freed Model 1140 Null Detector Amplifier is a sensitive null indicator for bridge measurements, providing visual null indications or aural when used in conjunction with headphones. The unit may also be used as a high gain amplifier for general laboratory work.

### DESCRIPTION

Functionally the instrument consists of a high gain linear amplifier with a 30 db. input attenuator in addition to the variable gain control. A four inch panel meter provides visual null indications, the response of the meter circuit is approximately logarithmic over a 40 db. voltage range. Resonant circuits tuned to 60, 400 and 1000 cycles limit the amplifier transmission characteristics to the three audio frequencies commonly used for bridge measurements.

### SPECIFICATIONS

**Input Impedance:** 1 megohm in parallel with 25 mmf. **GAIN:** 98 db. with 1 megohm load (6 mmf. shunt capacity), down 1.5 db. at 25,000 cycles, down 5 db. at 50,000 cycles, down 2 db. at 20 cycles.  
**Null Detector Sensitivity:** At 1 Kc. 100 microvolts will give a 15% meter deflection.  
**Selective Amplifier:** 23 db. second harmonic attenuation at 60, 400 and 1000 cycles.  
**Output Impedance:** Approximately 50,000 ohms.  
**Output Voltage:** 40 volts undistorted into 1 megohm load, 10 volts into 20,000 ohms.  
**Power Supply:** 105-125 volts, 50-60 cycles, 35 watts consumption.  
**Mounting:** This instrument can be supplied in cabinet model (Type No. 1140) or in a standard relay rack mount with dust cover (Type No. 1140R).  
**Dimensions:** (Type No. 1140) 13 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " x 14" overall; (Type No. 1140R) 19" L. x 7" W. x 9" D.  
**Weight:** 24 lbs.



For Freed Transformers, please refer to Section N, pages N-98 to N-116

for  
PRECISION

# FREED TEST INSTRUMENTS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## MODEL 1040 A.C.-V.T. VOLTMETER

### USES

The type 1040 Vacuum Tube Voltmeter is a high impedance wide frequency range voltmeter which can be used at audio and supersonic frequencies. It is particularly recommended for (1) vibration studies involving very low frequencies, (2) frequency characteristics and gain measurements on amplifiers, (3) transmission losses on telephone circuits: filter and carrier systems up to 250,000 cycles, and (4) acoustic measurements, such as, determination of frequency response of microphones and loudspeakers. Because of the high sensitivity of the instrument, the voltmeter can be advantageously used as a null detector in A.C. bridge measurements. In addition to its use as a voltmeter, the instrument can be used as an ammeter to measure a wide range of currents by connecting it across suitable resistors.

### FEATURES

Because of the low input capacity, a high value of input impedance is maintained over the five ranges of the voltmeter. A balanced rectifier, a balanced D.C. amplifier circuit, and a high amount of degeneration throughout the amplifier makes it independent of line voltage variations and changes in tube characteristics. A very important feature of the instrument is the logarithmic voltage scale of the meter. With this type of scale, the percentage accuracy of reading is uniform over the entire scale. Another advantage of the logarithmic scale is that it provides a uniform decibel scale which is a very valuable feature in sound and communication measurements. A zero adjustment and full scale adjustment are provided. These two controls serve for all ranges and no re-setting is necessary when switching from one range to another. The time constant of the instrument is adjusted in order to read very low frequencies of 7 to 10 cycles without any vibration of the needle. The circuit of the meter is arranged so that it can not be burned out by any overload of the instrument. The vacuum tube voltmeter is small, compact, entirely self-contained, A.C. operated.

### SPECIFICATIONS

**Voltage Ranges:** .001 volts to 100 volts in five ranges (.01, .1, 1, 10, and 100 volts full scale).

**Accuracy:** 2% on full scale on all five ranges, on sinusoidal voltages.

**Waveform Error:** The instrument is a peak voltmeter calibrated to read RMS values. On distorted waveforms, the percentage deviation of the reading from RMS values may be as large as the percentage of the harmonics present.

**Frequency Ranges:** 10 to 200,000 cycles, .1 db. variation from 20 cycles to 150,000 cycles; .50 db. variation from 10 cycles to 200,000 cycles.

**Input Impedance:** Equivalent to 500,000 ohm resistance in parallel with a 15 MMF. condenser.

**Stability:** Effect of variation in line voltage from 100 volts to 125 volts is 1%. Effect in changes of tubes is less than .5%.

**Scale:** Logarithmic voltage scale calibrated from 1 to 10 plus a linear decibel scale calibrated from 0 db. to 20 db.

**Meter:** 4" suppressed zero 1 MA meter protected against overloads.

**Power Supply:** The instrument is entirely self-contained and operates on 100-125 volts, 50-60 cycles. Total consumption, 40 Watts.

**Dimensions:** 4 7/8" High x 5 5/8" Wide x 9 7/8" Long.  
**Weight:** 12 pounds.



## NO. 1010 COMPARISON AND LIMIT BRIDGE

### USES

This instrument is a comparison and limit bridge for use in both laboratory and production testing of resistors, condensers and inductors. The manufacturer of these components can use it for production tests, the user for incoming inspection and acceptance tests. The instrument is particularly useful for laboratory work (bridge or filter-) where very accurate components are required.

### FEATURES

For precision and production testing, the bridge has many advantages. Power line operation and the visual indicator make the instrument completely self-contained. It can be used in noisy locations. Its small size and light weight permit the instrument to be moved easily and to be set up wherever necessary.

### SPECIFICATIONS

**1—Frequency:** Three frequencies are available: 50-60 cycles, 1000 cycles, and 10,000 cycles.

The 50 or 60 cycles are taken from the line. The 1000 and 10,000 cycles are generated by an oscillator and are accurate to within 10%.

**2—Range:** Two comparison ranges are provided: 10% and 20%. They are selected by a rotary switch. In the 10% position the percentage is read directly on a calibrated dial. In the 20% position the reading of the dial is multiplied by two.

**3—Resistor Measurements:** Resistors from 10 ohms up to 1 megohms are measured by the comparison method at 60 cycles. Resistors of greater value than 1 megohm can be measured by using the instrument as a limit bridge.

**4—Condenser Measurements:** Condensers from 500 micromicrofarads up to 10 microfarads are measured by the comparison method at

1000 cycles. Condensers above 10 microfarads are measured by the comparison method at 60 cycles.

Small condensers 500 micromicrofarads to 25 micromicrofarads are measured at 1000 cycles, with the instrument used as a limit bridge.

**5—Inductor Measurements:** Inductors can be measured at 60 cycles, 1000 cycles or 10,000 cycles depending upon their values.

**Ranges:**

100Hy to 1 Hy	60 cycles
1Hy to .01 Hy	1,000 cycles
.01Hy to .1mHy	10,000 cycles

**6—Accuracy:** On the 10% position the components can be adjusted to within an accuracy of .5%.

**8—Power Supply:** 105 to 125 volts, 50-60 cycles. The power consumption is 40 watts.

**12—Portable:** Carrying cabinet of all metal construction.



**13—Net Weight:** 15 1/2 lbs.

**14—Dimensions:** 10 1/2" x 8 3/4" x 12".

For Freed Transformers, please refer to Section N, pages N-98 to N-116

for  
**PRECISION**

# FREED TEST INSTRUMENTS

for  
**QUALITY**

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## DECADE INDUCTORS



Primarily designed for use in wave filters, tuned circuits and equalizers for audio and supersonic frequencies. The stability, accuracy and high value of "Q" makes these Decade Inductors invaluable laboratory instruments.

### No. 1160

10 x 1. HY Steps  
10 x .1 HY Steps  
10 x .01 HY Steps  
500-15,000 Cycles

### No. 1162

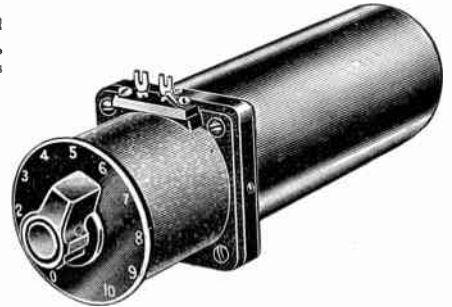
10 x .01 HY Steps  
10 x .001 HY Steps  
10 x .0001 HY Steps  
10,000-300,000 Cycles

### No. 1161

10 x .1 HY Steps  
10 x .01 HY Steps  
10 x .001 HY Steps  
2000-50,000 Cycles

### No. 1164

10 x 10 HY Steps  
10 x 1 HY Steps  
10 x .1 HY Steps  
50-1000 Cycles



**No. 1163**—3 Unit Decade Inductor  
10 x .1 HY, 10 x .01 HY, 10 x .001 HY.  
Frequency Range, 500-15,000 cycles.  
Q=60 @ 1,000 cycles.

**No. 1280**—3 Unit Decade Inductor  
10 x 1 HY, 10 x .01 HY, 10 x .001 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1310**—3 Unit Decade Inductor  
10 x 1 HY, 10 x .1 HY, 10 x .01 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1342**—3 Unit Decade Inductor  
10 x 10 HY, 10 x 1 HY, 10 x .1 HY.  
Frequency Range, 200-2,000 cycles.  
Q=80 @ 500 cycles.

**No. 1260**—4 Unit Decade Inductor  
10 x 1 HY, 10 x .1 HY, 10 x .01 HY,  
10 x .001 HY.  
Frequency Range, 500-15,000 cycles.  
Q=60 @ 1,000 cycles.

**No. 1290**—4 Unit Decade Inductor  
10 x 1 HY, 10 x .1 HY, 10 x .01 HY,  
10 x .001 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1270**—10 x 1 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1240**—10 x .1 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1230**—10 x .01 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1220**—10 x .001 HY.  
Frequency Range, 500-15,000 cycles.  
Q=160 @ 1,000 cycles.

**No. 1341**—Decade Inductor, 10 x 10 HY  
Frequency Range, 200-2,000 cycles.  
Q=80 @ 500 cycles.

## NO. 1250 DECADE CONDENSER

High quality Decade Condenser designed for use in Wave Filters, Tuned Circuits and Equalizers for Audio and Supersonic Frequency.

The stability, accuracy and low dissipation factor make this Condenser Decade an invaluable laboratory instrument. 1.110 mf in 0.001 mf steps  $\pm 1\%$  accuracy. Maximum Voltage 500 peak.

Dimensions: Width 6"; Depth 4 1/2"; Height 13 3/4"  
Weight: 8 pounds.

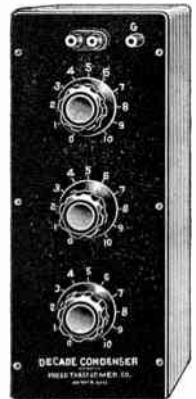
## NO. 1410 HARMONIC DISTORTION METER



### FOR CARRIER FREQUENCIES

Frequency range 20,000 cycles to one megacycle. Harmonic distortion range from 1/10% to 30%. Maximum input voltage 1000 volts. The instrument is self-contained and A.C. operated.

Dimensions: Width 19 1/2"; Depth 10 1/4"; Height 15"  
Weight: 45 pounds.



For Freed Transformers, please refer to Section N, pages N-98 to N-116

# EMC Test Equipment Gives More Measurement Value Per Dollar



## VACUUM TUBE VOLTMETER EMC MODEL 106

✓ check these features...

- Specially designed for field alignment of television and radio sets.
- Uses dual triod balanced bridge circuit.
- All functions and ranges completely electronic — meter cannot burn out.
- Zero center position for FM discriminator alignment.
- Uses 1% precision resistors for voltage multipliers.
- 5 DB ranges.
- Full scale deflection of 1½ volts for both AC-DC volts.
- Measures resistance in 5 ranges from .2 ohm to 1000 megs.
- 1 meg. isolating resistor in probe. Housed in compact, portable bakelite case, 4¼" x 5¼" x 2⅞", net wt. 3 lbs.

### SPECIFICATIONS:

**AC VOLTAGE**—5 Ranges: 0 to 1.5, 10, 100, 300, 1000 volts. Input resistance 2 megohms. Frequency response flat from: 25 to 100,000 cycles.

**DC VOLTAGE**—5 Ranges: 0 to 1.5, 10, 100, 300, 1000 volts (up to 30,000 volts with accessory probe. OHMS: 1000-10,000-100,000-10 megohms, 1000 megohms. 10 megohms center on 1000 megohms range.

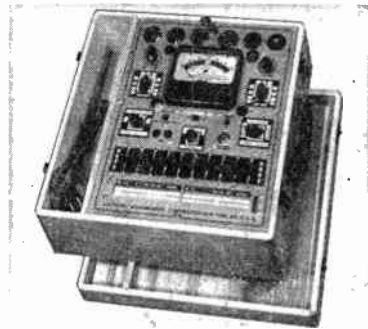
**DECIBELS**—Ranges: —24 to —1.5, —8 to +15, +12 to +35, +21.5 to +44.5, +32 to +55.

<b>MODEL 106</b> Illustrated.....	<b>\$35.90</b>
<b>MODEL 106</b> In Kit Form.....	<b>\$23.90</b>
<b>MODEL RFP</b> High Frequency Probe (useful to 200 megacycles).....	<b>\$ 6.95</b>
<b>MODEL HVP</b> 30,000 Volt Probe for Model 106....	<b>\$ 8.75</b>

## E M C MUTUAL CONDUCTANCE TUBE TESTER — MODEL 206

### Check These Features

- ✓ Checks mutual conductance on a calibrated micromho scale, as well as an a "Reject-Good" scale.
- ✓ Checks 5 element tubes as pentodes.
- ✓ Checks tubes for gas content.
- ✓ Sufficient plate current to check both emission and mutual conductance.
- ✓ Detects both shorted and open elements.
- ✓ Complete switching flexibility allows all present and future tubes to be tested regardless of location of elements on tube base.
- ✓ Tests tubes for radio frequency and other noise.
- ✓ Tests all tubes from .75 volts to 117 filament volts.
- ✓ Tests all loctal, octal, and miniature tubes.
- ✓ Tests cold cathode, magic-eye, voltage regulator tubes, ballast resistors.
- ✓ Instrument is fused, and fuse is easily replaceable from front of panel.
- ✓ Individual sockets for each tube base type eliminates possible errors.
- ✓ Checks individual sections of multi-purpose tubes.
- ✓ Attractive four-color panel with plenty of eye-appeal. Hard wrinkle finish for durability.
- ✓ Checks sub-miniature tubes.
- ✓ Uses lever types switches.



### E M C Series 206 Mutual Conductance TUBE TESTERS

#### Net Prices

**Model 206 C**—4½" meter in sloping counter case with built-in chart.... **\$79.50**

**Model 206 P**—4½" meter in hand-rubbed carrying case with built-in chart..... **\$83.50**

For 220 V. operation add \$8.00 to above prices.

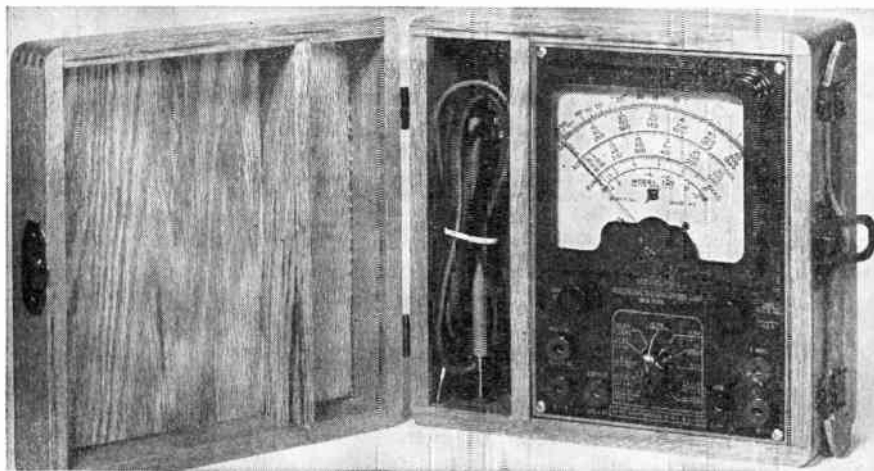


## ELECTRONIC MEASUREMENTS CORP.

280 Lafayette Street

New York 12, N. Y.

# EMC Test Equipment Gives More Measurement Value Per Dollar



## MODEL 120

### 20,000 ohms per volt

The ONLY 20,000 ohms per volt instrument that gives:

1. WIDEST resistance range (.2 ohm to 300 megs.).
2. HIGHEST AC voltage sensitivity (10,000 ohms per volt).
3. LOWEST PRICE—\$29.95, open face model; \$34.95 for Model 120-P (portable).

### Other Features Include:

1. AC voltage frequency range 30 cycles to 1 megacycle.
2. Rectifier and battery replaceable without soldering iron.
3. No external source of power needed for AC voltage measurements.
4. Special precision voltage multipliers accurate to 1%.

Model 120 (Open Face) **\$31.95**

Model 120-P (Portable Oak Case) **\$36.95**

### Specifications:

- DC volts at 20,000 ohms per volt: 0-3v, 0-15v, 0-60v, 0-300v, 0-1500v, 0-6000v.
- AC volts at 10,000 ohms per volt: 0-6v, 0-30v, 0-120v, 0-600v, 0-3000v, 0-6000v.
- DC current: 0-60 microamps, 0-6ma, 0-60ma, 0-600 ma, 0-6 amps.

- Resistance: 0-3000, 0-300,000, 0-3 megs, 0-300 megs.
- Decibels: -4 to +11, +10 to +25, +22 to +37, +36 to +51, +50 to +65, +62 to +77.

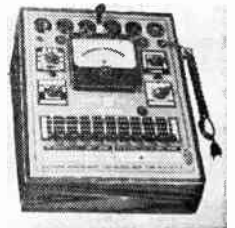
## MODEL 500 — R. F. Signal Generator

### Note These High Quality Features:

1. Employs electrostatically shielded transformer for 115V 60 cycle operation.
2. All coils not in use are automatically shorted out.
3. Provision for external modulation.
4. Covers range from 150KC to 36 megacycles on fundamentals—over 100 megacycles on harmonics.
5. Attractive 2 color gray hammertone panel and case.
6. 400 cycle internal modulation available.
7. Uses a highly stable, Hartley-type oscillator circuit.

Model 500..... **\$29.75**

Model 500K in Kit Form..... **\$19.75**



## MODEL 205 tube tester

In this durable, accurate instrument EMC offers a model that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in either a hand-rubbed, portable oak carrying case with removable hinged cover; or in a sloping counter case.

### CHECK THESE FEATURES...

- Tests all tubes including Noval and sub-miniatures.
- Completely flexible switching arrangement.
- Checks batteries under rated load on "reject-good" scale.
- Individual sockets for each type of tube base.
- Tests all tubes from .75 volts to 117 filament volts.
- Tests all cold cathode, magic eye, voltage regulator and ballast tubes.
- Has pilot light indicator.
- Line voltage control compensates for line variations between 105 and 135 volts.
- Checks for shorts and leakages.
- Checks condenser leakage to 1 meg. ohm.
- Checks resistance up to 4 meg. ohms.
- Checks capacity from .01 to 1 mfd.
- Three-color hammertone panel.

MODEL 205C Sloping counter case — illustrated ..... **\$46.50**

MODEL 205P With hand-rubbed oak carrying case ..... **\$47.50**

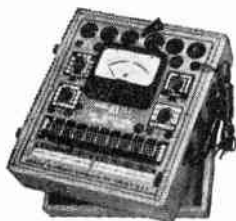
## EMC MODEL 204 TUBE-BATTERY-OHM CAPACITY TESTER

In this model EMC offers a durable, accurate instrument that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in a hand-rubbed, portable oak carrying case with removable hinged cover.

### CHECK THESE FEATURES...

- Tests all tubes including Noval and sub-miniatures.
- Completely flexible switching arrangement.
- Checks batteries under rated load on "reject-good" scale.
- Individual sockets for each type of tube base.
- Tests all tubes from .75 volts to 117 filament volts.
- Tests all cold cathode, magic eye, voltage regulator and ballast tubes.
- Has pilot light indicator.
- Line voltage control compensates for line variations between 105 and 135 volts.
- Built-in roll chart protected by non-breakable transparent plastic.
- Checks for shorts and leakages.
- Checks condenser leakage to 1 meg. ohm.
- Checks resistance up to 4 meg. ohms.
- Checks capacity from .01 to 1 mfd.
- Three-color hammertone panel.

MODEL 204..... **\$55.90**



# ELECTRONIC MEASUREMENTS CORP.

280 Lafayette Street

New York 12, N. Y.

# The EMC ECONOMY LINE!



## MODEL 102 POCKET VOLOMETER\* (1000 OHMS PER VOLT METER)

**Check these Features:**

- 3" SQUARE METER—1 MIL D'ARSONVAL TYPE METER, 2% ACCURATE.
- 3 AC CURRENT RANGES.
- ROUND CORNERED, BAKELITE, MOLDED CASE.
- SAME ZERO ADJUSTMENT FOR BOTH RESISTANCE RANGES.

**Specifications:**

- 5 AC Voltage Ranges: 0 to 12-120-600-1200-3000 volts.
  - 5 DC Voltage Ranges: 0 to 6-60-300-600-3000 volts.
  - 4 DC Current Ranges: 0 to 6-30-120 ma., 0-1.2 amps.
  - 3 AC Current Ranges: 0 to 30-150-600 ma.
  - 2 Resistance Ranges: 0 to 1000 ohms, 0-1 megohms.
  - Weight: 1 lb. 5. oz.
  - Size: 3 3/4" x 6 1/4" x 2" deep.
- Model 102..... **\$14.90**

## MODEL 103 VOLOMETER\* (1000 OHMS PER VOLT METER)

**Check these Features:**

- 4 1/2" SQUARE METER—1 MIL D'ARSONVAL TYPE METER, 2% ACCURATE.
- 3 AC CURRENT RANGES.
- ROUND CORNERED, BAKELITE, MOLDED CASE.
- SAME ZERO ADJUSTMENT FOR BOTH RESISTANCE RANGES.

**Specifications:**

- 5 DB Ranges: —4 to +64 db.
- 5 AC Voltage Ranges: 0 to 12-120-600-1200-3000 volts.
- 5 DC Voltage Ranges: 0 to 6-60-300-600-3000 volts.
- 4 DC Current Ranges: 0 to 6-30-120 ma., 0-1.2 amps.
- 3 AC Current Ranges: 0 to 30-150-600 ma.
- 2 Resistance Ranges: 0 to 1000 ohms, 0-1 megohms.
- Weight: 2 lbs. 3 oz.
- Size: 5 1/4" x 6 3/4" x 2 3/8"



Model 103... **\$18.75**  
 Model 103-S,  
 same as above but  
 with plastic  
 carrying case **\$19.25**



## MODEL 104 VOLOMETER\* (20,000 OHMS PER VOLT METER)

**Check these Features:**

- 4 1/2" SQUARE METER—50 MICROAMPERES; ALNICO MAGNET.
- ROUND CORNERED, BAKELITE, MOLDED CASE WITH CARRYING STRAP.
- 3 AC CURRENT RANGES (to 3 amps.).
- 3 RESISTANCE RANGES (to 20 megohms).

**Specifications:**

- 5 DC Voltage Ranges (20,000 ohms/volt): 0 to 6-60-300-600-3000 volts.
- 5 AC Voltage Ranges (1,000 ohms/volt): 0 to 6-60-300-600-3000 volts.
- 3 Resistance Ranges: 0-20 K, 0-200 K, 0-20 megs.
- 3 AC Current Ranges: 0 to 30-300 ma., 0-3 amps.
- 3 DC Current Ranges: 0 to 6-60-600 ma.
- 5 DB Ranges: —4 to +67 db.
- Weight: 2 lbs. 5 oz.
- Size: 5 1/4" x 6 3/4" x 2 3/8"

Model 104  
**\$26.95**

\*Reg. Trade Mark for Volt-Ohm-Milliammeter



**ELECTRONIC MEASUREMENTS CORP.**  
 280 Lafayette Street  
 New York 12, N. Y.

# HICKOK

# TEST INSTRUMENTS

# HICKOK

## DYNAMIC MUTUAL CONDUCTANCE TUBE TESTERS

Engineer's Laboratory Models

### RADIO, TELEVISION, LABORATORY, AVIATION and COMMUNICATION ENGINEERS' MODEL



**Model 539-A**

Model 539-A, laboratory tube tester of highest accuracy. Dynamic Mutual Conductance with tube readings in micromhos for reliable test of tube gain under simulated operating conditions. Tests all tubes normally encountered in all phases of electronic work — including the ruggedized types used by airlines, hearing aid tubes, and miniature types used in TV receivers. Provides increased accuracy for testing high-gain type tubes.

Designed with professional accuracy for engineers and engineering technicians, in the radio, television, aviation, communication and industrial field.

Model 539-A, illustrated at the left. Strong portable carrying case with detachable cover. Most convenient to provide laboratory accuracy for the field engineer. Case is attractively covered with durable black leatherette. 16 $\frac{3}{4}$ " W., 18 $\frac{3}{8}$ " L., 7 $\frac{1}{2}$ " D. 30 lbs. net, 39 lbs. shipping wgt. 110-130 V.A.C. 40 watts. **Price: \$271.50**

Also available at same price, Model 539-D in matched-set, attractive steel bench model case.

#### SPECIFICATIONS:

Permits choice of 3 A.C. signals; 0.25 volts: 0-15,000, 30,000 micromhos. 0.5 volts: 0-6000 micromhos. 2.5 volts: 0-3000, 6000 micromhos. Vernier adjustment, with sensitive 2-range meter, permits accurate setting of grid voltage. Provision for insertion of plate milliammeter for measuring plate current.

Built-in, optional self-bias arrangement. Separate voltmeter measures grid bias. Separate A.C. meter measures line voltage at all times. D.C. grid bias and D.C. plate and screen voltages. Provides the HICKOK Tube Life, Tube Gas and Tube Noise tests. Built with highest accuracy HICKOK meters.

### HIGHLY ACCURATE LABORATORY TUBE TESTER for Radio, Television and Industrial Engineers

Model 536, professionals' Dynamic Mutual Conductance tube tester. Completely built to the highest quality standards. Provides Dynamic Mutual Conductance circuits for the most accurate tube tests. Contains the latest sockets for testing all tubes normally encountered in all phases of electronic work.

Permits choice of 2 A.C. grid signals in addition to D.C. grid bias and plate voltages. Micromho Ranges: 1 volt; 0-6000, 15,000 micromhos. 5 volt; 0-3000, 6000, 15,000 micromhos. Provides the HICKOK Tube Life Test, Tube Gas Test and Tube Noise Test. A.C. meter accurately indicates line voltage at all times. Has high-low signal to insure highest accuracy.

Model 536, illustrated at the right. Strong portable carrying case with detachable cover. Most convenient to provide laboratory accuracy for the servicing technician in the field. Case is attractively covered with durable black leatherette. 16 $\frac{3}{4}$ " W., 18 $\frac{3}{8}$ " L., 7 $\frac{1}{2}$ " D. 26 lbs. net, 35 lbs. shipping weight. 110-130 V.A.C. 40 watts.



**Model 536: \$226.00**

Model 700 — Also available is the HICKOK Model 700 tube tester for the electronic engineer for laboratory developmental and research work. Provides the most precise measurement of Dynamic Mutual Conductance. Furnished as three units, matched to the set. Designed so that it can never become obsolete. Write today for full technical details. Priced in the thousand-dollar range.

**HICKOK . . . 1st CHOICE OF THE EXPERTS**

# HICKOK TEST INSTRUMENTS HICKOK

## RADIO and TELEVISION TECHNICIANS' SMALL SIZE MODELS

### DYNAMIC MUTUAL CONDUCTANCE IN A HANDIER, PORTABLE SIZE



**Model 600-A Price: \$155.00**

Model 600-A, new lighter weight portable. Dynamic Mutual Conductance in a radio and TV technicians' popularly priced model. Smaller, handier, but built to the high HICKOK standard for accuracy and dependability. A very popular model for on-location or shop-bench servicing. The 600 may also be used for lab. and industrial applications.

Model 600-A, illustrated at the left. Strong portable carrying case with detachable cover. Case is attractively covered in durable, dark red leatherette. 16 $\frac{3}{4}$ " W., 11 $\frac{3}{4}$ " L., 7 $\frac{1}{2}$ " D. 15 lbs. net, 25 lbs. shipping weight. 110-130 V.A.C. 40 watts.

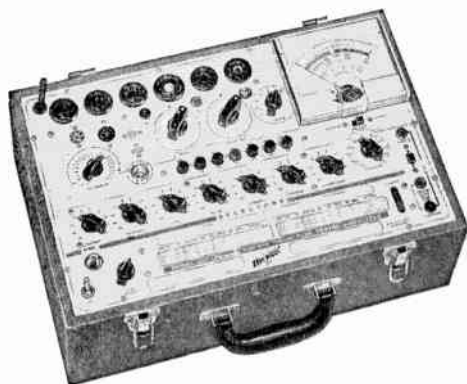
HICKOK testers remain up to date. . . Periodically revised roll-charts, covering new tubes, are available to all registered owners of HICKOK Tube Testers.

#### SPECIFICATIONS :

Scale readings in micromhos for most accurate tube evaluation. Ranges: 0-3000, 6000, 15,000 micromhos. Contains the HICKOK Tube Gas Test. Acclaimed by the experts as a must for accurate television servicing. New, large 5" meter scale is easier to read more accurately.

Detects more weak tubes with professional accuracy. Tests tubes under simulated operating conditions. Tests the latest tubes including miniature and sub-miniature types. New bias fuse prevents accidental damage to bias potentiometer.

### ALL-PURPOSE TUBE and SET TESTER IN A HANDIER, PORTABLE SIZE



**Model 605 Price: \$167.60**

Model 605, new, lighter weight portable. Radio and television technicians' popularly priced, all-purpose tube and set tester with built-in 20,000 ohm per volt D.C. multimeter panel. Designed for speedy, highly accurate radio and TV servicing.

Built to the high HICKOK quality standard throughout. Provides Dynamic Mutual Conductance circuits with tube readings in micromhos. A popular technicians model for on-location servicing. Smaller, lighter, but built entirely with highest quality components for accuracy and dependability.

Excellent for leakage tests of electrolytics, and checks for hum in any stage of receivers. Built with a minimum number of jacks. Ranges are selected with a rotary master switch. Test leads supplied.

Model 605, illustrated at the left. Same case as Model 600-A, above 17 lbs. net, 27 lbs. shipping weight 110-130 V.A.C. 40 watts.

#### SPECIFICATIONS :

Contains all features of the Model 600A listed above, including the HICKOK standard built-in roll chart with complete tube information. New, large 5" meter scale is easier to read more accurately. Attractive lucite window has static-proof coating. Accurate, built-in multimeter panel measures:  
Volts: 0-1000 A.C. — D.C.  
Ohms: 20,000 per volt D.C.  
1,000 per volt A.C.

Resistance: 0.1 to 100 megohms, in 2 ranges.  
Inductance: to 70 henries.  
Capacitance: .0001 to 50 microfarads, in two ranges.  
Current: 0-200 MA D.C.  
Decibels: - 10 to + 50.  
New bias fuse prevents accidental damage to bias potentiometer.

**HICKOK . . . 1st CHOICE OF THE EXPERTS**



# HICKOK TEST INSTRUMENTS HICKOK

## RADIO and TELEVISION TECHNICIANS TUBE TESTER

### Portable Model 533AP



**Model 533-AP**

Model 533-AP, radio, television and communication technicians' portable model with true Dynamic Mutual Conductance circuits pioneered by HICKOK. Acclaimed by the experts as the only true test of a tube. Model 533-AP, illustrated at the left. Strong, portable carrying case with detachable cover. Designed for on-location or shop-bench servicing. Case is attractively covered with durable black leatherette. 16 $\frac{3}{4}$ " W., 18 $\frac{3}{8}$ " L., 7 $\frac{1}{2}$ " D. 24 lbs. net, 33 lbs. shipping weight. 110-130 V.A.C. 40 watts.

**Price: \$168.00**

For those who prefer; also available, at same price, Model 533-AD in attractive steel bench-model for matched set arrangement with other HICKOK test instruments.

#### SPECIFICATIONS:

New Bias Fuse prevents accidental damage to bias potentiometer. New lucite meter window has static-free coating.  
 Tube readings in micromhos — 0-3000, 6000, 15,000.  
 Tests tubes under simulated operating conditions.  
 Contains the HICKOK Tube Gas Test and Tube Noise test.  
 Incorporates the new test feature that forecasts future life of a tube.  
 Most valuable for accurate matching of tubes in television servicing.

Larger, 5" easy-to-read meter scale and calibrated GM circuit provide increased accuracy in testing today's newer tubes.  
 Tests all the latest tubes including miniature and subminiature types.  
 Accurately tests and detects more weak, borderline tubes.  
 Completely built of highest quality components for lasting accuracy and dependability.

## COMPLETE ALL-PURPOSE TUBE and SET TESTER with BUILT-IN ANALYZER

Model 534-B, radio, television and communication technicians' all purpose tube and set tester with built-in 20,000 ohm per volt D.C. milliammeter. Built to the high HICKOK quality standard throughout. Provides Dynamic Mutual Conductance circuits for highly accurate tube tests. Contains latest sockets for testing the latest tubes including television and subminiature.

Tube readings in micromhos.  
 Contains the HICKOK Tube Gas Test.  
 Provides the new Tube Life Test that forecasts future life of a tube.  
 Checks tubes under simulated operating conditions for greater accuracy of test.  
 Detects more weak, ordinarily passable tubes.  
 Built-in multimeter panel measures:  
 Volts: 0-5000 A.C. — D.C.  
       20,000 ohms per volt D.C.  
       1,000 ohms per volt A.C.  
 Resistance: 0.1 ohm to 100 megohms.  
 Capacitance: .0001 to 150 microfarads.  
 Current: 0-200 MA D.C.  
 Decibels: almost unlimited with use of conversion table.  
 Ideal for leakage tests of electrolytics.  
 Checks for hum in any stage of a receiver.

Model 534-B, illustrated at the right. This tester identifies you as a top-grade servicing technician. Strong portable carrying case with detachable cover. Designed for on-location or shop-bench servicing. Case is attractively covered with durable black leatherette. 16 $\frac{3}{4}$ " W., 18 $\frac{3}{8}$ " L., 7 $\frac{1}{2}$ " D. 25 lbs. net, 34 lbs. shipping weight. 110-130 V.A.C. For those who prefer; optionally available, at same price — Model 534-BD in attractive steel bench model for matched set arrangement with other HICKOK test instruments. Test leads are supplied.



**Model 534B**

Also available in display type case at no additional cost.

**Price: \$195.50**

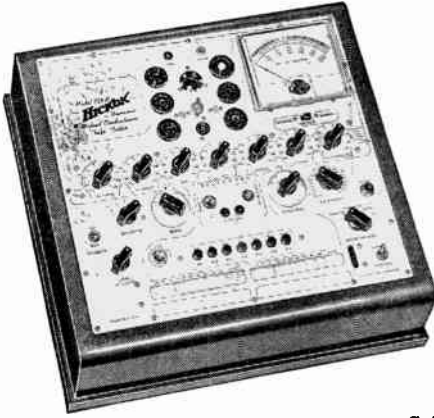
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## DYNAMIC MUTUAL CONDUCTANCE IN A SMALLER COUNTER MODEL



Model 533-AC, a lower cost dealer's counter model. Attractively designed to set on the counter and increase your tube sales. Highly accurate Dynamic Mutual Conductance circuits. Encourages customers to bring their tubes in where they can see the actual test. If customers' tubes check "OK" you have an excellent opportunity to invite him to bring his receiver in for a thorough check of all its circuits. With the 533-AC you will build customer confidence, increase tube sales and promote your complete radio and TV service.

Model 533-AC, illustrated at the left. Satin finish aluminum panel. Beautifully styled, blue enameled steel case. 17½" W., 18½" L., 6" H. 24 lbs. net, 32 lbs. shipping weight. 110-130 V.A.C. 40 watts.

For those who prefer; optionally available, at same price, Model 533-AD in attractive steel bench model for matched set arrangement with other HICKOK test instruments. See the "D" case illustrated below, right.

**Model 533-AC**

**Price: \$168.00**

### SPECIFICATIONS :

Dual-scale meter provides readings in micromhos for the technician and "Good", "Bad", "Replace" scale for easy customer interpretation.  
Quick, impressive, accurate, and dependable.  
Detects more weak, ordinarily passable tubes.  
Contains the HICKOK Tube Gas Test, and a circuit for accurate forecast of future tube life.  
Simple to operate.

Contains all necessary tube information on a handy built-in roll chart.  
Tests tubes under simulated operating conditions.  
Tests all the latest tubes including television.  
Filament selector switch has a 20 volt tap.  
Large 5" easy-to-read meter scale and calibrated GM circuit provide increased accuracy in testing today's newer tubes.

## ATTRACTIVE DISPLAY MODELS



**Model 533-ADM**

**Price: \$179.50**

### MOST EFFECTIVE TUBE SALESMAN

Model 533-DM. Dealers who use this tube tester enthusiastically report that it is the best salesman they ever used.

Customer convincing, the 533-DM contains a huge, illuminated nine-inch meter that clearly and accurately shows condition of the tube under test. Dual-scale meter provides micromho readings for the technician, and a multi-color "Good", "Replace", "Bad" scale for easy customer interpretation across the counter.

Contains the HICKOK Tube Gas Test, and a circuit for accurate forecast of future tube life.

Detects more weak tubes.

Tests all the latest tubes including television.

Model 533-DM, illustrated at the left. 9" chrome meter case, satin finish aluminum panel. Strong, attractive, enameled steel case. 26½" H., 17" W., 11" D. 35 lbs. net, 44 lbs. shipping weight. 110-130 V.A.C.



### TECHNICIAN'S MATCHED-SET DISPLAY CASE, BENCH MODEL

**Model D**

Matched to the set, HICKOK "D" cases have been designed to make it easier for you to sell and safeguard your service.

HICKOK "D" cases dress up your bench and pack a most effective sales punch. They help to promote your service, make it possible for you to proudly display your test instruments where customers can see them, and out where they will do you more good.

Model 533-AD shown above. Satin finish aluminum panel. Strong, attractive, enameled steel case, 17" W., 18½" H., 11" D. Optional, at same price, for all 533, 534, 536 and 539 tube testers.

## CATHODE RAY TUBE ADAPTER

Model CRT. Cathode ray tube test accessory is available for all HICKOK Tube testers. Accurately tests all TV receiver picture tubes without removing tube from TV set.

- Tube Gas Test
- Grid Control Test
- Short Test
- Cathode Emission Test

**Price: \$9.90**

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# TEST INSTRUMENTS

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## THE ACCEPTED TV ALIGNMENT GENERATOR



**Model 610A**

**Price \$219.00**

Power Supply: 105-125 V., 50-60 cycles, A.C.  
Tube Compliments: 6J6—Variable oscillator; 6J6—Fixed oscillator; 6J6—Mixer; 6SN7—Crystal oscillator & marker oscillator; 6J5—Audio oscillator; 6/5—Rectifier.  
Net 24 lbs. Shipping Weight: 31 lbs.  
Size: 16 1/4" x 13 1/4" x 7"; Satin aluminum finish panel; Blue Hammertex finished steel portable case. Also available in matched set "D" case at no additional cost.

Popularly priced TV sweep generator—useful for UHF. Contains 3 most practical markers including Absorption. Marker Range: 19.5 to 48 mc.—Covers all I.F. frequencies in TV receivers.

Contains linear sweep with unusual accuracy to 2%. Hickok iron modulator furnishes symmetrical pattern response curve for easier and more accurate readings.

### THIS 1 INSTRUMENT DOES THIS

1. Provides accurate, complete visual alignment of any TV receiver.
2. Visually align IF stages of any television receiver—including the old and current bands, and new bands. Marker range—19 to 48 mc.
3. Align all traps with a calibrated signal—modulated or unmodulated—19 to 48 mc.
4. Insert a marker—accurate to .05 mc.—at any point along the IF response curve. This marker frequency is directly calibrated on a dial 9 1/2 inches long.
5. Align IF or RF Sections by single stage method—with high output.
6. Attenuate the output down to a very low signal in microvolts.
7. Highly stable.
8. Output multiplier control is 5-stage with a vernier control calibrated from 1 to 10.
9. Panel Jack accommodates separate plug-in calibrating crystals for local TV channels, if desired.
10. Makes possible a crystal controlled frequency modulated or unmodulated for any frequency as low as 2 mc to the upper television channel No. 13 at 216 mc.
11. Temperature compensated.
12. Low amplitude modulation.
13. Completely shielded attenuator.
14. Sweep phasing control.
15. TV sweep frequency.
16. FM sweep frequency.

## NEW TELEVISION VIDEOMETER

This fine new instrument is the first of its kind. Now available to rapidly and accurately solve your service problems. Does in minutes many of the TV servicing jobs that would require hours by other methods.

The 650 has a new timer circuit which delivers video pulses of 60 cycles, 900 cycles, 15,750 cycles and 315 kc., singularly or in any combination, both positive and negative output. Pulses are all locked together and crystal controlled for greater accuracy.

Pulses can be used directly, metered in peak-to-peak volts or to modulate the self-contained RF oscillator.

RF oscillator covers all TV channels in two bands (2-6 and 7-13), all on fundamentals. RF output is metered at all times from 1 to 10,000 microvolts with calibrated attenuation and variable percentage modulation. RF can be externally modulated with video frequencies from 5 cycles to 4 MC with variable percentage modulation on all channels.

Self-contained, substitute external video amplifier, 5 cycles to 4 MC with a variable gain from 0 to 10, with high input impedance, low output impedance and metered peak-to-peak voltage output.

Includes horizontal and vertical sawtooth voltages which can be directly substituted for vertical and horizontal oscillator in a TV receiver. Both the vertical and horizontal sawtooth amplitude is sufficient to give full raster deflection and in the case of flyback type high voltage power supplies the horizontal sawtooth can be used to light up the picture tube.

The 650 also contains an AC line voltage scale for instantaneous check on line voltage fluctuation, a common source of TV trouble.

This HICKOK Videometer is truly an all-purpose video generator, and a must for the income-minded, successful and aggressive TV service technician.

Will rebroadcast a TV picture on any channel, to any number of TV receivers.



**Model 650**

**Price: \$310.90**

Also available in matched-set "D" case at no additional cost.

Quickly localizes and accurately identifies trouble in any section of a TV receiver.  
Provides electronically accurate bar or dot pattern on the screen of any TV receiver—Independent of station operation.  
R.F. output, directly calibrated in microvolts for sensitivity measurements.  
Attractive steel portable case. 16 1/4" x 13 1/4" x 7". 30 lbs. net; 40 lbs. shipping. Test leads included.

### FEATURES

Substitute Video Amplifier with gain of 0 to 10.  
Crystal controlled timer for greater accuracy.  
Fast, accurate, the ideal instrument for fringe area TV servicing.  
Increases TV maintenance profits—allows you to trouble shoot many more installations per day.  
Built only by HICKOK. Contains highest quality components throughout for lasting accuracy and dependability.

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## TEST INSTRUMENTS

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### NEW MICROVOLT SIGNAL GENERATOR for AM, FM, TV and Mobile Bands



**Model 292-X Price \$266.00**

Also available in matched-set "D" case at no additional cost.

#### MODEL 292X 125 KC to 120 MC and 150 MC to 220 MC on fundamentals.

Here's an outstandingly accurate microvolt signal generator that meets the servicing, alignment and calibration needs of such high-frequency users as police, fire departments, railroads, relay press, maritime mobile, etc. Covers from 125 kc to 120 mc, and from 150 mc to 220 mc—all on fundamentals, with an accuracy of 1.0%. Has special provision for an optionally available crystal-controlled oscillator accurate to .0025% in 30-50 and 152-162 mc mobile ranges. Has easy-to-read calibrated 8" dial with over 100" of scale. Output voltages: 400 cycles AF, variable 0-2 volts; RF unmodulated or modulated at 400 cycles—directly calibrated 9-100,000 microvolts by means of internal vacuum tube voltmeter. Also has provision for external modulation. Internal 1000 kc crystal-controlled reference oscillator with an accuracy of 0.5%. Has excellent shielding; leakage is less than 0.05 microvolt. All controls are plainly marked. This new HICKOK Model 292X is the only popularly priced Microvolt Generator available that covers both Upper Channel TV and Mobile frequencies—on fundamentals.

#### FEATURES

- Covers all AM, FM, TV and Mobile Frequencies in 7 ranges. Also ideal for industrial applications.
- Crystal controlled. Temperature compensated.
- Amplitude Modulated and Unmodulated Output from .2 to 100,000 microvolts
- Cast Aluminum Attenuator for Minimum Signal Leakage
- May be externally modulated from 15 to 10,000 cycles per second
- Decibel Meter for faster servicing to indicate reference level
- Self-contained Crystal Oscillator Circuit—Crystals from 1 mc to 20 mc are available.
- Negligible Change in Frequency due to output
- Most accurate Microvolt Generator available for practical radio servicing and communication's manufacturers final inspections

#### TECHNICAL CHARACTERISTICS

Fundamental Frequency Coverage: Bands A through G—125 kc to 120 mc; Band H—150 to 220 mc. Output Calibrated: .2 to 100,000 microvolts. Output Impedance: X1, X10, and X100 microvolts—5 ohms; X1K—30 ohms. X10K—0 to 100 ohms. Modulation Fixed: 400 cycles. AF Output: 0-2 volts. The Model 292-X is wired for plug-in type crystals (152-162, 30-50 mc), with accuracy to .0025%. Self-Contained crystal oscillator circuit has crystal jack on front panel permitting crystal outputs at any

frequency from 250 kc to 20 mc on fundamentals; and to over 250 mc on harmonics. Type CCO-56 Crystal Oscillator unit available with frequency accuracy to .0025% for Mobile Band coverage. Self-Contained Decibel Meter: -10 to +38 DB in 3 ranges. Power Consumption: 35 watts at 115 volts. Meter Model: 50; 105-125 V., 50-70 cycles, A.C. 14"x16 1/2"x8"; 29 lbs. Net: 38# Ship. Satin Aluminum Panel. Blue hammertex steel case. Test leads and 1000 kc crystal included.

### UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATOR



**Model 288-X Price: \$186.00**

Also available in matched-set "D" case at no additional cost.

#### MODEL 288X

#### High Output AM-FM Generator

A variable frequency signal generator, crystal controlled, for accurate AM and FM alignment. Useable in TV alignment as a marker oscillator in connection with television front-end or IF alignment, or the 288X can also be used as an FM generator to align the sound IF amplifier of a TV receiver. RF unmodulated or internally amplitude modulated at 400 cycles, or internally frequency modulated. RF variable from 110 kc. to 110 mc. on AM and 110 kc. to 160 mc. on FM, in 7 bands, all fundamental. Fixed 50-mc. output is internally frequency modulated at 60 cycles and at 400 cycles for FM and television. Fixed, crystal-controlled 110-kc. and 1000-kc. outputs either unmodulated or internally amplitude modulated. Fixed 1000 kc. internally frequency modulated at 60 cycles for visual IF alignment. 50 mc. and 1000 kc. oscillators beat with variable RF oscillator to give variable FM signals. Variable AF output 0-15,000 cycles; fixed AF, 400 cycles. Outputs continuously variable with multiplier and linear controls. Db meter—10 to plus 38 in 3 ranges. 110-volt 60-cycle operation. Test leads included.

#### SPECIFICATIONS

Dimensions—13 1/4" x 16 1/4" x 7"  
Net Weight—25 lbs.—Ship. 36 lbs.  
Meter—Model 51X  
Scale—over 100"  
Satin-aluminum finish panel  
Blue baked Hammertex finished steel case

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## VACUUM TUBE VOLTMETER

### Smaller Size Laboratory Model

INCLUDES: NEW, DUAL-PURPOSE AC-DC PROBE

A single unit with built-in switching arrangement. (Patent applied for)

- ★ Combination RMS or Peak-to-Peak voltage measurements.
- ★ New, guaranteed insulated and shock-resistant case.
- ★ Modern lucite meter case with large 5" easy-to-read scale.
- ★ Handier size for greater portability.
- ★ Zero-Center for faster discriminator alignment and other galvanometer applications.



Model 215

Price: \$67.50

Dual Probe and Test leads included.

This new HICKOK Model 215 is truly a laboratory instrument of highest quality, accuracy and dependability. Though ideal for the radio-television manufacturer or service shop, this fine instrument will meet a greater number of applications in the electronic design or industrial laboratory. Exceptionally versatile, the 215 provides the sensitivity and ranges for quick and accurate measurements of sine or complex waves of TV or industrial devices.

### RANGES

#### D. C. VOLTMETER

Volts: 0 to 1.5, 3, 12, 30, 120, 300, 1200.

Input Resistance: 10 megohms with new HICKOK Dual-Probe.

Accuracy:  $\pm 3\%$  of full scale.

Zero-Center Scale: For discriminator alignment and other galvanometer applications.

#### OHMMETER

Design Center: 10 ohms.

Ranges:  $\times 1$ ,  $\times 10$ ,  $\times 100$ ,  $\times 1,000$ ,  $\times 10,000$ ,  $\times 100,000$ ,  $\times 1$  megohm.

Readability: .2 ohms to 1000 megohms.

#### A. C. VOLTMETER

7 Ranges AC, RMS: 0 to 1.5, 3, 12, 30, 120, 300, 1200.

7 Ranges AC, Peak-to-Peak: 0 to 4, 8, 32, 80, 320, 800, 3200.

Frequency Characteristics: Flat from 40 cps. to 3.5 MC. Crystal Probe available to extend frequency range to 250 MC.

Input Impedance: With new HICKOK Dual-Probe, 30 megohms shunted by 150 uuf.

Accuracy:  $\pm 5\%$  of full scale.

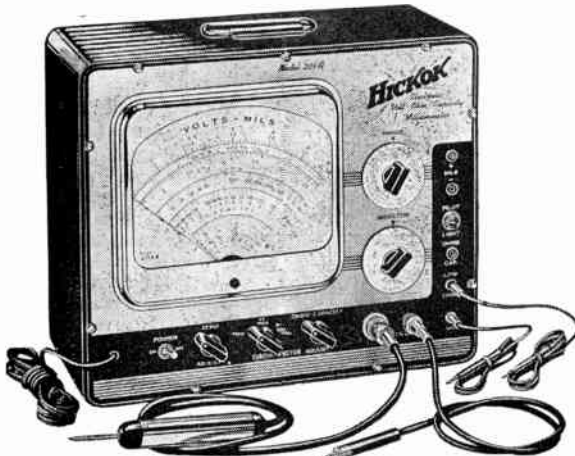
### SPECIFICATIONS

105-125 VAC. Insulated, shock-resistant case.  $5\frac{3}{4}$ " W.,  $8\frac{3}{8}$ " H.,  $4\frac{1}{2}$ " D.,  $4\frac{1}{2}$  lbs. net weight, 8 lbs. shipping.

Test leads included:

New combination AC-DC HICKOK Dual-Probe, ohms lead and ground lead.

## CAPACITANCE TESTER AND VACUUM TUBE VOLT-OHM MILLIAMMETER



Model 209-A

POWER SUPPLY: 105-125 V, 50-70 cycles. Ranges: Volts, A-C and D-C 0-3, 12, 30, 120, 300, 1200. Mills (D-C): 0-3, 12, 30, 120, 300, 1200. Cap.: 0-10,000 mmf in 2 ranges, 0-1000 mf in 5 ranges. Ind.: 50 mh-100 henries. Ohms: 0.1 ohm to 10,000 megohms in 7 ranges. Frequency: A-C up to approximately 5 megacycles may be measured. Input Impedance: Volts D-C: 15 megohms, Volt A-C: 12 megohms. Tube Complement: 6X5GT A-C rectifiers, 6SJ7 cathode follower, 6SN7GT vacuum tube voltmeter, OD3/VR150 voltage regulator.

### LABORATORY SIZE . . . LARGE NINE-INCH METER WITH ZERO CENTER SCALE

A universal test instrument for all radio and electronic service work. Accurately and easily measures wide ranges of inductances, capacitances, resistances, currents and voltages, both A.C. and D.C.

This new giant size instrument matches the size and attractiveness of the Hickok complete line of test equipment. Large 9-inch meter improves ease of operation. Has a 1200 Volt scale, and a new Peak-to-Peak Voltmeter to measure peak to peak or RMS values of A.C.

The new Zero-Center scale on D.C. permits much faster alignment of discriminator and other galvanometer applications.

### SPECIFICATIONS:

Dimensions— $13\frac{1}{2}$ " $\times$  $16\frac{1}{2}$ " $\times$ 7"

Meter—Hickok Model S-22

Weight—19 lbs. Net—26 lbs. Ship.

Blue baked Hammertex finish

Also available in matched set "D" case at same price.

High input impedance prevents loading when making voltage tests. Measurement of inductances are possible with the use of a conversion chart supplied in the instruction book. Possibility of damage due to overload is slight in all except current measurements. Power supply permits normal operation and accuracy with wide line voltage fluctuation.

Price \$132.50

Including probe and all leads.

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## HIGH SENSITIVITY VOLT-OHM-MILLIAMMETER

Compact Portable . . . Shock-Resistant Case



**Model 450**  
**Price: \$46.50**  
 Test leads included.

### RANGES:

20,000 ohms per volt DC, 5,000 ohms per volt AC.  
 Volts AC and DC: 2.5, 10, 50, 250, 1,000, 5,000  
 Output: 2.5, 10, 50, 250, 1,000  
 Milliamperes, DC: 2.5, 10, 50, 250, 1,000  
 Microamperes, DC: 0 to 50  
 Amperes, DC: 0-10.

### LARGE 5" METER

Decibels: -30 to + 55, in 5 ranges  
 Ohms:  
 0 to 1,000, 5 ohm center scale  
 0 to 10,000, 50 ohm center scale  
 0 to 1 meg., 5,000 ohm center scale  
 0 to 100 meg., 500,000 ohm center scale

This fine, new HICKOK Model 450 is the last word in design for attractive, high sensitivity volt-ohm-milliammeters. It is thin, lightweight and fully portable.

The modern HICKOK lucite meter case provides increased readability. Large 5" meter scale can be read more accurately.

Compact HICKOK design provides the thinnest instrument of its kind. Handier for the Radio-TV or field engineer for on-location servicing. Provides work-bench accuracy for all field jobs.

The new HICKOK insulated and shock-resistant case protects the high sensitivity and accuracy of this fine instrument.

Rugged and dependable, the HICKOK 450 provides for long, hard, day-in, day-out service on the bench or in the field. (Battery operated). 8 1/4" H., 5 1/2" W., x 2 1/2" D. 2 1/2 lbs. net, 5 lbs. shipping.

### DOUBLE RANGE DC KILOVOLT METER



**Model 465**

For measuring DC voltages as high as 30,000 volts. 10,000 ohm per volt sensitivity. Low current drain. Well insulated phenolic case for ample protection against the high voltages being measured. 7" x 6 1/8" x 4 5/16". 6 lbs. net; 8 1/2 lbs. shipping. Complete price including leads and carrying case \$66.65.

### PORTABLE TRUE WATTMETER



**Model 900-B**

Tests all AC electrical units under actual use conditions. Continuity test for shorts. Accurately tests even smallest units. 3 3/4" meter shows wattage, amperes and line voltage. Portable case complete with leads, 9 3/8" x 6 1/4" x 3 1/4". 6 lbs. net; 10 lbs. shipping. \$69.95. C-105 external transformer for ranges to 10,000 watts and 130 amp. \$17.00. 9A and 9B leads for 220 volts, \$18.00. Strong, detachable-cover carrying case. \$10.20.

### PROBES

**Model TVP-1 TELEVISION PROBE** — Increases 'scope usefulness in servicing TV receivers. Enables technician to accurately duplicate manufacturer's pattern. Reduces loading effect. Phenolic, black and chrome probe, 4 ft. heavy-duty cord with spade connectors. 6 oz. net; 2 lbs. shipping. Light and easy to handle. \$12.60.  
**Model 34 CRYSTAL DEMODULATOR PROBE** — Use with any 'scope to trace a modulated RF signal, at any frequency to 500 MC, through a radio or TV receiver from the antenna post to the detector or discriminator. 4 ft. long.

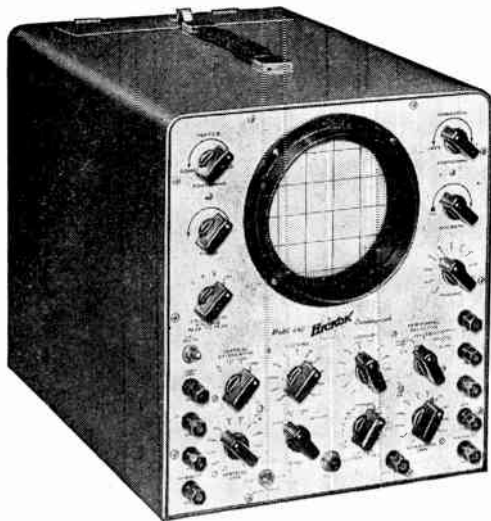
2 oz. net; 2 lbs. shipping. A quick and accurate aid to trouble-shooting with your 'scope. \$9.80.  
**Model PR-30 HIGH VOLTAGE DC PROBE** — Extends range of your VTVM to 30,000 volts DC. Doubles use of any voltmeter. Ideal for use with HICKOK 203-PR or 209. Heavy-duty black phenolic, 4 ft. cord and cable type connector. 12 oz. net; 2 lbs. shipping. \$11.90. Also PR30-A for use with HICKOK 209-A. \$11.90.

### CRYSTALS

0.05% or .0025% accuracy for 292-X.....\$18.80  
 4.5 MC for 610-A ..... 4.65  
 Specified channels for 610-A..... 6.30  
 Special frequencies for 610-A..... 14.30

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## PROFESSIONAL MODEL LABORATORY OSCILLOGRAPH



**Model 640**

The new Model 640 Oscilloscope is an outstanding, versatile instrument designed for General Purpose, Industrial Laboratory and Television applications for observation of transient or regular recurring phenomena. Designed with outstanding range and sensitivity and completely built to the highest quality standards throughout. Rigidly field-tested and proved in the HICKOK laboratories.

### SPECIFICATIONS:

**WIDE BAND AMPLIFIER:** Frequency response DC, 0 to 4.5 mc, (down 3 db).  
**VERTICAL DC AND AC AMPLIFIER:** 17 M. V. per inch with sensitivity switch in high position. 35 M. V. per inch in low position.  
**FREQUENCY RESPONSE:** 0 to 1,000,000 cycles (3 db point), in high position. 0 to 4,500,000 cycles (3 db point), in low position.  
 No jitter, even with high gain amplifiers.  
 Maximum Input Potential: 1000 volts peak.  
 Input Impedance: 2 megohms, 50 mmf.  
 Excellent stability and minimum microphonics and drift.

**HORIZONTAL AMPLIFIER:**  
 Deflection Factor —  
 Direct: 13 volts RMS per inch.  
 Full Gain Setting: 50 millivolts RMS per inch.  
 Frequency Response: 0 to 200,000 cycles, with 3 DB down at upper limit.  
 Maximum Input Potential: 1000 volts peak.  
 Input Impedance: 2 megohms, 50 mmf.

**BUILT-IN CALIBRATING VOLTAGES:**  
 Peak-to-Peak—100, 10, 1, .1 volts.

**TEST SIGNALS:** Line Frequency: 3 volts RMS per inch.  
 Sawtooth: Available from front panel.  
 Direct connection to both horizontal and vertical deflection plates.

**SHOCK MOUNTED:** Provides minimum microphonics due to external mechanical vibrations.

**SHIELDED:** Mu Metal magnetic shield gives maximum protection to the cathode ray tube against effects of external magnetic fields.

**CALIBRATED SCALE:** Provided for quantitative measurements and comparisons.

**LINEAR TIME BASE:** Recurrent and Driven Sweep: 2 cycles to 30,000 cycles.  
 Provision for external capacities for slower frequency sweeps of 10 seconds and slower.  
 Sweep Speeds: Faster than 0.75 inch per microsecond.  
 Television fixed frequencies; 30 and 7,875 for observing blanking and sync waveforms in the horizontal and vertical circuits of TV receivers.  
 Synchronization at line or 2-times line frequency.

**EXPANDABLE SWEEP:** 6 times expansion, or equivalent to 30 inches of screen diameter.

**LINE FREQUENCY PHASING CONTROL:** Zero, plus or minus 90° phase shift.

**"Z" AXIS MODULATION:** Capacitively coupled to the grid of the cathode ray tube. 15 volts will blank trace fully at normal intensity.

**INTENSITY:** Standard Model 640 includes 5U11 cathode ray tube with medium persistence screen. High accelerating potentials give excellent intensity for viewing transient waves and high frequencies.  
 Some engineers may prefer a 5U11 tube for short persistence, or a 5U7 tube for long persistence. Either is available in the Model 640 at slight additional cost.

**STABILIZED:** Designed so that sweep lengths and synchronizations are maintained as signal level varies.

**DIMENSIONS:** Portable steel case, 14"x11½"x19", approximately 35 lbs. net; 40 lbs. shipping. Combination light shield and camera base provided.

**Price: \$355.00**

### TELEVISION CIRCUIT ANALYZER

#### PEAK-TO-PEAK VOLTAGE CALIBRATOR



**Model 630**

measurements from the sound detector through to the speaker. Attractive, portable blue-hammertex case, 11¼" x 8¾" x 6". 12 lbs. net; 16 lbs. shipping.

Quickly identifies sync, clipper, differentiating and separating circuits trouble in TV receivers. Provides the accurate peak-to-peak voltage indication for proper wave form study and analysis of receiver circuits. A perfect companion to the HICKOK 640 and 670 oscilloscopes for accurate match of manufacturers spec. in TV alignment. Provides fast and accurate single or multiple stage gain measurements from video detector all the way through the deflecting circuits of cathode ray tube—in addition to gain measurements from the sound detector through to the speaker.

**Price: \$87.50**

### TELEVISION LINEARITY PATTERN GENERATOR

#### CRYSTAL CONTROLLED



**Model 620**

Output Voltage: 50 to 50,000 microvolts. All modulating frequencies are crystal controlled.  
 Horizontal Lines: 8 or 9.  
 Vertical Lines: 12  
 Selection of horizontal or vertical lines can be made separately or simultaneously as a Cross-Hatch pattern.  
 Blue hammertex portable steel case, 11¼" x 8¾" x 6". 11 lbs. net; 16 lbs. shipping. Test leads included.

**Price: \$176.65**

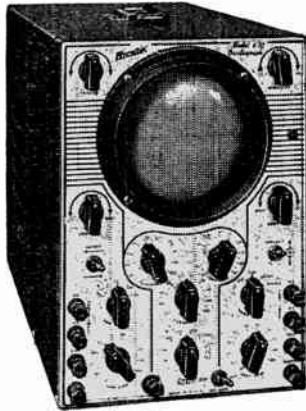
**HICKOK . . . 1st CHOICE OF THE EXPERTS**

# HICKOK

# TEST INSTRUMENTS

# HICKOK

## NEW MODEL 670 OSCILLOGRAPH



Model 670

### TECHNICAL CHARACTERISTICS

Deflection Sensitivity:

- a. vertical amplifier .01 volts (RMS) per inch
- b. vertical direct 12 volts (RMS) per inch
- c. horizontal amplifier .07 volts (RMS) per inch
- d. horizontal direct 13 volts (RMS) per inch

Input Impedance:

- a. vertical amplifier 2.2 megohms—30 mmf
- b. vertical direct 3.3 megohms
- c. horizontal amplifier 1 megohm—35 mmf
- d. horizontal direct 3.3 megohms

Frequency Range:

- a. Vertical Amplifier; Useful beyond 2 MC; pulse rise time 0.6 microseconds.
- b. Horizontal Amplifier; 0 to 250 KC; pulse rise time 1.2 microseconds.

Sweep Oscillator: 3 to 50 KC.

Power Supply: 105-125 VAC, 50-70 cycles, 65 watts at 115 VAC.

Size: 9½" W x 12¼" H x 18" D. In attractive, steel portable case or matched set "D" case.

Weight: 28 lbs. net; 35 lbs. ship.

### Accurate, Stable, High Sensitivity with AC and DC AMPLIFIERS

Model 670: The more exacting requirements of today's television maintenance have made it necessary for the service technician to have a good 'Scope. The HICKOK Model 670 is designed with DC amplifiers to provide excellent square wave response — even down to DC.

Many TV receivers are so far out of alignment that extreme 'Scope sensitivity is necessary to properly show the response curve. The 670 provides this extra sensitivity — to 10 MV per inch.

To properly view all TV frequencies a wide band vertical amplifier is necessary. The 670 provides for this need by having a band width to beyond 2 MC. Push-pull amplifiers and polarity reversing switches are also new features you will find most useful in the 670.

### TECHNICAL FEATURES:

Highest practical sensitivity: 0.01 (10 millivolts) RMS per inch.

Demodulator circuit for viewing modulation on RF signal.

Recurrent linear sweep; 3 cycles to 50,000 cycles.

Reversing switches for both horizontal and vertical deflection.

Fixed sweep frequency for horizontal and vertical wave forms to TV receivers.

Both negative and positive synchronizing.

Line phasing control (approximately 180°).

Wide band vertical amplifier, useful beyond 2 MC.

Direct coupled, balanced (push-pull) amplifiers for both vertical and horizontal deflection.

Provision for Z-axis modulation.

Permits the study and analysis of wave forms, and other electric and magnetic phenomena. Excellent square wave response.

Provides for the visual testing and alignment of amplitude and frequency modulated receivers, as well as television equipment when used with a frequency modulated RF oscillator or sweep generator.

Provides the means for measuring voltages and frequencies of AC signals, hum, gain and distortion in audio amplifiers.

Price: \$199.90



Model 680

### TECHNICAL CHARACTERISTICS

Power supply required: 20 Watts, 105-125V AC 50-70 cycles.

RF Output: 53-89 MC, 174-217 MC.

VHF 106-178 MC 2nd harmonic

424-712 MC 8th harmonic

UHF 522-651 MC 3rd harmonic

696-868 MC 4th harmonic

.15V, RMS RF output, 31 crystal check points at 2.5 MC. 11-1 ratio.

Size 11½" W x 6" H x 9" D, attractive portable steel case.

Weight: 13¼ lbs. net; 18 lbs. shipping.

### TELEVISION RF MARKER and Crystal Calibrator

A perfect companion for the HICKOK 610-A TV Alignment Generator to provide the most complete, overall TV alignment including UHF and VHF.

The 680 is designed to rapidly solve the growing TV front-end maintenance problems. Thousands of TV front-ends are failing daily due to age. The usual procedure of returning these units to the manufacturer for replacement has become increasingly difficult. Now, with the 680 you can build a big business on repairing TV front-ends yourself — to crystal accuracy. The 680 has directly calibrated channel, sound and picture frequencies accurate to .05%. Covers the ranges of 53-89 MC and 174-217 MC on fundamentals and to 868 MC on harmonics.

The 680 also is a crystal standard with choice of 3 crystals provided by means of a front panel switch. (A 2.5 MC crystal is supplied.) The built-in magic eye provides a visible zero beat indicator; a phone jack is also provided for an audible indicator. The 680 can be used as a heterodyne frequency meter for calibrating other generators up to 900 MC.

This fine instrument is the latest HICKOK development and can be used as a crystal standard in the shop, laboratory or factory, to check oscillators, generators and front-end or over all response curve of a TV receiver to an accuracy of .05%.

Price: \$129.50

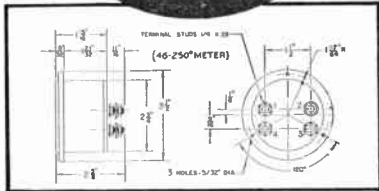
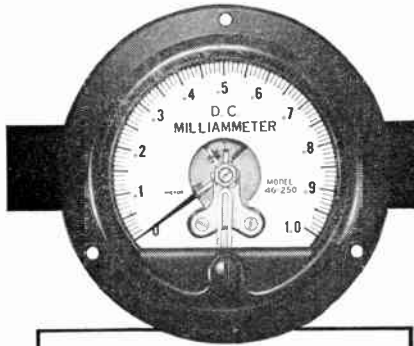
## HICKOK . . . 1st CHOICE OF THE EXPERTS



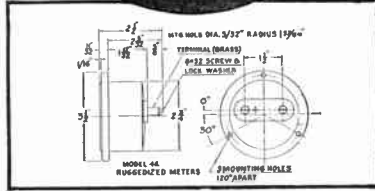
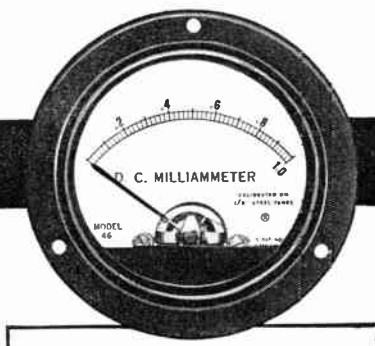
THE STANDARD OF QUALITY

**HICKOK**  
INSTRUMENTS

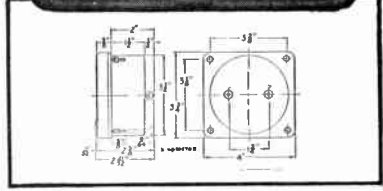
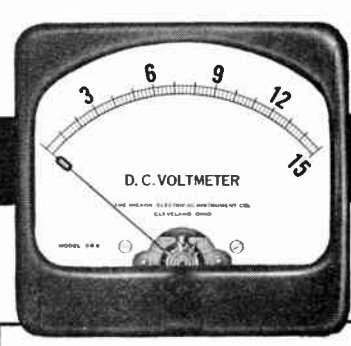
FOR OVER FORTY YEARS



Illustrated: 250° meter, 3½" with scale length of 5½". Accuracy within 1½% of full scale. Available: 2½", 3½", 4" round or square and 5½" round. DC and AC rectifier types in ranges listed below.



Illustrated: "Ruggedized" Model. Accuracy 1½% of full scale. Available: 2½", 3½" and 4½" round. DC and AC rectifier types in ranges listed below.



Illustrated: Model S-48, 4". Accuracy within 1½% of full scale. Available: 2½", 3½" round or square. 4", 5" square only; in types and ranges listed below. DC, rectifier, thermocouple and AC types.

DC Milliammeters	DC Ammeters	DC Microammeters	DC Voltmeter
			1000 Ohms Per Volt
1	1	*200	1
2	1.5	300	3
3	2	500	5
5	3	750	7.5
10	5		10
15	10	* Not Available	15
25	15	in	25
50	25	4" and 5"	50
75	50		75
100	*100		100
150	*150		150
300	*200		250
500	*250		300
750	*300		500
	*400		600
	*500		
	*600		
	*750		
	*1000		
	*100-0-100		
	*200-0-200		

\*Used with External Shunts with 50 M.V. drop.

**AC RECTIFIER INSTRUMENTS**

Microammeters	Milliammeters	Voltmeters
250	1	1
500	5	5
	10	10
	150	150
	300	300
	600	600

NOTE: Ranges listed for these 3 styles of instruments are only typical. Any practical range can be supplied.

DC Milliammeters	DC Ammeters	DC Voltmeters	DC Microammeters
1	1	1.5	20
1.5	1.5	2	30
2	2	3	50
3	3	5	80
5	5	8	100
8	8	10	150
10	10	15	200
15	15	20	300
20	20	30	500
30	30	50	750
50	*50	80	
80	*80	100	
100	*100	150	
150	*150	200	
200	*200	300	
300	*250	500	
500	*300	800	
750	*400		
	*500		
	*600		
	*800		
	*1000		
	1200		
	*100-0-100		
	*200-0-200		

\*Used with External Shunts with 50 M.V. Drop.

**AC RECTIFIER TYPES**

Microammeters	Milliammeters	Voltmeters
100	1	1
200	2	3
500	3	5
	5	10
		150
		300
		600*
		800*

\*Not Available in 2½" Size

D. B. METERS High Speed Medium Speed — 12, 0, + 6 DB

DC Milliammeters	DC Ammeters	DC Voltmeters	DC Micrometers
1	1	*200	1
2	1.5	*250	3
3	2	*300	5
5	3	*400	7.5
10	5	*500	10
15	10	*600	15
25	15	*750	25
50	25	*1000	50
75	50	*100-0-100	75
100	*100	*200-0-200	100
	*150		150

\*Used with External Shunts with 50 M.V. Drop

**THERMO INSTRUMENTS — ACCURACY 2%**

Thermo Milliammeters	Thermo Ammeters
2	1
5	10
10	25
25	50

POWER LEVEL INDICATORS—DB METERS High Speed or Medium Speed Movements — 12, 0 + 6 db

**VU (VOLUME UNIT) METERS SCALE A. SCALE B**

**RECTIFIER INSTRUMENTS — ACCURACY 5%**

AC Micrometers	AC Milliammeters	AC Voltmeters
100	1	1
200	2	3
500	3	5
	5	10
		600
		800

**ALTERNATING CURRENT INSTRUMENTS ACCURACY 1½% OF FULL SCALE**

AC Milliammeters	AC Ammeters	AC Voltmeters
10	1	1.5
15	2	5
25	3	10
50	5	15
100	10	25
150	25	50

**AC-DC WATT METERS**

Ranges Watts	Single Phase Volt Limit	Amp. Limit
75	3000	0.75
150	3000	1.5
300	6000	3
750	5000	7.5
1500	10 KW	15
1500	300	30

And Higher if used with Current Transformers having 5 Ampere Secondary.

**THE HICKOK ELECTRICAL INSTRUMENT COMPANY**

10532 Dupont Avenue

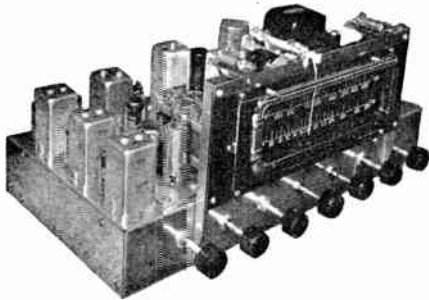
Cleveland 8, Ohio

Write for Catalog No. 26



## BROWNING FM-AM TUNER — MODEL RJ-20B

Designed for high-fidelity receiving application in the AM broadcast and FM bands.



### MECHANICAL FEATURES

- Edgelighted slide-rule dial with large tuning ratio.
- Height 7½"; width, 17"; depth, 9".
- Weight: RJ-20B, 18½ lbs. shipping 26 lbs.

### ELECTRICAL FEATURES

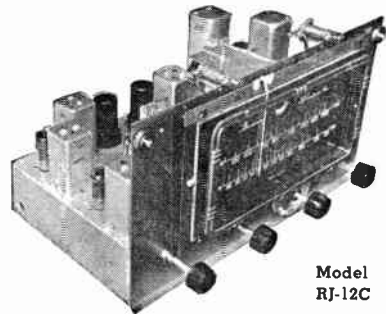
- For FM—88 to 108 MC, and AM—530 to 1650 KC. Armstrong FM circuit.
- 20 db quieting with 6½ microvolts on FM; 5 microvolts sensitivity on AM.
- Separate RF and IF on both bands; no coil switching.
- Variable bandwidth AM IF gives full 9 KC band on broad and 4 KC on narrow position.
- Selective AFC on FM.
- Drift-compensated.
- FM audio response flat from 15 to 15,000 cycles ± 1½ db.
- 100,000-ohm output impedance; 300 or 72 ohms input for FM provided.
- Tubes: five 6AU6; one 12AT7; two 6AL5; one 6SN7; one 6SK7; one 6SA7; one 6J6; one 6SG7; one 6AL7 tuning eye; one 5Y3 rectifier.

## BROWNING FM-AM TUNER — MODEL RJ-12C

Engineered for high-fidelity reception in the FM band. The AM section provides high sensitivity and selectivity as well as quality reception in the broadcast band.

### ELECTRICAL FEATURES

- For the FM band—88 to 108 MC, and broadcast band—530 to 1650 KC.
- Less than 10 microvolts needed to produce 30 db noise reduction in the FM band; sensitivity of 5 microvolts in the AM broadcast band.
- Separate RF and IF systems on both bands; no coil switching.
- Drift-compensated.
- Selective AFC on FM.
- FM audio response flat from 15 cycles to 15000 cycles within ± 1½ db.
- AM audio response flat from 20 to 6600 cycles ± 3 db; IF's triple tuned.
- Miniature tubes used as FM RF and IF amplifiers assure maximum gain.
- High-impedance output for connection to any high-quality audio amplifier.
- Phono-TV-Recorder positions on channel selector switch to provide volume control directly on the tuner; input connections in back of tuner.
- FM-AM on one antenna with 300 ohms input with twin lead cables.
- Power supply, optional, provides 250 volts d-c at 65 MA and 6.3 volts a-c at 4 amperes.
- Major Armstrong's circuit on FM.
- 6AL7 tuning eye for accurate tuning on both FM and AM.
- Operates on 115 volts, 60 cycles, 80 volt-amperes input when used with Browning model PF-12 power supply.
- Tubes: three 6AU6; one 12AT7; one 6SK7; one 6SG7; two 6SJ7; one 6J6; one 6H6; one 6SA7; one 6AL7 tuning eye; one 1N54 crystal detector.



Model RJ-12C

### MECHANICAL FEATURES

- Easily mounted in book-cases, drawers, shelves and cabinets.
- Dial escutcheon supplied with unit. Edge lighted dial—slide rule type.
- Model PF-12 power supply is small separate unit for mounting in confined spaces.
- Dimensions: height 7¾"; width 13½"; depth 9". Power supply: height 6"; width 3½"; depth 8".

Model	Weight	Shipping Weight
RJ-12C—FM-AM Tuner . . .	12 lbs. . . .	18 lbs.
PF-12—Power Supply . . .	8 lbs. . . .	9 lbs.

## BROWNING FM TUNER — MODEL RV-10B

Designed for high-fidelity reception in the FM band.

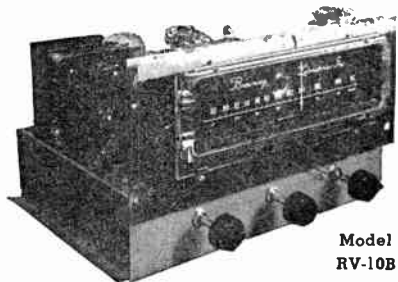
### ELECTRICAL FEATURES

- Receives signals in the FM band extending from 88 to 108 megacycles.
- Less than 10 microvolts needed to produce complete limiting.
- Audio response flat from 15 cycles to 15,000 cycles within ± 1½ db.
- Two-stage cascade limiter used to ensure freedom from noise.
- Tuned RF stage used to increase gain and reduce image interference.
- High impedance output to feed any high-fidelity amplifier.
- Drift-compensated.
- Selective AFC.
- Phono-FM-TV-Recorder switch permits instant transfer of input signals.
- Power supply self contained.
- Employs Armstrong FM circuit.
- Tuning eye indicates correct tuning.
- 115 volt, 60 cycle AC operation. 65 volt-amperes input.

- Tube complement: three Type 6AU6, one 12AT7; two 6SJ7; one 6H6; one 6J6.
- Tuning eye indicator (6AL7). Type 5Y3 rectifier tube.

### MECHANICAL FEATURES

- Physically small. Can be easily mounted in cabinets, shelves, bookcases, drawers, and the like.
- Dial escutcheon, knobs, shielded inter-connecting wire and connectors supplied with each unit.
- Attractive edgelighted dial calibrated in megacycles and channel numbers.
- Rugged construction, all components of the highest quality.
- Dimensions: RV-10B—Height 6½", Width 11", Depth 8¾".



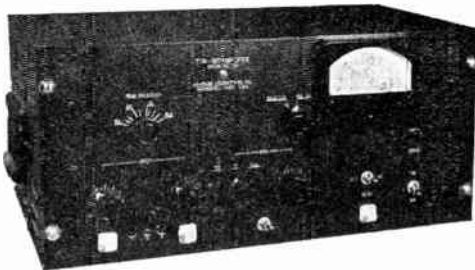
Model RV-10B

Model	Shipping Weight
RV-10B . . . . .	11 lbs. 16 lbs.



**BROWNING  
MODEL TAA-16A AMPLIFIER**

High gain AC voltmeter for measurement of standing wave ratios with slotted lines.



**ELECTRICAL FEATURES**

- 500- to 5000-cycle range; **broadband/selective** controls on front panel.
- 15-microvolt sensitivity in **broadband** and 10 microvolts in **selective** position.
- Four-inch meter with illuminated scales calibrated in 0-10 as well as Standing Wave Voltage Ratio.
- Panel switch for bolometer voltage application.
- Master gain control switch provides attenuation factors of 1, 10 and 100.
- Power supply electronically regulated for stability.
- 60 volt-amperes input at 115 volts 60 cycles.
- Tubes: three 6SJ7GT; one VR-105; two 6V6GT; one 6H6GT; one 5Y3GT.

**MECHANICAL FEATURES**

- Rack panel in black wrinkle steel cabinet, 9" x 20" x 12".
- Panel black leatherette finish with engraved characters.
- Input tube shock mounted for low microphonics.
- Weight 30½ lbs. Shipping weight 45 lbs.

**NET PRICE COMPLETE WITH TUBES (FOB Winchester, Mass.) \$415.00**

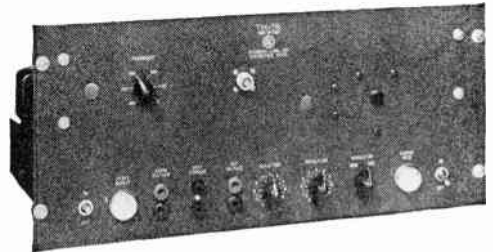
**BROWNING MODEL TVN-7  
POWER SUPPLY AND SQUARE-WAVE MODULATOR**

The basic unit of a signal generator in the super-high-frequency range. Square-wave modulator for low-powered velocity-modulated tubes such as the 417A, 2K28 and 2K25.

**ELECTRICAL FEATURES**

- Range of cathode voltage is 280 to 480 volts, continuously variable. Provision is made for 180 to 300 volt range.
- Range of reflector voltage is 15 to 150 volts controllable from panel.
- Provision is made for grid pulse modulation or reflector pulse modulation.
- Grid pulse amplitude 60 volts; reflector pulse 100 volts maximum.
- Square-wave modulation frequency is variable from 600 to 2500 cycles.
- Provisions are made for external modulation.
- 110-115-volts, 60-cycle operation with 170 volt-amperes input.
- Tubes: one type 5Y3; two OD3/VR150; one 6SN7; one 6V6; one 6Y6G; one 5R4GY; one 6SJ7.

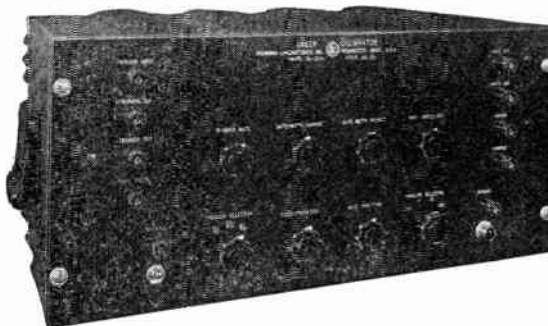
**NET PRICE \$245.00 FOB Winchester, Mass.**



**MECHANICAL FEATURES**

- Designed for rack mounting; cabinet extra.
- Black wrinkle, engraved-steel panel.
- 8¾" x 19" x 11"; Wt. 33 lbs. Shipping Wt. 50 lbs.

**BROWNING SWEEP CALIBRATOR — MODEL GL-22A**



Designed for use with oscilloscopes and synchrosopes as a source of timing markers for the measurement of sweep intervals.

**ELECTRICAL FEATURES**

- Provides markers of 0.1, 1.0, 10, 100 microseconds either positive or negative with variable amplitude to 50 volts.
- Generates variable width, variable amplitude gate for blanking or timing purposes.
- Contains own trigger generator with positive and negative trigger outputs.
- Markers may be initiated from external trigger or from internal generator. May be synchronized with triggers up to 100 KC. repetition rate.
- Voltage regulation to timing circuits.
- 115 volt, 60 cycle operation. 110 volt-amperes input.
- Tube complement: one Type 6BE6, one 6J6, three 6V6GT, one 6SN7, one 5Y3GT, one VR-105, one 6X5GT, two 12AU7, one 6H6, one 6SH7, one 6AG7, and one 2050.

**MECHANICAL FEATURES**

- Provided with steel cabinet finished in black wrinkle.
- Panel finished in black leatherette with labels engraved into surface.
- All output connections on front panel.
- Insulated universal binding posts used for output connections.
- Dimensions: Height 9", Width 20½", Depth 12".
- Weight: 35 lbs. Shipping weight: 52 lbs.

**Net Prices, F.O.B. Winchester, Mass.**

**Cabinet Style . . . . . \$295.00**

**Rack Panel . . . . . \$285.00**



**BROWNING SYNCHROSCOPE  
MODEL P4-EX**



**NET PRICE \$465.00  
F.O.B. WINCHESTER, MASS.**

This instrument is designed for viewing repetitive or non-repetitive phenomena occurring in electronic circuits, especially those of short duration where a triggered sweep is necessary. Internal trigger generator with phaseable output triggers permits use of the P4-EX as a timing source for equipment requiring external triggering. Vertical and horizontal calibration facilities permit measurement of both time and amplitude.

**ELECTRICAL FEATURES**

- Five-inch type 5UP cathode-ray tube, available in P1, P7 or P11 screens, with an accelerating potential of 2600 volts.
- Triggered sweep writing rate continuously variable from 1.0 to 25,000 microseconds per inch.
- Sweep speed controls directly calibrated, within  $\pm 10\%$ , in microseconds per horizontal screen division.
- Sawtooth recurrence rate: 50 to 5,000 cycles per second, from internal generator.
- Triggered sweep repetition rate: up to trigger-to-sweep ratios of 50:1.
- External trigger requirements: 5 volts, positive or negative; rise time 20 volts per microsecond.
- Internal timing generator: 50 to 5,000 cycles per second. May be synchronized with external positive signals of 10 volts or greater.
- Trigger timing: may be phased from 500 microseconds in advance of sweep start to 500 microseconds following sweep start.
- Vertical amplifier bandwidth: down 3 db. at 5 cycles and 5 mc.
- Vertical amplifier deflection sensitivity: 1.0 volt per inch.
- Vertical amplifier attenuator: ratios of 100, 30, 10, 3, and 1 to 1.
- Calibration voltages: 0.3, 1, 3, 10, 30, 100 volts p. to p. to amplifier input; 100 volts to deflection plate. Accuracy  $\pm 5\%$  at 115 volts line voltage.
- Beam modulation connection: at rear panel; positive signals blank sweep.
- Vertical deflection plate connection: at rear panel.
- Tube complement: four 6BC5, two 6C4, three 6AL5, three 6SN7, one 6AU6, one 12AU7, one 6BG6G, one 5U4G, two 2X2A, one OA2, one 6BE6, one 2D21, one 6J6, one 5UPL.
- Power input: 115/230 volts, 50-60 cycles, 180 volt-amperes.

**MECHANICAL FEATURES**

- Steel cabinet finished in black wrinkle.
- Steel panel finished in black leatherette.
- Copper-plated steel chassis with lacquer finish.
- Controls grouped by function for operating convenience.
- Dimensions: 10" wide, 14½" high, 16¾" deep.
- Weight: 50 lbs. Shipping weight: 60 lbs.

**BROWNING OSCILLOSYNCHROSCOPE  
MODEL ON-5A — MODEL ON-5X**

This new, low-priced instrument is designed to satisfy the requirements for basic laboratory equipment to be used in pulse work. It provides exceptional flexibility with sweep writing rate continuously variable over a wide range, broad frequency coverage and high sensitivity; it is self-calibrating on both the X and the Y axis. All these advantages are provided at exceptionally low cost.



**ELECTRICAL FEATURES**

- Five-inch 5UP1 cathode-ray tube operates at accelerating potential of 2600 volts.
- Triggered sweep writing rate continuously variable from 1.0 to 25,000 microseconds per inch.
- Sweep speed controls directly calibrated, within  $\pm 10\%$ , in terms of microseconds per screen division (horizontal deflection) for both triggered and sawtooth operation.
- Sawtooth recurrence rate: 10 cycles to 100 KC.
- Triggered sweep will operate at any rate from a single sweep up to a frequency determined by the desired sweep time; will also operate from regularly recurrent signals to display up to ten cycles of the phenomena for a single, triggered sweep.
- Sweep may be triggered (or synchronized when operated as recurrent sawtooth) by positive or negative sine-wave or pulse signals of 0.5 volts (external) or 0.75 inches deflection (from vertical amplifier).
- Vertical amplifier has flat frequency response, within 3 db., from 5 cycles to 5 megacycles per second with deflection sensitivity of .15 volt/inch p.p.
- Model ON-5X contains a .45 microsecond vertical amplifier delay line to permit triggering of the sweep by observed pulses for one-inch deflection, at maximum gain. Rise time of .08 microseconds.
- Three-step attenuator for gain control 1:1, 10:1, and 100:1 — plus continuous adjustment over entire range.
- Horizontal amplifier operates from 500 KC down to d.c. thus allowing use of extremely slow sweeps; deflection sensitivity is 2.0 volts RMS per inch.
- Peak-to-peak vertical calibration voltages of 0-2, 0-20, and 0-200 can be switch-selected; accuracy is  $\pm 10\%$ .
- Cathode connection, brought out to front panel, allows external blanking and marker connection.
- Direct connection to all deflection plates at rear terminal board.
- Total power requirement is 180 volt-amperes at 115 volts, 60 cycles.
- Tube complement: one 5UPL; two 6C4; eight 6BC5; two 6AL5; one 12AU7; two 6BG6G; one 5U4G; two 2X2A; two OA2; two 6SN7.
- Operates on 115/230 volts, 50-400 cycles.

**MECHANICAL FEATURES**

- Steel cabinet finished in black wrinkle.
- Steel panel finished in black leatherette.
- Copper-plated steel chassis with lacquer finish.
- Controls grouped by function for operating convenience.
- Free-view screen has graduated X- and Y-axis scales.
- Dimensions: 10" wide, 14½" high, 16¾" deep.
- Weight: 50 lbs.; shipping weight: 60 lbs.

**NET PRICES: FOB WINCHESTER, MASS.**

<b>MODEL ON-5A</b> .....	<b>\$485.00</b>
<b>MODEL ON-5X (with video delay)</b> .....	<b>\$535.00</b>

**BROWNING PROBE MODEL FJ-2**

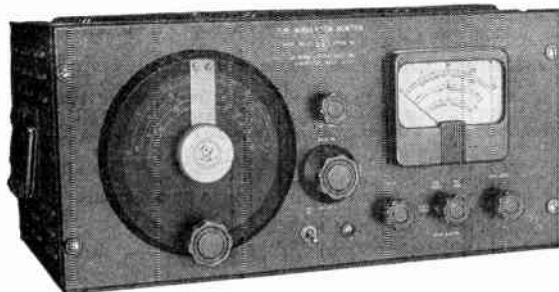
This low-capacity probe is available as an accessory for the Oscillosynchrosopes Model ON-5A and Model ON-5X. Complete with 6-foot cable, this unit has a voltage attenuation of 10:1,

an input capacitance of approximately 12 mmf, and an input resistance of 2.2 megohms.

**NET PRICE \$20.00 — FOB WINCHESTER, MASS.**



## BROWNING UNIVERSAL FM MODULATION MONITOR — MODEL MD-25A



A single instrument for monitoring the modulation of all FM transmitters operating in the communications bands from 30 to 162 mc. Provides simple and inexpensive means for checking fixed or mobile transmitters for compliance with FCC limitations on carrier frequency swing due to modulation. Maintenance of frequency swing within the FCC plus-or-minus 15 Kc limit is equally important for reduction of adjacent-channel interference. Peak flasher indicates excessive modulation.

The Browning Universal Modulation Monitor checks any communications system working on 30-40, 40-50, 72-76, and 152-162 mc., a feature of special importance to engineers responsible for supervision of several systems, since a single instrument can be used to check all transmitters operating within the above bands.

### ELECTRICAL FEATURES

- An outstanding feature of Model MD-25A is its extreme simplicity of operation. The multi-range band-selector switch is set to the band to be monitored, and the unmodulated transmitter carrier is tuned in precisely. Then the carrier is modulated by voice or audio oscillator, and the frequency swing is read directly from a 4-inch panel meter calibrated to 20 kc. A calibrated discriminator is used to determine modulation swing. The meter also determines precise tuning by indicating limiter voltage or total discriminator voltage.
- The meter can be read to better than 1 kc. The meter indicates peak swings of sustained sinusoidal modulation or voice modulation peaks of 0.3 seconds duration or more.
- Aural monitoring is provided by means of an audio output which permits attachment of an audio amplifier or phones. Oscilloscope may be attached at the same point for analysis of demodulated signal.
- Measurements may be made on signals generating less than 1 millivolt at the antenna input. If the instrument is mounted at the headquarters station, cars can be checked while they are on the road.
- Tube complement: one 6AK5, four 6AU6, three 6SN7, one each 5Y3, 6C4, 6AL5, 6J6, VR-150.

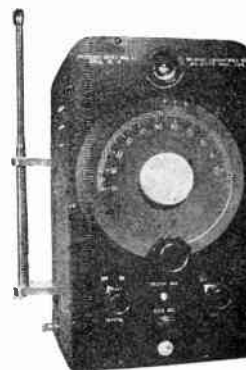
### MECHANICAL FEATURES

- Model MD-25A is mounted on a standard 8¾" rack panel.
- Supplied with a portable case 20" wide, 9" high, and 12" deep.
- Weight: 40 lbs. Shipping weight: 55 lbs.
- Case is readily removable for rack mounting use.

Net Price, F.O.B. Winchester, Mass . \$345.00

## BROWNING FREQUENCY METERS

Browning frequency meters are precision-built instruments designed to check frequencies in various ranges from 100 kilocycles to 500 megacycles. Custom-built and hand-calibrated, each of the meters listed below is equipped with a 100 KC CRYSTAL USED AS SECONDARY STANDARD WHICH IS EASILY COMPARED WITH WWV RADIATIONS ALLOWING EVERY FREQUENCY METER TO BE CHECKED IN THE FIELD. Some of the outstanding electrical features are:



MODEL S-7

### MODEL S-4

- From 1 to 5 specified frequencies in 1.5-70 mc. range.
- Accuracy  $\pm .0025\%$  of the specified frequency.
- Stable electron-coupled oscillator used in special circuit.
- Visual detection of zero beat with cathode-ray indicator.
- 110-115-volt ac/dc operation with 40 volt-amperes input.
- Telescoping antenna on side of case.
- Tubes: one 6SC7; one 6SA7; one 6J5; one 6SK7; one 6U5; one 25Z6 and one VR90 voltage regulator.

### MODEL S-6

- Range: 100 kilocycles to 50 megacycles, in 5 bands.
- Accuracy  $\pm 0.025\%$  of the frequency measured.
- Harmonic amplifiers permit use of harmonics up to 50 mc.
- Visual and audio detection of zero beat.
- 115 volt ac operation with 40 volt-amperes input.
- Telescoping antenna on side of case.
- Tubes: one 6SK7; one 6SL7; one 6SF5; one 6U5; one 5Y3GT; one VR90.

### MODEL S-7

- Calibrated for One or Two frequencies in 72-76 and/or 152-174 mc. bands.
- Accuracy  $\pm .0025\%$  of the specified frequency.
- Deviation chart supplied for instant determination of deviation from assigned frequency.
- Cathode-ray indicator for accurate setting of ECO calibration.
- 115-volt ac/dc operation with 40 volt-amperes input.
- Telescoping antenna on side of case.
- Tubes: one 6SL7; one 6SA7; one 6J5; one 6SK7; one 25Z6; one VR-90; and one 6U5 tuning indicator.

### MECHANICAL FEATURES OF ALL MODELS

- Rugged steel cabinet with 1/8" aluminum panel.
- Machined main dial graduated in 100 divisions over 180 degrees. Vernier allows reading of 1/10 of dial division.
- Panel finished in black leatherette.
- All labels engraved in panel surface.
- Dimensions: 13½" high, 7¾" wide, 6¾" deep.
- Weight: 15 lbs. Shipping weight 18½ lbs.



## BROWNING WIDE-BAND OSCILLOSYNCHROSCOPE MODEL OJ-17

This new Browning instrument is designed to meet the demand for an oscillosynchroscope capable of producing satisfactory traces in high-speed pulse work. The characteristics of this 'scope suit it to use in work involving pulses of extremely short duration and in the study of complex wave forms having very high frequency components. The individual elements — 'scope, synchronizer, high-voltage power supply, low-voltage power supply, and control panel — are mounted in a standard vertical rack cabinet on casters. Space is provided at the top of the cabinet for installation of a Fairchild Oscillorecord camera when photographic records of 'scope traces are desired.

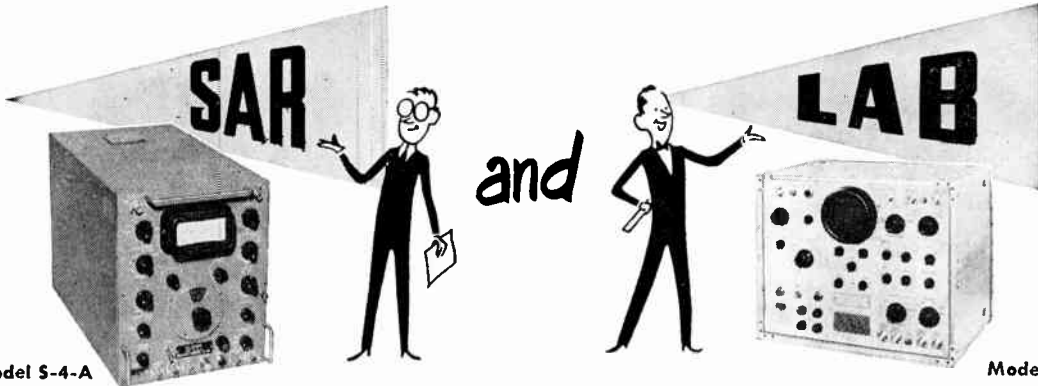
### CIRCUIT FEATURES

- Band width of 16 mc. in vertical amplifier; deflection sensitivity of .05 volts/inch at maximum gain, video delay of 0.2 microsecond.
- Horizontal Amplifier: Band width of 2 mc., deflection sensitivity .25 volts/inch at maximum gain.
- Cathode Ray Tube: Type 5RP or 5XP with anode voltage variable from 10 to 20 KV. Supplied in any of the standard phosphors.
- Driven Sweep: Variable from .05 to 500 microseconds per inch, may be triggered from (1) external pulses of 0.1 volt or higher, (2) video amplifier signals, (3) scope trigger generator.
- Sawtooth Recurrent Sweep: 5 to 500,000 cycles per second.
- Trigger Generator: Positive and negative output of 100 volts from 500 ohms, running rate — 20-20,000 cps.
- Markers: Either internal blanking or deflection type: 0.1, 1.0, 10, 100 microsecond ranges.
- Blanking: External connection to grid provided.
- Variable Delay Circuit: Operates from internal trigger generator or external sync. and provides positive and negative delayed output triggers. May be used to delay sweep from external sync. or internal trigger generator. Delay continuously variable to 2000 microseconds. Adjustable by means of 4½" directly calibrated dial.
- Voltage Calibration Circuit: Provides measurement of input signals by means of substitution voltages in the form of 1000-cycle square waves.
- Size: 81½" x 23½" x 24".
- Weight: 500 lbs.; shipping weight: 750 lbs.

NET PRICE, F.O.B. Winchester, Massachusetts . . . . \$5000.00

**WATERMAN PIONEERING**

# **PULSESCOPE®**



Model S-4-A

Model S-5-A

**PULSES**COPIES are Oscilloscopes to portray the attributes of the pulse: such as shape, amplitude, duration and time displacement. Both of the **PULSES**COPIES have Video amplifiers with frequency response up to 11 megacycles with Video delay of 0.55 microseconds and pulse rise and fall time better than 0.07 microseconds.

**S-4-A SAR PULSES**COPE—Video Sensitivity 0.5vp to p/in. S Sweep 80 cycles to 800KC, either trigger or repetitive. A Sweep 1.2 microseconds to 12,000 microseconds. R Delay 3 microseconds to 10,000 microseconds directly calibrated on precision dial. R Pedestal (or Sweep) 2.4 microseconds to 24 microseconds. Internal Crystal Markers 10 microseconds and 50 microseconds. Size 9 1/8 x 11 1/4 x 17 1/4". Weight: Less than 32 pounds.

**S-5-A LAB PULSES**COPE—Video Sensitivity 0.1vp to p/in. Sweep 1.2 microseconds to 120,000 microseconds with 10 to 1 expansion. Sweep either trigger or repetitive. Internal Markers synchronized with Sweep from 0.2 microseconds to 500 microseconds. Trigger Generator and built-in precision amplitude calibrator. Completely cased. Size: 16 1/2 x 14 1/8 x 14 1/2". Weight: Less than 60 pounds.

## **WATERMAN RAYONIC TUBE DEVELOPMENTS**



3 SP

Since the introduction of Waterman RAYONIC 3MP1 tube for miniaturized oscilloscopes, Waterman has developed a rectangular tube for multi-trace oscilloscopy. Identified as the Waterman RAYONIC 3SP, it is available in P1, P2, P7 and P11 screen phosphors. The face of the tube is 1 1/2" x 3" and the over-all length is 9 1/4". Its unique design permits two 3SP tubes to occupy the same space as a single 3" round tube, a feature which is utilized in the S-15-A TWIN-TUBE POCKETSCOPE. On a standard 19" relay rack, it is possible to mount up to ten 3SP tubes with sufficient clearances for rack requirements. All RAYONIC cathode ray tubes are available in P1, P2, P7 and P11 phosphors. We are authorized to supply 3SP1, 3JP1 and 3JP7 with JAN stamp. All RAYONIC tubes listed below operate on 6.3 volts heater with .6 amp. current.

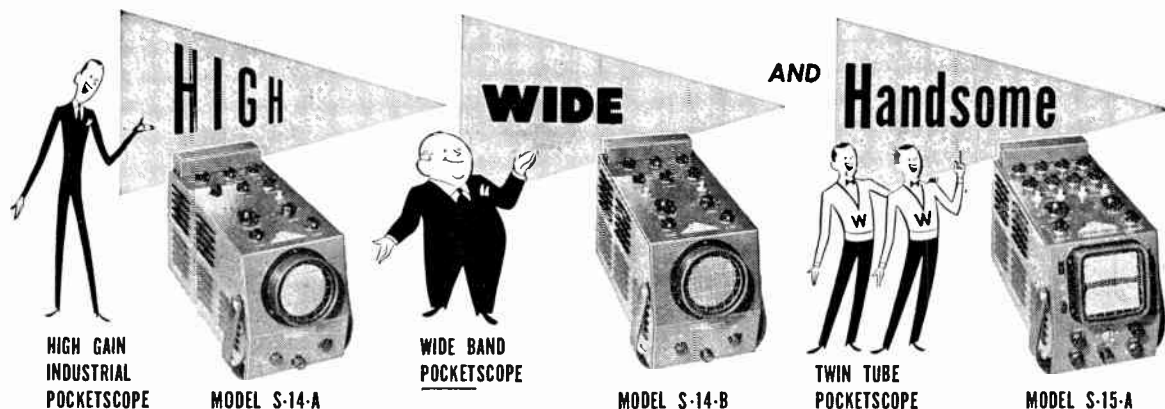


3 MP

TUBE	PHYSICAL DATA			TYPICAL VOLTAGES				DEFLECTION FACTOR V/IN.		MAX. VOLTS	
	Face	Length	Base	Anode # 3	Anode # 2	Anode # 1	Grid # 1	D1 to D2	D3 to D4	Anode # 3	Anode # 2
3JP	3 inch Round	10 inches	Medium Diheptal 12 Pin	3000	1500	300 to 515	-22.5 to -67.5	127 to 173	94 to 128	4000	2000
				4000	2000	400 to 690	-30 to -90	170 to 230	125 to 170		
3MP	3 inch Round	8 inches	Small Duodecal 12 Pin		1000	200 to 350	0 to -68	140 to 190	130 to 180		2500
					2000	400 to 700	0 to -126	280 to 380	260 to 360		
3SP	1 1/2 x 3 inches	9.12 inches	Small Duodecal 12 Pin		1000	165 to 310	-28.5 to -67.5	73 to 99	52 to 70		2750
					2000	330 to 620	-58 to -135	146 to 198	104 to 140		

# THE WATERMAN LINE-UP

## POCKETSCOPE®



HI, WIDE and HANDSOME POCKETSCOPES are characterized by small size, light weight, and outstanding electrical performance. All units have frequency compensated attenuators as well as non-frequency discriminating gain controls. All units have both periodic and trigger sweeps from  $\frac{1}{2}$  cycle to 50KC. The amplifiers are direct coupled thus frequency response starts from 0 cycles. No peaking coils are used, thus, the transient response is good. Full expansion of trace, both vertical and horizontal, is built in. Means for amplitude calibration are provided. DC coupling in POCKETSCOPES provides unusual stability of the trace, regardless of the line voltage changes or variations of impedances in the

input circuit. The HI, WIDE and HANDSOME POCKETSCOPES are the outgrowth of Waterman pioneering of the first commercial miniature oscilloscope, which has proved to be useful and reliable over a period of years. Combination filter and graph screens are used for better visibility, thus traces can be observed even under high ambient light conditions. Binding posts for convenience of connections, with an effective shield, are used. S-14-A has sensitivity of 10 mv/inch with pass band above 200KC. S-14-B has sensitivity of 50 mv/inch with pass band above 1 megacycle. S-15-A is similar to S-14-A except that it has two independent CR Tubes for multi-trace oscilloscope work. Accessories such as carrying cases and probes are available.




S-11-A

The Model S-11-A Industrial & Television POCKETSCOPE is a small, compact, lightweight instrument for observation of repetitive electrical circuit phenomena. The Industrial & Television POCKETSCOPE is a complete cathode ray oscilloscope incorporating the cathode ray tube, vertical, horizontal, and intensity amplifiers, linear time base oscillator, blanking, synchronization means and self-contained power supply. The Industrial & Television POCKETSCOPE can be used, not only for AC measurements, but for DC as well, inasmuch as it has vertical and horizontal amplifiers which are capable of reproducing faithfully within  $-2$  db, from 0 to 200KC. The sensitivity of the vertical and horizontal amplifiers is high and is in the order of 100 mv rms/in.



S-12-B

Model S-12-B RAKSCOPE has the features of S-11-A POCKETSCOPE, plus. The RAKSCOPE is JANized and the government model number is OS-11. The Sweep, from 5 cycles to 50KC is either repetitive or triggered. Vertical and horizontal amplifiers are 50 millivolts rms per inch with band pass from 0 to 200KC. Special calibrating circuitry is provided for frequency comparison. Both the vertical and horizontal amplifiers are identical and use no peaking. The panel is only 7" high and the scope fits standard rack. The functional layout of the control permits ease of operation.



# WATERMAN PRODUCTS CO., INC.

PHILADELPHIA 25, PENNA., U.S.A.

CABLE ADDRESS, POKETSCOPE, PHILA.

Manufacturers of POCKETSCOPES® • RAKSCOPES® • PULSESCOPES® and RAYONIC TUBES®



# COSSOR OSCILLOGRAPHS THRU BEAM INSTRUMENTS

## Double Beam Industrial Oscilloscope Model 1049



This instrument is presented to meet the requirements of industrial concerns and Research Laboratories who require to measure phenomena of zero or very low frequency and to make photographic records of transients requiring a high photographic writing speed. Two independent Y axis amplifiers are used; one for each beam. Y1 and Y2 gain 900 and 25 respectively, with response D.C.—100 Kcs.

### Y1 D.C. AMPLIFIER

Gain—900, Five Tubes.  
Frequency response, D.C. to 100 Kcs. plus or minus 15%.  
Fitted with directly calibrated Y Shift control.  
Compensated for H.T. and Heater supply variations.  
Input Impedance, 0.5 to 0.75 megohms capacity 10 to 10 pF.

### Y2 D.C. AMPLIFIER

Gain—25, One Tube.  
Frequency response, D.C. to 100 Kcs. plus or minus 15%.  
Fitted with switch attenuator calibrated in the following range of Y2 sensitivity—  
**Volts per mm.** 10.0, 5.0, 2.0, 1.0, 0.5, 0.2, 0.1.  
Max. input, 1,000 V.D.C., or Peak A.C.  
Input Impedance, 0.5 to 1 megohm, 70 pF (Miller effect).

### TIME BASE

Repetitive, Triggered or Single Stroke operation.  
Positive or Negative sync. and Trigger by continuously variable control.  
Directly calibrated time scale with 9 ranges from 150 microseconds to 1.5 seconds.

### SYNCHRONIZATION AND TRIGGER

Switch selection for External sync. or Internal sync. from Y1 or Y2 signals.  
Sync. Input impedance, 2 megohms 20 pF.

### BEAM TRIGGER

H.F. circuit giving the following facilities—

1. Beam Trigger off.
2. Electrical Beam Trigger enabling beam to be switched on and off by application of D.C. to trigger terminal, and giving beam switching for time marking from A.C. signal.
3. Mechanical Beam Trigger enabling beam to be switched by shorting "Beam Trigger" and "Common terminals".
4. Line Frequency Beam Trigger giving blackout plps at Line Frequency.
5. Push-button to facilitate photography and to inspect the trace.

### CATHODE RAY TUBE

Type 89 Double Beam 4" diam. 4" (blue) Screen.  
The output of the Amplifier and Time Base and direct access to the Tube Plates and Anode, and "Ground" available at the side of the instrument.

### POWER RATING

Voltage—110, 125, 207, 225 and 245. Stabilized for variations of up to plus or minus 10% of input volts.  
Frequency—40-100 cycles. Consumption—130 watts.  
Stabilized D.C. voltages—  
Tube—2KV and 4KV. Amplifiers, Time Base, etc.—650 volts.

## Cossor Portable Twin-Beam Oscilloscope Model 1037C



The instrument uses the unique Cossor Double Beam Type 89 Cathode Ray Tube (green screen). C.R.T. has a flat 4" diameter face, facilitating accurate measurements and avoids optical focussing troubles when photographing traces. Signals to the tubes normally pass through the amplifiers but direct connection to the CRT electrodes is provided. Time Base is an extremely linear Miller Transitron with cathode follower coupling, synchronized via a limiter stage, dispensing with front panel sync. control.

**Y1 AMPLIFIER**—Is direct coupled. Gain is 25, sensitivity 1.0 r.m.s. volt/inch. Input impedance is .5 megohm and 30 uuf. Maximum input 1000 volts D.C. Response from D.C., i.e. 0 to 100,000 cycles within 15% or 1 db, approximately, 3 stages. Gain levels in preset calibrated steps. Voltage inputs read directly off vertical shift control.

**Y2 AMPLIFIER**—Is A.C. coupled, single stage. Gain is 10 and sensitivity 2.7 r.m.s. volts/inch. Input impedance 1 megohm, 30 uuf. Gain levels in preset steps. Frequency response from 20 cycles up to 300,000 cycles within 15% or 1 db, approximately. An A.C. connection from a front panel terminal direct to the Y2 plate is provided when the A2 volts switch is set to 60. Calibration and synchronization are maintained.  
Sensitivity of either beam direct is 15 volts r.m.s./inch. With amplifiers in cascade, 0.1 r.m.s. volts/inch.

### X AXIS

No X axis amplifier is used. Direct sensitivity is 12.5 r.m.s. volts/inch. The Miller Transitron system generates recurrent sweeps from 2 - 50,000 cycles/sec., calibrated in milliseconds and microseconds on the X shift control for direct reading of time intervals within 10% accuracy. Synchronization is automatic. Front panel switch selects sync. from Y1 or Y2 amplifier outputs or from mains frequency. Flyback is blanked out at all speeds. Time base voltage is available at high impedance at X1 terminal at rear panel.

### TEST SIGNAL

50 volts peak to peak at power frequency available at front panel.

### POWER RATING

70 watts approximately at input voltages of 80, 105, 110, 115, 180 and 230 volts. at any frequency from 25 to 2400 cycles/sec. Tube supply 1000 volts. General D.C. voltage supply 350 volts.

## Double Beam Oscilloscope Model 1035



Model 1035 Oscilloscope is designed to meet the exacting needs of the modern Research Laboratory and Industrial Plant whose requirements demand a simply operated and versatile instrument for quantitative measurements and waveform analyses.

Two independent Y axis amplifiers are used. One for each beam. The mechanical presentation of this Oscilloscope combines functional simplicity with robustness and attractive appearance.

Calibrated controls enable direct measurement of Time and Voltage and thus provide a valuable facility of equal appeal to Laboratory, Production or Service Engineers.

The traces are presented over the full diameter of a 4" double beam flat-screen and special screens with a long afterglow can be supplied for special work.

### Y1 AMPLIFIER

3 tubes.  
Directly calibrated voltage scale with 7 ranges—(Accuracy plus or minus 15%) 7 Mcs. to 20 C.P.S.

RANGE	GAIN	FREQUENCY RESPONSE
50 volts	3	15% Down 50% Down
15 volts	10	7.0 Mcs. 10.0 Mcs.
5 volts	30	3.0 Mcs. 4.5 Mcs.
1,500 millivolts	100	2.2 Mcs. 2.8 Mcs.
500 "	300	1.6 Mcs. 2.0 Mcs.
150 "	1,000	1.0 Mcs. 1.4 Mcs.
50 "	3,000	150 Kcs. 500 Kcs.
		60 Kcs. 250 Kcs.

L.F. Response down to 20 c.p.s.  
Maximum Input Volts, 500 D.C.  
Input Impedance, 2 megohms. Input Capacity 20 pF.

### Y2 AMPLIFIER

One tube.  
Directly calibrated voltage scale with 5 ranges.  
(Accuracy plus or minus 15%). 500, 150, 50, 15, and 5 volts.  
Frequency Response 20 c.p.s. to 100 Kcs. plus or minus 15%.

Output available at terminal on front panel.  
Cathode Follower facilities for external use.  
A.C. connection to tube plate via terminal on front panel.  
Maximum input volts, 500 D.C.  
Input impedance, 0.2 megohms.  
Input capacity, 35 pF.

### TEST WAVEFORM VOLTAGE ("CAL.")

50 volts peak to peak.

### TIME BASE

Repetitive, Triggered and Single Stroke operation. Positive or Negative sync. and Trigger by switch control. Directly calibrated time scale with 9 ranges. (Accuracy plus or minus 10%) 15 microseconds to 150 microseconds. Time base volts available at high impedance at X1 terminal. Switch positions provided for EXT. T.B. and Time Base "OFF." Flyback suppressed.

### SYNCHRONIZATION AND TRIGGER

Switch selection for positive or negative sync. and trigger from external source or internally from Y1 Amplifier.

### CATHODE RAY TUBE

Cossor double beam, 4" dia. flat face.  
Output of both Amplifiers, Time Base and direct connections to tube plates and modulator circuits are available at the side of the instrument.

### POWER RATING

Voltage—105 to 235 in 10 steps. Frequency—50 to 100 cycles.  
Consumption—170 watts (approx.) C.R.T. supply—2,000 volts.

## Cossor Oscilloscope Camera Model 1428



### CAMERA SPECIFICATIONS

**LENS** ..... Aperture F/3.5  
**SHUTTER** ..... Single-bladed, push button operated.  
**FILM DRIVE** ..... Sprocket feed.  
**LENS REDUCTION RATIO** 2.6:1.  
**MAZ. SIZE OF RECORD** On Tube screen—6.5 cms. On film—25 mm.  
**SHUTTER SWITCH** .. Switch contacts close during shutter opening period for Beam or Event triggering. Maximum switch rating 50 volts, 100 mA non-inductive load.  
**FITTING** ..... Camera is located with Oscilloscope tube bezel by two register pins and clamped by four captive thumb-screws.  
**FOCUSING** ..... Focus is set at Works but is adjustable.  
**RECORDS** ..... Single frame or continuous film with Motor Attachment.  
**FILM AND PAPER** .. 35mm. perforated film or paper in 25-foot rolls.  
**LOADING** ..... Camera in daylight. Cassette in dark room.  
**FILM SPEEDS** (Type F) 1", 12", 36" per second.  
**WITH MOTOR** (Type M) 4", 12", 36" " "  
**ATTACHMENT** (Type S) .04", 12", 36" " "  
**WEIGHT**, camera only 5½ lbs., approx.

## Cossor Camera Motor Drive Attachment Model 1429

For A.C. supplies only. 110v., 200-220v. and 230-250v., 50-60 cycles.

**FILM SPEEDS**  
Gearbox Type F..... 4", 12" and 36" per second  
" " M..... 4", 12" and 36" " "  
" " S..... .04", 12" and 36" " "

Please state supply voltage and type of gearbox required when ordering.

**WEIGHTS**  
Motor Drive Attachment and Gearbox complete 13¼ lbs.



Send for full descriptive literature to:

**BEAM INSTRUMENTS CORPORATION** 350 Fifth Avenue, New York 1, N. Y.

# BEST PRODUCTS THRU BEAM INSTRUMENTS

## VACUO JUNCTIONS (THERMOCOUPLES)

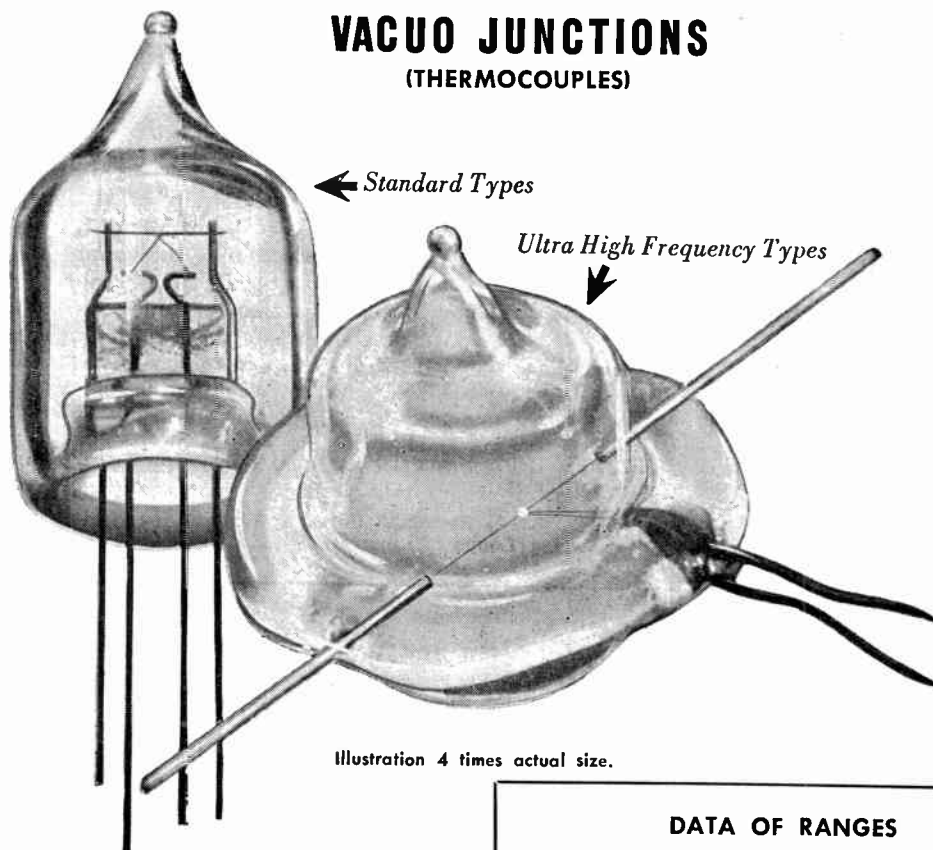


Illustration 4 times actual size.

### GENERAL INFORMATION.

#### Insulation.

Vacuo Junctions are electrically insulated from the heaters, and tested to 100 volts D.C.

#### Resistance Tolerances.

Resistance tolerances for Heater or Thermo-Couple are plus or minus 10%.

#### Sensitivity Tolerances.

The nominal output of 7 millivolts is subject to a variation of plus or minus 12%.

#### Current Overload.

The current ratings can be exceeded by a 50% overload without risk of damage to the Thermo-Couple for continuous running. The millivolts output at any overload within this limit can be calculated by relating it to the square of the current approximately.

The Heater will withstand transient overloads of 100%, but there is a risk of burning out if this overload is maintained.

#### General.

Owing to the extremely fine gauges employed it is not possible to guarantee any closer tolerances.

#### Temperature Co-efficient.

The over-all temperature co-efficient of the Thermo-Couple does not exceed 0.2% per degree centigrade. This temperature co-efficient, generally speaking, is of no value because the Thermo-Couples, being used invariably with indicating galvanometers, it is the over-all temperature co-efficient of couple and galvanometer which is important, and this can only be ascertained experimentally, the interacting factors being too numerous for estimation or calculation.

### DATA OF RANGES

Range	Heater Res. Ohms.	Couple Res. Ohms.	Couple Output
<b>Stand. Types</b>			
1.25 M.A.	1600	13	7MV $\pm$ 12%
2.5 MA.	400	8	" "
<b>Stand. and U.H.F. Types</b>			
5 MA.	90	8	" "
10 "	25	8	" "
15 "	20	4	" "
25 "	10	4	" "
50 "	3	4	" "
100 "	1.5	4	" "
200 "	0.7	4	" "
500 "	0.3	4	" "
1000 "	0.15	4	" "

The above range is available in ULTRA HIGH FREQUENCY type, from 5 MA. upwards.

All joints are spot welded. Couple is insulated from heater. Special ranges and outputs can be made to suit customers' individual requirements. Quotations on request.

Send for full descriptive literature to:

## BEAM INSTRUMENTS CORPORATION

350 Fifth Avenue, New York 1, N. Y.



### WHEATSTONE BRIDGE



● A carefully engineered bridge made for all around use in lab., plant, or field. Both models contain own  $4\frac{1}{2}$ -volt battery power supply and galvanometer. Provision for external batteries and galvanometer if desired. Both models have ratio dial settings of .001, .01, .1, 1, 10, 100, and 1000 as well as built-in resistance standards of 1, 10, 100, and 1000-ohm decades. Ratios are guaranteed to .05% tolerance. Resistance dial resistors to .1%. Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover.  $9\frac{1}{4}'' \times 7\frac{1}{2}'' \times 6\frac{1}{4}''$  h. Wt.  $9\frac{1}{4}$  lbs. net;  $12\frac{1}{4}$  lbs. shipping.

MODEL RN-1. Standard Portable Wheatstone Bridge, complete with batteries.....Net Price \$121.00

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley Loops.....Net Price \$140.00

### MEGOHM METER

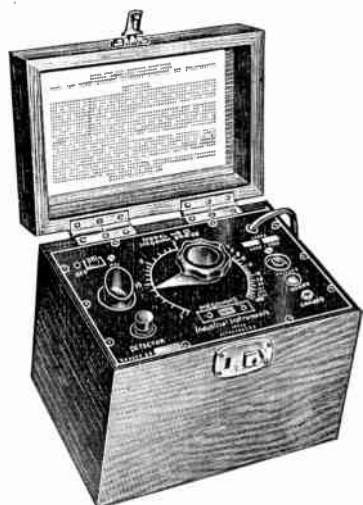
● For high-speed testing of condenser leakage resistance, insulation resistance and insulation measurements in production and inspection of components. Terminals for charging capacitors prior to test. Self-contained power source up to 200 volts. Internal checking standard to check and adjust calibration. Broad scale meter. Accuracy within  $\pm 1\%$  based on full scale current. Range of 1 megohm to 100,000 megohms on four multiplier ranges of 1, 10, 100, and 1000. Highest range can be extended to 500,000 megohms using external supply. Hardwood case. Sloping bakelite panel designed for production use.  $15'' \times 8'' \times 10''$  h. Wt. 19 lbs. net; 23 lbs. shipping.



MODEL L-2A. Megohm Meter with tubes.....Net Price \$160.00

MODEL L-4A. Megohm Meter having 200 volt DC and 500 volt DC measuring voltage.....Net Price \$195.00

MODEL L-6A. Megohm Meter having continuously variable source voltage 100-600 volts DC and built-in voltmeter to check voltage. Net Price \$245.00



### MEGOHM BRIDGE

● A fast, accurate instrument for routine inspection work. May be used by laboratory workers, or production workers. Very simple to operate. "Magic Eye" replaces costly and delicate galvanometer. Operates from AC power line. Self-contained DC source. Accuracy within 5% from 1 to 15 on scale; as close as readable on remainder of scale. Hardwood case with slip-hinge removable cover.  $8'' \times 5\frac{3}{4}'' \times 7''$  h. Wt.  $6\frac{1}{4}$  lbs. net;  $8\frac{1}{4}$  lbs. shipping.

MODEL MB-8. 1 megohm to 1,000 megohms; 100 megohms to 100,000 megohms 500 Volts, D.C. Bridge source.....Net Price \$90.00

MODEL MB-11. 1 megohm to 1,000 megohms; 10 megohms to 10,000 megohms; 100 megohms to 100,000 megohms.....Net Price \$132.00



### VOLTAGE BREAKDOWN TESTER

● A simple, positive, safe and quick means of testing voltage breakdown of materials and components. Step-up transformer accurately controlled by Variac. Continuously variable over entire range, 0 to 4,000 v. DC. For safety, load is limited to 5 milliamperes over full range. Also safety switch if instrument is removed from case. Operates on AC line. Warning light indicates instrument is operative. Voltage breakdown indicated by red light.

**MODEL P-1.** Voltage Breakdown Tester with tubes. 15" x 8" x 10". Hardwood case with fine-grained crackle enamel sloping panel. Wt. 29 lbs. net; 32 lbs. shipping. (Not illustrated) Net Price \$165.00

**MODEL P-2.** Voltage Breakdown Tester with tubes and additional 0 to 3,000 v. AC outlet. 15" x 8" x 10". Wt. 29 lbs. net; 32 lbs. shipping. (Not illustrated) Net Price \$200.00

**MODEL P-3.** Voltage Breakdown Tester with tubes. Upright, crackle enamel finish cabinet of metal. Range 0 to 10,000 v. DC, 0 to 8,000 v. AC Net Price \$385.00



### RESISTANCE DECADES

● Available in standard models with resistance ranges of .9 to 999,990 ohms total. Accuracy to  $\pm 0.1\%$ . Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below the panel. Hardwood case. Models DR-1 to DR-4, 5 3/4" x 8" x 4" h.; wt. 4 lbs. net; 6 lbs. shipping. Models DR-10 to DR-14, 4 1/2" x 6" x 4" h.; wt. 3 lbs. net; 5 lbs. shipping. Models DR-50 to DR-52, 6 1/8" x 9" x 4 1/4" h.; wt. 5 lbs. net; 7 lbs. shipping.



Model No.	Total Resistance Ohms	Decade Steps	Accuracy	Net Price \$
DR-1	999,000	9x(1,000 + 10,000 + 100,000)	$\pm 1\%$	55.00
DR-2	99,900	9x(100 + 1,000 + 10,000)	$\pm 1\%$	55.00
DR-3	9,990	9x(10 + 100 + 1,000)	$\pm 1\%$	50.00
DR-4	999	9x(1 + 10 + 100)	$\pm 1\%$	48.50
DR-10	.9	9x.1	$\pm 1\%$	22.00
DR-11	9	9x1	$\pm 1\%$	22.00
DR-12	90	9x10	$\pm 1\%$	22.00
DR-13	900	9x100	$\pm 1\%$	22.00
DR-14	9,000	9x1,000	$\pm 1\%$	25.00
DR-50	9,999.9	9x(.1 + 1 + 10 + 100 + 1,000)	$\pm 1\%$	72.00
DR-51	99,999	9x(1 + 10 + 100 + 1,000 + 10,000)	$\pm 1\%$	77.00
DR-52	999,990	9x(10 + 100 + 1,000 + 10,000 + 100,000)	$\pm 1\%$	100.00

### CAPACITANCE DECADES

● Instrument calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in microfarads. Progressive adjustment in .01, .001, or .0001 mfd. steps depending on model. .001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Enclosed in hardwood case. DK-4, DK-10 and DK-2A, 8" x 5 1/2" x 7 1/4" H.; wt. 8 lbs.; 12 lbs. shipping. DK-5, DK-11, 11" x 8 1/4" x 7" H.; wt. 10 lbs. net; 12 lbs. shipping.

Model	Capacitance Mfd. Steps	Accuracy	Dielectric Section	P.F.	Peak Volts	Price \$
DK-5	11.1 in .01	1%	.01 Mica	.2%	700 DC	75.00
			.1 paper	1%	400 DC	
			1.0 paper	1%	400 DC	
DK-4	1.11 in .001	1%	.001 mica	.2%	700 DC	60.00
			.01 mica	.2%	700 DC	
			.1 paper	1%	400 DC	
DK-2A	1.11 in .001	1%	Mica	.2%	700 DC	140.00
			throughout		500 AC	
					60 cycle	
DK-10	.111 in .0001	.5% or 10 mmfd. throughout	Mica	.2%	700 DC	100.00
					500 AC	
					60 cycle	
DK-11	11.1 in .01	.5%	.01 Mica	.2%	700 DC	150.00
			.1 mica	.2%	500 DC	
		1%			60 cycle	
			1.0 paper	1%	400 DC	



# SUPERIOR TEST EQUIPMENT

The New Model TV-11

## TUBE TESTER



### Specifications:

- Tests all tubes including 4, 5, 6, 7, Octal, Lock-in, Peanut, Bantam, Hearing-aid, Thyatron, Miniatures, Sub-Miniatures, Novals, Sub-Minars, Proximity Fuse Types, etc.
- Tests for "shorts" and "leakages" up to 5 Megohms.
- Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base numbering system, the user can instantly identify which element is under test. Tubes having tapped filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TV-11 as any of the pins may be placed in the neutral position when necessary.
- The Model TV-11 does not use any combination type sockets. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket.
- Free-moving built-in roll chart provides complete data for all tubes.
- Newly designed Line Voltage Control compensates for variation of any line voltage between 105 Volts and 130 Volts.

### EXTRA SERVICE

The Model TV-11 may be used as an extremely sensitive Condenser Leakage Checker. A relaxation type oscillator incorporated in this model will detect leakage even when the frequency is one per minute.

### \* NOISE TEST

Phono Jack on front panel for plugging in either phones or external amplifier will detect microphonic tubes or noise due to faulty elements and loose external connections.

The Model TV-11 operates on 105-130 Volt 60 Cycles A.C. Comes housed in a beautiful hand-rubbed oak cabinet complete with portable cover. Size 11 1/4" x 13" x 6". Shipping Weight 15 lbs.

**\$47<sup>50</sup>**  
NET

# TELEVISION BAR GENERATOR

THROWS AN ACTUAL BAR PATTERN ON ANY TV RECEIVER SCREEN!!



**SPECIFICATIONS:** Power Supply: 105-125 Volt 60 Cycles  
Power Consumption: 20 Watts  
Channels: 2-5 on panel, 7-13 by harmonics  
Horizontal lines: 4 to 12 (Variable)  
Vertical lines: 12 (Fixed)  
Vertical sweep output: 60 Cycles  
Horizontal sweep output: 15,750 Cycles

### Two Simple Steps

1. Connect Bar Generator to Antenna Post of any TV Receiver.
2. Plug Line Cord into A.C. Outlet and Throw Switch.

**RESULT:** A stable never-shifting vertical or horizontal pattern projected on the screen of the TV receiver under test.

### Features:

1. Provides linear pattern to adjust VERTICAL linearity, height, centering.
2. Provides linear pattern to adjust HORIZONTAL drive, width, peaking, linearity, centering.
3. Provides vertical sweep signal for adjusting and synchronizing vertical oscillator discharge and output tubes.
4. Provides vertical signal to replace vertical oscillator to check vertical amplifier operation.
5. Provides horizontal sweep signal for adjusting and synchronizing horizontal oscillator A.F.C. and output tubes.
6. Provides horizontal sweep signal to check H.V. section of fly-back and pulse operating power supplies.
7. Provides signal for testing video amplifiers.
8. Can be used when no stations are on the air.

TV BAR GENERATOR COMES COMPLETE WITH SHIELDED LEADS AND DETAILED OPERATING INSTRUCTIONS. ONLY . . .

**\$39<sup>95</sup>**  
NET



Manufactured by

**SUPERIOR INSTRUMENTS CO.**  
NEW YORK 7, N. Y.

# SUPERIOR TEST EQUIPMENT

The new model 770

## AN ACCURATE POCKET-SIZE VOLT-OHM MILLIAMMETER

(SENSITIVITY: 1000 OHMS PER VOLT)



### FEATURES

- ★ Compact—measures 3 1/8" x 5 7/8" x 2 1/4".
- ★ Uses latest design 2% accurate 1 Mil. D'Arsonval type meter.
- ★ Same zero adjustment holds for both resistance ranges. It is not necessary to readjust when switching from one resistance range to another. This is an important time-saving feature never before included in a V.O.M. in this price range.
- ★ Housed in round-cornered, molded case.
- ★ Beautiful black etched panel. Depressed letters filled with permanent white, insures long-life even with constant use.

The Model 770 comes complete with self-contained batteries, test leads and all operating instructions.

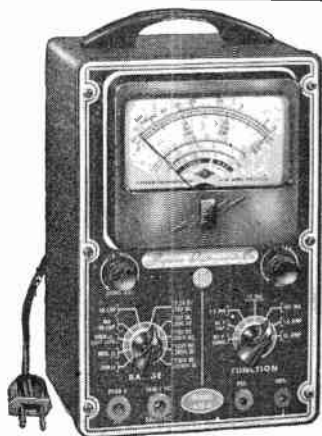
### SPECIFICATIONS

- 6 A.C. VOLTAGE RANGES:  
0—15/30/150/300/1500/3000 VOLTS
- 6 D.C. VOLTAGE RANGES:  
0—7.5/15/75/150/750/1500 VOLTS
- 4 D.C. CURRENT RANGES:  
0—1.5/15/150 MA. 0—1.5 AMPS.
- 2 RESISTANCE RANGES:  
0—500 OHMS 0—1 MEGOHM

**\$14<sup>90</sup>**  
NET

## The new model 670-A SUPER-METER

A COMBINATION VOLT-OHM MILLIAMMETER PLUS CAPACITY REACTANCE INDUCTANCE AND DECIBEL MEASUREMENTS



### SPECIFICATIONS:

- D.C. VOLTS: 0 to 7.5/15/75/150/750/1,500/7,500 Volts
- A.C. VOLTS: 0 to 15/30/150/300/1,500/3,000 Volts
- OUTPUT VOLTS: 0 to 15/30/150/300/1,500/3,000 Volts
- D.C. CURRENT: 0 to 1.5/15/150 Ma. 0 to 1.5/15 Amperes
- RESISTANCE: 0 to 1,000/100,000 Ohms 0 to 10 Megohms
- CAPACITY: .001 to 1 Mfd. 1 to 50 Mfd. (Quality test for electrolytics)
- REACTANCE: 50 to 2,500 Ohms 2,500 Ohms to 2.5 Megohms
- INDUCTANCE: .15 to 7 Henries 7 to 7,000 Henries

DECIBELS: —6 to +18 + 14 to + 38 + 34 to + 58

### ADDED FEATURE:

The Model 670-A includes a special GOOD-BAD scale for checking the quality of electrolytic condensers at a test potential of 150 Volts.

The Model 670-A comes housed in a rugged, crackle-finished steel cabinet complete with test leads and operating instructions. Measures 6 1/4" x 9 1/2" x 4 1/2".

**\$28<sup>40</sup>**  
NET

The new model 660 — AN AC OPERATED

## SIGNAL GENERATOR

Provides Complete Coverage for A.M.-F.M. and TV Alignment



### SPECIFICATIONS

- ★ Generates Radio Frequencies from 100 Kilocycles to 60 Megacycles on fundamentals and from 60 Megacycles to 240 Megacycles on powerful harmonics.
- ★ Accuracy and stability assured by use of permeability trimmed Hi-Q coils.
- ★ R.F. available or modulated by the internal audio oscillator.
- ★ Built in 400 Cycle sine wave audio oscillator used to modulate the R.F. signal also available separately for audio testing of receivers, amplifiers, etc.
- ★ Oscillator Circuit: Uses a miniature high frequency type of acorn triode in a Hartley circuit to insure a high degree of stability. By using the same type of triode as a buffer amplifier, complete and positive isolation between the R.F. oscillator and the attenuator is attained.
- ★ Attenuator: A 3 step ladder type of attenuator is used. Each step of the attenuator is controlled by a separate attenuator control thus providing intermediate level steps.
- ★ Tubes used: 955, as R.F. Oscillator, 955 as Modulated Buffer Amplifier, 6SN7 as Audio Oscillator and Power Rectifier.

The Model 660 comes complete with coaxial cable test lead and instructions.

**\$42<sup>95</sup>**  
NET

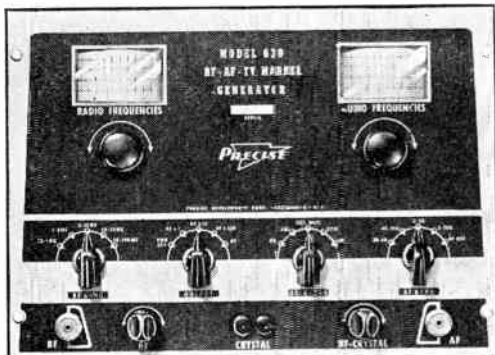


Manufactured by

**SUPERIOR INSTRUMENTS CO.**  
NEW YORK 7, N. Y.

Instruments IN KIT & WIRED FORM . . .

**precise**  
above all else



• **PRECISE MODEL 630**  
**RF-AF-TV and Marker Generator**

The very first kit to reach 110 MC on fundamentals, 330 MC on harmonics. The first kit to offer a complete factory preassembled and calibrated RF head. Pre-tuned RF Head; \*Audio: 20-20,000 cycles; variable percent modulation; cathode-follower output; stepping attenuator; external modulation; speech amplifier; crystal marker; crystal amplitude control; RF & AF stand-by; Wien Bridge AF Oscillator; Colpitts RF Oscillator; Drum Dials; Coaxial fittings; individually tuned coils; constant output impedance; filtered line; Vernier tuning on RF & AF; Separate RF Section; Complete shielding.

**RF FREQUENCIES:**

- Band 1 — 300KC to 1MC FUNDAMENTALS
- Band 2 — 1MC to 3MC FUNDAMENTALS
- Band 3 — 3MC to 10MC FUNDAMENTALS
- Band 4 — 10MC to 30MC FUNDAMENTALS
- Band 5 — 30MC to 110MC FUNDAMENTALS
- Band 5A — 60MC to 220MC 2nd Harmonic
- Band 5B — 90MC to 330MC 3rd Harmonic

**AF FREQUENCIES:**

- Band 1 — 20 to 40 Cycles
- Band 2 — 40 to 200 Cycles
- Band 3 — 200 to 2K Cycles
- Band 4 — 2K to 20K

8 x 11 x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs. TUBE COMPLEMENT: 6C4, 6SN7, 6AU6, 6X5.

**630K . . . \$33<sup>95</sup>**  
**630KA . . . \$38.95**  
**Factory Wired . . . \$53.95**

• **PRECISE MODEL 909 Vacuum Tube Voltmeter**

**WHAT BETTER WAY TO BUY THAN BY MAKING A COMPARISON!**

Ceramic precision resistors—1% or better, deeply etched panel; steel cabinet; Amphenol type DC connector; special, separate 5V. AC scale for accuracy on low voltages; 250 V. scale enables you to read line voltages accurately.

**FREQUENCY RANGE:**

Up to 250 megacycles w/tn PRECISE 912 Probe (avail at additional cost)

**VOLTAGE RANGE:**

Up to 30,000 V. with PRECISE 999 High Voltage Probe (avail. at additional cost)

**FM & TV:**

Special true zero alignment scale for FM & TV discriminators; Burn out proof circuit; 25 Megohm input impedance on DC; complete with test leads and internal battery; oversize 4 1/2" meter; 105-120V., 50-60 cycles, AC; wt.: 10 lbs.; 9 1/2 x 6 x 5".

**RANGES:**

- + DC: 0-5-25-250-500-1000 Volts
- DC: 0-5-25-250-500-1000 Volts
- AC: 0-5-25-250-500-1000 Volts
- Ohms: Rx1-Rx10-Rx1000-Rx10,000-Rx1,000,000 ohms;
- from .2 Ohms to 1 Billion Ohms.
- DB; From -20 to +55 DB

**TUBE COMPLEMENT:**

6SN7, 6AL5, 6X5

**909K . . . . . \$25<sup>98</sup>**  
**Factory Wired . . . . . \$44.98**



• **PRECISE MODEL 907**

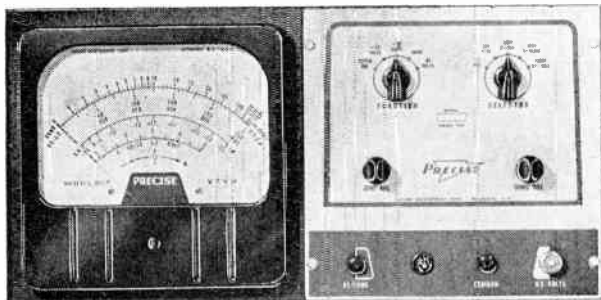
**Deluxe Vacuum Tube Voltmeter**  
(Vertical or Horizontal Construction)

**Another PRECISE First!**

Again giving you the best as a matter of course, in our ever continuing effort to provide "ENGINEERING PRODUCTS" that defy competitive efforts.

GIGANTIC 7 1/2" Meter movement for better visibility, greater accuracy; all the unusual values of the Model 909 in a really DELUXE version. Specifications same as Model 909. 8 x 16 x 5"

**Model 907K . . . . . \$38<sup>98</sup>**  
**Factory Wired . . . . . \$57.98**



Prices slightly higher in the West  
Prices and specifications subject to change without notice  
**ALL EQUIPMENT HAS THE PRECISE GUARANTEE**

**SOLD THROUGH LEADING JOBBERS • WRITE FOR CATALOG #52-AR**

**PRECISE DEVELOPMENT CORP. • Oceanside, New York**

Instruments IN KIT & WIRED FORM . . .

**precise**  
above all else



• **PRECISE MODEL 635**  
**Universal AF Sine, Square and Pulse Generator**

Efficiently and effectively ascertains all Audio and Video troubles  
Sine waves; square waves; Wien Bridge Oscillator; Pulses; variable impedance output;  
voltage regulation insures a veritabily constant output; cathode follower output; Minimum  
overshoot & round-off through 30,000 cycles on square waves and pulses; sine waves  
through 200,000 cycles.

8 x 11 x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel;  
amphenol type connectors; wt.: 19 lbs.

**TUBE COMPLEMENT:**  
1—6AU6; 3—6SN7; 1—6X5; 16S6

**RANGES:** 20-40 cycles  
40-200 cycles  
200-2000 cycles  
2000-20,000 cycles  
20,000-200,000 cycles

**635K . . . . . \$33<sup>50</sup>**

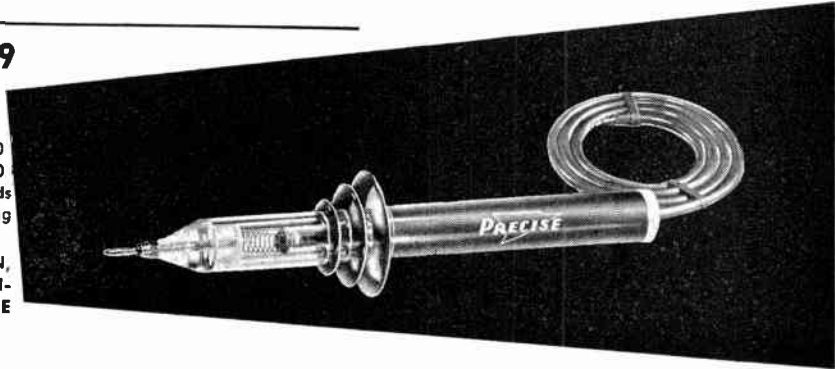
Factory Wired . . . . . \$52.50

• **Precise Model 999**

**High Voltage Probe**

100,000,000,000,000,000,000,000,000  
000,000,000,000,000,000,000,000,000  
000,000,000,000 to 1 are the odds  
against a voltage breakdown occurring  
in this probe.

**ESSENTIAL FOR EVERY SERVICEMAN,  
ENGINEER HAM OR STUDENT! ESSEN-  
TIAL TO THE MAN WHO KNOWS THE  
VALUE OF BEING PRECISE!**



The PRECISE MODEL 999 High Voltage Probe was designed for high voltage measurements with special emphasis on  
**SAFETY, OPERATIONAL SIMPLICITY AND RUGGED CONSTRUCTION.** First in the industry to include any one or  
more of the following exclusive features:

**MULTIPLE INSULATION:** The only probe with at least three individual media  
that must be penetrated before a voltage breakdown could occur.

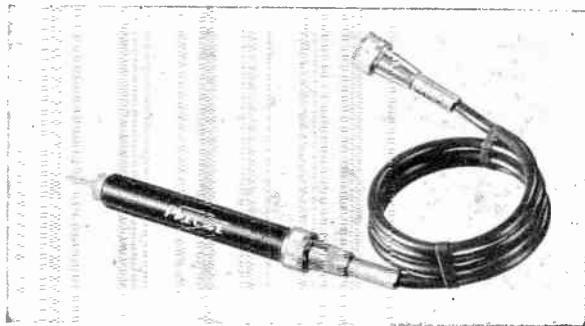
**MECHANICALLY SHOCK-PROOF CONSTRUCTION:** The only probe to utilize a  
double spring suspension system in order to protect the Ceramic high wattage  
multiplier resistor.

**INTERCHANGEABLE TIPS:** The only probe where two tips are supplied —  
one, the conventional type for probing; the other, an alligator clip for connecting  
permanently to the circuit.

**SWIVEL LEAD CONNECTION:** A special-fixed slip-ring arrangement is provided  
which prevents the test lead cable from snagging or developing high strains at  
the junction of the cable and probe handle.

**INTERCHANGEABLE RESISTORS**

**999 . . . Wired Only . . . \$6<sup>98</sup>**



• **PRECISE MODEL 912 R.F. Probe**

Individually calibrated at 75 megacycles for accuracy, impedance and shunt  
capacity. The lowest priced, finest factory wired and calibrated R.F. Probe  
in the industry today.

- **FREQUENCY RANGE:** RMS readings from AF through 250 megacycles.  
Veritably flat through 100 megacycles
- **BUILT IN 600 VOLT BLOCKING CAPACITOR**
- **INPUT CAPACITY:** The approximate input capacity is less than 3 uufd  
and usually about 1.2 uufd.
- **INPUT RESISTANCE:** Approximately 200,000 ohms at 1 megacycle  
Approximately 150,000 ohms at 10 megacycles  
Approximately 25,000 ohms at 100 megacycles

**Wired Only . . . . . \$4<sup>25</sup>**

Prices slightly higher in the West

Prices and specifications subject to change without notice

ALL EQUIPMENT HAS THE PRECISE GUARANTEE

SOLD THROUGH LEADING JOBBERS

• **WRITE FOR CATALOG # 52-AR**

**PRECISE DEVELOPMENT CORP. • Oceanside, New York**

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# INSTRUMENTS and KITS

The Industry's most complete line of MATCHED TEST INSTRUMENTS!

**You Build EICO KITS  
in one evening... but  
they last a lifetime!  
AND—YOU SAVE 50%!**

## TRIPLE-PROVED for AM, FM, TV

1. PERFORMANCE-PROVED on the TV production lines and in the design laboratories of the leading set manufacturers.
2. PERFORMANCE-PROVED by over 100,000 servicemen coast-to-coast.
3. PERFORMANCE-PROVED by the nation's leading electronics training schools and universities.

## EICO New 5" Push-Pull Oscilloscope

All-new laboratory-precision scope with all the extra sensitivity and response for precise servicing of TV, FM & AM sets. Push-pull undistorted vertical and horizontal amplifiers. Boosted sensitivity, .05 to .1 rms volts/inch. Useful to 2.5 MC. TV-type multivibrator sweep circuits, 15 cps—75 KC. Z-axis intensity modulation feature. Dual positioning controls move trace anywhere on screen. Complete with 2-6J5, 3-6SN7, 2-5Y3, and 5" C.R. Tube. 3-color etched rub-proof panel; rugged steel case. 115 v., 60 cycle AC. 8½x17"x13". Ship. wt. 29 lbs.

Model 425-K, KIT, only..... **\$44.95**      Model 425, factory wired.... **\$79.95**

## EICO New Vacuum Tube Voltmeter

Laboratory-precision VTVM for trigger-fast operation and lifetime service. 15 different ranges. Large 4½" meter, can't-burn-out circuit. New zero center for TV & FM discriminator alignment. Electronic AC & DC ranges: 0-5, 10, 100, 500, 1000 v. (30,000 volts & 200 MC with HVP-1 & P-75 probes). Ohmmeter ranges, .2 ohms to 1000 megohms. DB scale. New stable double-triode balanced bridge circuit—extreme accuracy. 26 megohms DC input impedance. 3-color etched rub-proof panel; rugged steel case. 115 v., 60 cycle AC. 9½"x6"x5". Ship. wt. 10 lbs.

**\$49.95** Model 221-K, KIT, only..... **\$25.95**      Model 221, factory wired.....



## EICO Radio Frequency Probe

Sensitive Germanium crystal probe for signal tracing and measurements to over 200 mc. Extends range of VTVMs and scopes.

P-75K, KIT, for VTVM; P-76K for Scope; ea..... **\$3.75**  
P-75 or P-76, factory wired, ea..... **\$5.95**

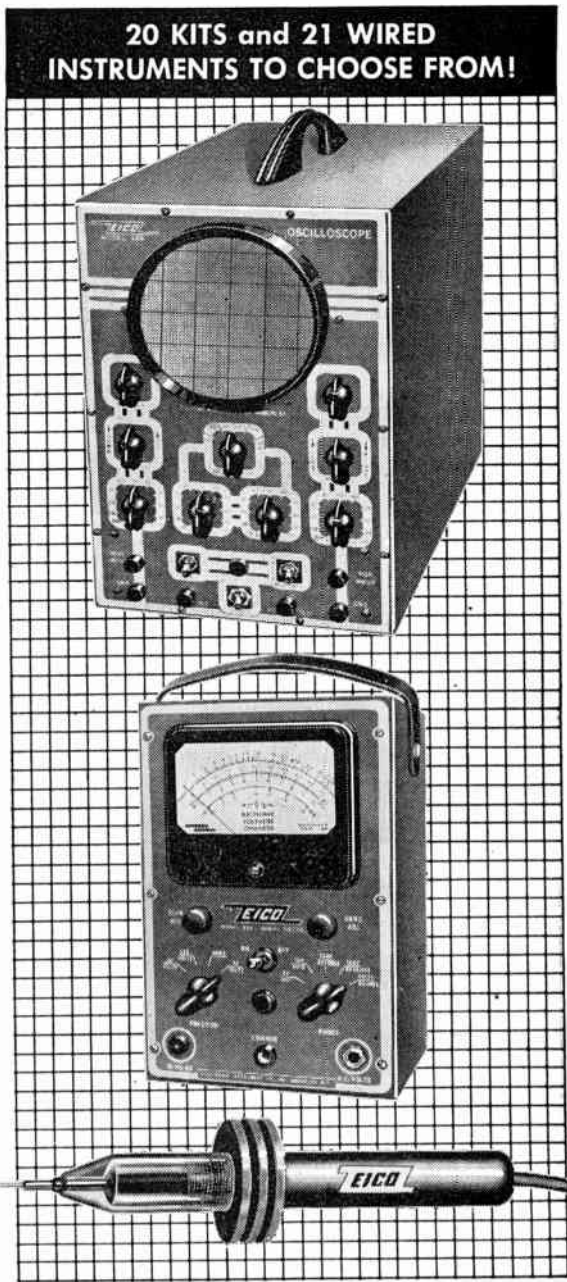
## EICO High Voltage Probe

New professional EICO-engineered HV probe carefully designed and insulated for extra safety and versatility. Extends range of VTVMs and voltmeters up to 30,000 v. Lucite head. Large flash-guards. Multilayer processed handle. Complete with interchangeable ceramic Multiplier to match your instrument.

Model HVP-1 (wired)..... **\$6.95**

Prices 5% higher on West Coast. Due to unstable conditions, all prices and specifications are subject to change without notice.

ELECTRONIC INSTRUMENT CO., Inc., Brooklyn 11, N. Y.



**20 KITS and 21 WIRED INSTRUMENTS TO CHOOSE FROM!**

**Dollar for dollar, feature for feature, EICO Instruments and Kits lead the industry!**

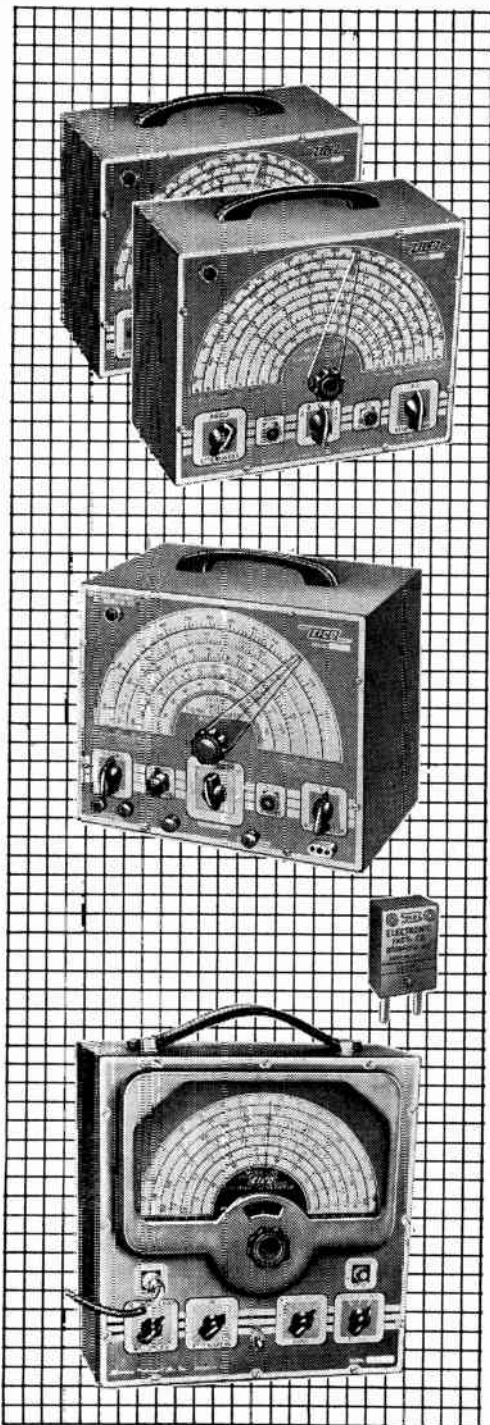


# INSTRUMENTS and KITS

TRIPLE-PROVED FOR AM, FM, TV

The Industry's most complete line of  
MATCHED TEST INSTRUMENTS!

**You Build EICO KITS in one evening... but they last a lifetime! AND YOU SAVE 50%**



## 5 NEW GENERATORS TO CHOOSE FROM! 2 EICO New RF-AF Signal Generators

**Model 320:** For FM-AM precision alignment and TV marker frequencies. Vernier Tuning Condenser. Highly stable RF oscillator, range: 150 KC - 102 MC with fundamentals to 34 MC. Separate audio oscillator supplies 400-cycle pure sine wave voltage. Pure RF, modulated RF or pure AF for external testing. 3-color etched panel; rugged steel case. Ship. wt. 10 lbs.

Model 320-K, KIT, only..... **\$19.95**      Model 320, factory wired..... **\$29.95**

**Model 322:** In addition to all the outstanding laboratory-precision qualities of the famous EICO Model 320, the brand new Model 322 features the individual calibration of each of its 5 bands.

Model 322-K, KIT, only..... **\$23.95**      Model 322, factory wired..... **\$34.95**

## EICO New TV-FM Sweep Generator

Covers all TV-FM alignment frequencies, 500 KC - 228 MC. Vernier-driven dial: center of each of 13 TV channels marked on front panel. Sweepwidth variable 0-30 MC with mechanical inductive sweep — permits gain comparison of adjacent RF TV channels. Crystal marker oscillator, variable amplitude. Provides for injection of external marker. Phasing control. Complete with HF tubes. Less Crystal. 10"x 8"x 6 3/4". 5 MC Crystal, each. \$3.95. Ship. wt. 12 lbs.

Model 360-K, KIT, only..... **\$34.95**      Model 360, factory wired..... **\$49.95**

## EICO 5MC Crystal

EICO-designed for all generators and oscillators, this highest quality crystal accommodates all standard sockets and circuits. Gives excellent performance with EICO Model 360 Sweep Generator.

Model C-5 (not a kit) only..... **\$3.95**

## EICO New Deluxe RF-AF Signal Generator

Laboratory-precision generator EICO Service-Engineered with 1% accuracy. Extremely stable, frequency 75 kc - 150 mc in 7 calibrated ranges. Illuminated hairline vernier tuning. VR stabilized line supply. 400-cycle pure sine wave with less than 5% distortion. Tube complement: 6X5, 7F7, 6C4, VR-150. 3-color etched panel; rugged steel case. 115 v., 60 cycle AC. 12"x 13"x 7". Ship. wt. 21 lbs.

Model 315-K, KIT, only..... **\$39.95**      Model 315, factory wired..... **\$59.95**

## BRAND NEW! EICO AUDIO GENERATOR

(not illustrated)

Ask your jobber about this outstanding new audio generator — available in both Kit and Wired form.

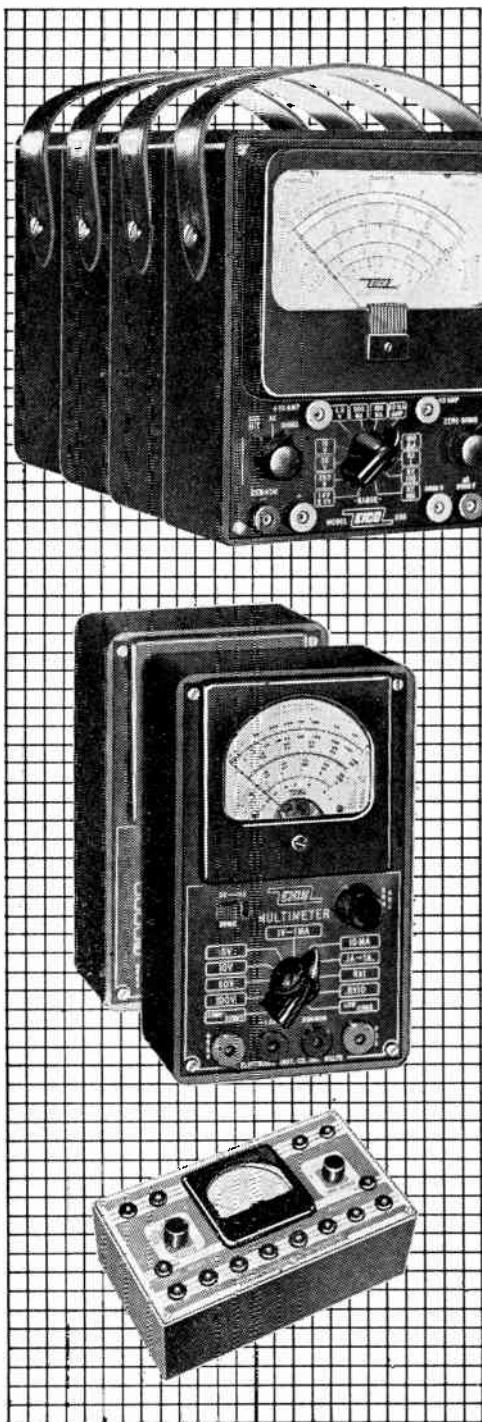
**Dollar for dollar, feature for feature, EICO Instruments and Kits lead the industry!**



# INSTRUMENTS and KITS

TRIPLE-PROVED FOR AM, FM, TV  
The Industry's most complete line of  
MATCHED TEST INSTRUMENTS!

**You Build EICO KITS in one evening... but they last a lifetime! AND YOU SAVE 50%**



**7 New EICO Volt-Ohm-Milliammeters to choose from — the Industry's Greatest V-O-M Values!**

**EICO New Model 565 20,000 Ohms/Volt Multimeter KIT \$24.95. Wired \$29.95.**

- 31 full scale ranges!
- DC/AC/Output Volts: 0-2.5, 10, 50, 250, 1000, 5000.
- DC Current: 0-100  $\mu$ a; 10, 100, 500 ma; 10 Amp.
- Ohms: 0-2000, 200K, 20 meg.
- 5 DB Ranges: -12 to +55.
- Large 4½" 50  $\mu$ a meter movement.
- High-impact Bakelite case. 6¾ x 5¼ x 3".

**EICO New Model 555 20,000 Ohms/Volt Multimeter KIT \$29.95. Wired \$34.95.**

As above, with 1% precision resistors.

**EICO New Model 566 1000 Ohms/Volt Multimeter KIT \$14.90. Wired \$18.95.**

Ranges: same as Model 536 (see below), plus 7 output voltages. Large 4½" 400  $\mu$ a meter movement.

**EICO New Model 556 1000 Ohms/Volt Multimeter KIT \$16.90. Wired \$23.50.**

Same as Model 566, with 1% precision resistors.

**EICO New Model 536 1000 Ohms/Volt Multimeter KIT \$12.90. Wired \$14.90.**

- 31 1000 ohms/volt full-scale ranges!
- DC/AC Volts: Zero to 1, 5, 10, 50, 100, 500, 5000.
- DC/AC Current: 0-1, 10 ma; 0.1, 1 Amp.
- Ohms: 0-500, 100K, 1 meg.
- 6 DB Ranges: -20 to +69.
- Large 3" 400  $\mu$ a meter movement.
- High-impact Bakelite case. 6¼ x 3¾ x 2".

**EICO New Model 526 1000 Ohms/Volt Multimeter KIT \$13.90. Wired \$16.90.**

As above, with 1% precision resistors.

**EICO New Model 511 Volt-Ohm-Milliammeter KIT \$14.95. Wired \$17.95.**

Pocket-size VOM cram-packed with value! 22 different ranges. 3" D'Arsonval movement. Ring-type shunts. Germanium crystal rectifier. Ranges — DC: 0-5, 50, 250, 500, 2500 v. AC and Output: 0-10, 100, 500, 1000 v. DC Ma: 0-1, 10, 100. DC Amp: 0-1, 10. Ohms: 0-500, 100,000; 0-1 Meg. DB: -8 to +55. 3-color etched panel; rugged hardwood case. 8" x 4½" x 3". Ship. wt. 3½ lbs.

Prices slightly higher on West Coast. Due to unstable conditions, all prices and specifications are subject to change without notice.

ELECTRONIC INSTRUMENT CO., Inc., Brooklyn 11, N. Y.

**Dollar for dollar, feature for feature, EICO Instruments and Kits lead the industry!**



# INSTRUMENTS and KITS

TRIPLE-PROVED FOR AM, FM, TV  
The Industry's most complete line of  
MATCHED TEST INSTRUMENTS!

**You Build EICO KITS in one evening... but they last a lifetime! AND YOU SAVE 50%**

## EICO New Tube Tester

Brand new professional tube tester and merchandiser EICO Service-Engineered for unbeatable value! Large 4 1/2" full-vision meter. Tests conventional and TV tubes including 9-pin miniatures. New lever-action switches—tests every tube element: Illuminated "Speed Roll-Chart", 2 grid caps. Short and open-element tests. Spare socket for new tubes. Protective overload bulb. Electronic rectifier. 3-color etched panel; rugged steel case. 115 v., 60 cycle AC. 12 1/2" x 9 1/2" x 4 1/4". Ship. wt. 12 lbs. Model 625-K, **\$34.95** Model 625, **\$49.95**  
KIT, only..... factory wired.....

## EICO New Picture Tube Test Adapter

(for EICO Models 625 & 625-K Tube Testers)

With the new Model CRA and your EICO Tube Tester, you check all sizes TV Picture Tubes as fast and easily as any ordinary tube. Model CRA gives a quantitative measurement of cathode emission, and tests for filament continuity and shorts between elements. Comes complete with standard 12-pin TV tube socket, octal plug-in connector, and extra long 4-foot cable that enables Pix Tube to remain in set while testing.

Model CRA, only..... **\$4.50**

## EICO New Resistance-Capacitance Bridge & R-C-L Comparator

This brand new professional resistance-capacitance bridge is especially EICO Service-Engineered for extremely wide usefulness. Measures and tests all resistors from 0.5 ohms to 500 megohms. Measures and tests every type condenser, 10 mmfd to 5000 mfd. Special built-in Precision Comparator Range gives instant, easy comparison measurement of resistance, capacitance and inductance with a complementary component as a standard: exceptional wide range of 400:1. Built-in continuously variable 0-500 DC voltage source for capacitor leakage testing. Separate leakage tests for paper and mica condensers (large magic eye indicator) and for electrolytic condensers (neon bulb circuit). Allows determination of capacitor power factor by means of calibrated potentiometer and magic eye. Latest bridge-type circuit. 110 v., 60 cycle transformer and rectifier. All ranges calibrated on front panel. 3-color etched rub-proof panel; rugged steel case. 10" x 8" x 4 3/4"

Model 950-K, **\$19.95** Model 950, **\$29.95**  
KIT, only..... factory wired.....

## EICO New Battery Eliminator, Charger & Booster

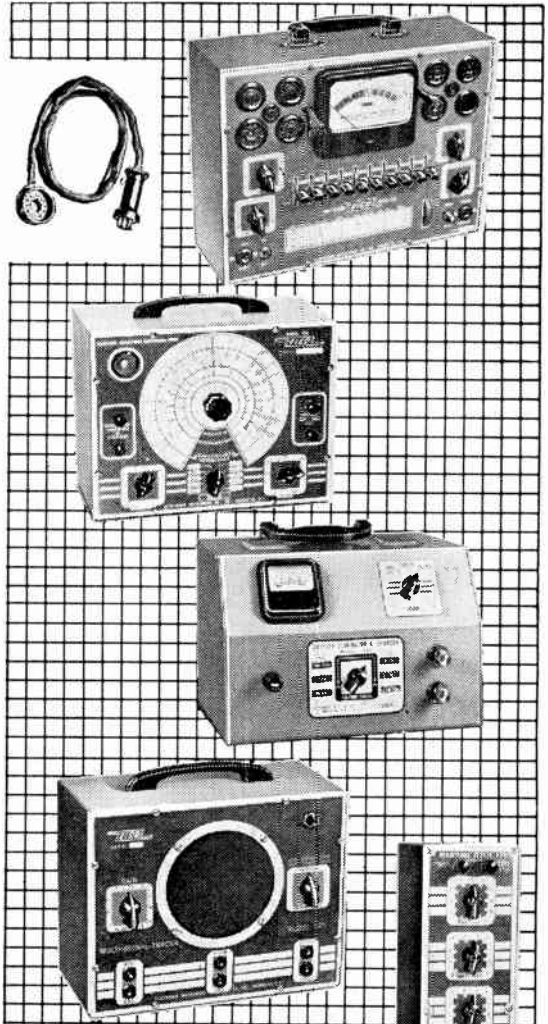
For all auto radio testing. Latest-type full-wave Bridge circuit. 4-stack manganese copper-sulfide rectifiers. Specially designed transformer, continuously variable from 0 to 13 volts. Continuous operation: 5-8 v., 10 amps. Intermittent: 20 amps, 10,000 mfd filter condenser. Meter measures current and voltage output. Fused primary and an automatic reset overload device for secondary. Rugged hammertone steel case. 115 v., 60 cycle AC. 10 1/2" x 7 3/4" x 8 3/4". Ship. wt. 15 lbs.

Model 1040-K, **\$25.95** Model 1040, **\$34.95**  
KIT, only..... factory wired.....

## EICO Multi-Signal Tracer

Highest gain and flexibility in low-cost field! Audibly traces all IF, RF, Video & Audio from ANT to SPKR or CRT without switching. Response well over 200 mc. Integral test speaker. Provision for visual tracing with VTVM. Complete with 6SJ7, 6K6, 6X5. Germanium crystal diode probe. 3-color etched panel; rugged steel case. 115 v., 60 cycle AC. 10" x 8" x 4 3/4". Ship. wt. 9 lbs.

Model 145-K, **\$19.95** Model 145, **\$28.95**  
KIT, only..... factory wired.....



## EICO New Resistance Decade Box

Brand new extra-accurate instrument EICO-engineered for exceptionally easy operation and extra-wide usefulness. Supplies resistance values from 0-99,000 ohms with 1/2% precision! 5 separate switches, 10 positions each. All resistors have ± 1/2% accuracy. SPECIAL FEATURE: New separate Comparator Position and binding posts permits instant substitution of actual equivalent component for the resistance value indicated on decade box. Rugged, extremely simple construction. 3-color etched panel; sturdy steel case. 3 1/2" x 12" x 3". Ship. wt. 2 1/2 lbs. Model 1171-K, KIT, only.... **\$19.95** Model 1171, factory wired **\$24.95**

## COMPREHENSIVE INSTRUCTIONS

Every EICO Kit contains the most comprehensive, easiest-to-follow step-by-step instructions and the clearest, easiest-to-read schematic and pictorial diagrams in electronics! All small parts (resistors, condensers, etc.) are packed in individually marked envelopes clearly numbered and identified on the blueprints. That's why servicemen and students say "it's a snap" for anyone to build the EICO Kits!



### the exclusive EICO Make-Good GUARANTEE

(included with every EICO product)

Each EICO Kit and Instrument is doubly guaranteed, by EICO and your jobber, to contain only selected quality components. EICO guarantees to replace any component which might be come defective in normal use if returned to the factory transportation charges pre-paid within 90 days of purchase. EICO guarantees all Kits assembled according to EICO's simplified instructions will operate as specified thereon. EICO guarantees service and calibration of every EICO Kit and Instrument at the nominal charge as stated in the instructions.

### The EICO Guarantee

Only EICO gives you the Make-Good Guarantee — the strongest, most substantial guarantee in the industry! When you buy EICO, you enjoy the greatest protection available for your test equipment investment!

## SEE THESE FAMOUS EICO INSTRUMENTS & KITS AT YOUR LOCAL JOBBER TODAY — AND SAVE!

Prices 5% higher on West Coast. Due to unstable conditions, all prices and specifications are subject to change without notice.

ELECTRONIC INSTRUMENT CO., Inc., Brooklyn 11, N. Y.

**Dollar for dollar, feature for feature, EICO Instruments and Kits lead the industry!**

# PRECISE MEASUREMENTS COMPANY

## 100 KILOVOLTS!

At Fifty Thousand Ohms/Volt  
KILOVOLT Model 4000

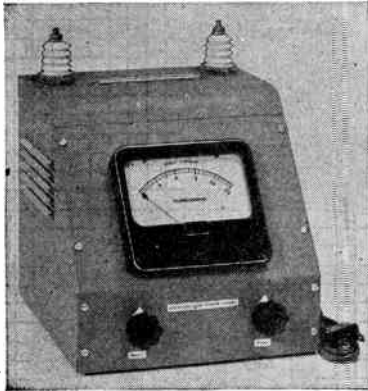
- Shielded Polyesterene Probe
- Choice of Ranges
- Simple Foolproof Circuits

Measures television and X-ray voltages with extra high input impedances. All voltage is dissipated in the shielded polyesterene probe. "Normal-Reverse" key is provided so that probe may be used regardless of polarity of voltage under test. Indicator has large clear scale for easy reading.



Model	Range Kilovolts	Price
4000	0-25/50	\$67.50
4000-A	0-100	80.00
4000-B	0-50/100	85.00
4000-C	0-10/50/100	95.00

## HIGH VOLTAGE POWER SUPPLIES



A precision, well constructed high voltage supply for television, meter testing and calibration, electrostatic painting, breakdown tests, nuclear physics and wherever high potentials at low currents are needed. Output is well filtered direct current. Adjustable by means of a control on the front panel. Available with or without meter. Input voltage is 115 volts, 60 cycles.

Model	Maximum Voltage	Price
6000	2,500	\$40.00
6000-A With Meter	2,500	60.00
6005	5,000	45.00
6005-A With Meter	5,000	65.00
6010	10,000	55.00
6010-A With Meter	10,000	75.00
6015	15,000	70.00
6015-A With Meter	15,000	90.00
6025	25,000	85.00
6025-A With Meter	25,000	105.00

## ELECTRO-GRAPHIC RECORDER

Features for the first time a recording instrument of small size and low cost. Built-in motor operates from the standard power lines. In spite of the small size the recording width has been enlarged so that 1 and 3/4 inch wide paper is used. All writing is of a permanent nature. No ink, chemicals or pens are used. Standard models are of one milliamper sensitivity. Other ranges available on order. Mounts on panel as any standard meter.



Model 50 RECORDER 0-1 Mill. Price \$85.00

We Invite Your Inquiry for . . .

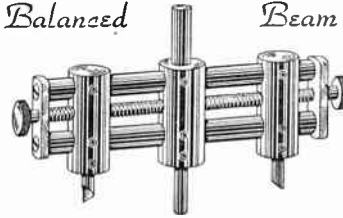
**SNOOPERSCOPIES • INFRA RED MATERIALS  
• KERR CELLS • GOVERNMENT CONTRACT  
& SUBCONTRACT WORK • HIGH VACUUM  
AND GASEOUS TUBES MADE TO ORDER**

*Instruments Built to Specifications*

**"PRECISE" Test Equipment is sold through wholesale distributors. See your local distributor or write us for his address. — PRECISE MEASUREMENTS COMPANY**

## MICRO

Balanced Beam



**CIRCLE CUTTER**  
CUTS METALS • WOODS • PLASTICS

For quickly cutting those extra large hole sizes. Perfect for making washers.

Type	Model	Shank Size	Price
9 Round	10"		\$12.50
10 Round	15"		15.00

Extra cutting bits  
50¢ each

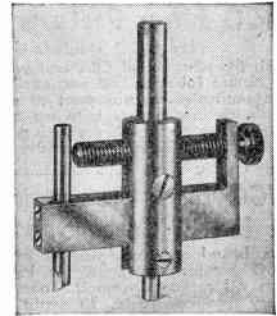
## MICRO CIRCLE CUTTER

Cuts holes in all types of metals from stainless steel to magnesium. Perfect for plastics and wood.

Built-in micrometer type size control for precise settings. Adjustable in an infinite number of hole sizes within its range. "Quickie" beam locking mechanism for long trouble-free operation. Extra heavy construction of the main beam and body make it useful for production jobs as well as experimental work. All are equipped with a 1/4" high speed steel cutting bit.

Model	Type	Size	Price
1	Round Shank (for drill press or hand drill)	4"	\$5.00
1-A	Square Tapered (for hand brace)	4"	5.00
5	Round Shank	6"	7.50

Extra cutting Bit 60¢



## SCALE PRINTING MACHINE

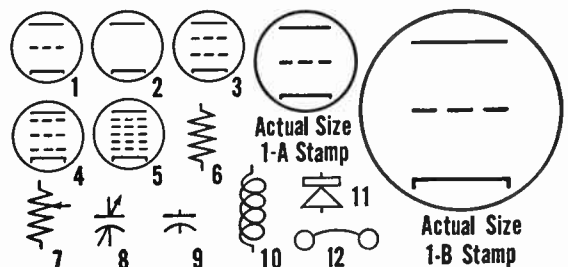


Prints lettering, numbers and divisions on meter scales, dials, name plates, labels, etc. Uses standard printers type obtainable everywhere. Not intended for production work but rather for those special jobs which are one of a kind. Does a neat printed job in a jiffy. The Model 1000 Junior machine finds the most use where the divisions are already drawn in and the scale requires numbers and letters. The Model 1500 Standard machine (illustrated) provides in addition, division printing features.

Model	Price
1000 JUNIOR SCALE PRINTING MACHINE.....	\$45.00
1500 STANDARD SCALE PRINTING MACHINE	95.00

Prices do not include printers type.

## RUBBER CIRCUIT STAMPS



These handy rubber stamps provide clear sharp impressions of all the most widely used radio and electrical circuit symbols. Not only saves considerable drawing and drafting time but provides a neater-looking appearance as well. Available in two popular sizes. Stamps may be purchased separately or in complete sets. When ordering, specify stamp number and size.

SIZE A	CIRCUIT STAMP SET	(12 stamps)	\$8.50
SIZE A	Individual Circuit Stamps	each	.85
SIZE B	CIRCUIT STAMP SET	(12 stamps)	10.00
SIZE B	Individual Circuit Stamps	each	.95

# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

## PILOT LIGHT ASSEMBLIES

for

**T-3 $\frac{1}{4}$  NEON LAMP • NE-51**

**11/16" MOUNTING HOLE**

**BUILT-IN RESISTOR**

(Patent No. 2,421,321)



NE-51

For 110 and 220 volts

The new NE-51 lamp is especially useful for pilot lights to be operated on commercial voltages. It has a distinctive orange-red glow and consumes very little current.



All of these assemblies are listed by Underwriters' Laboratories, Inc.

*Equipped with*  
**BINDING SCREWS**

### MULTI-VUE CAP

In addition to the advantages given by the provision of the built-in resistor, these assemblies offer another feature that is especially important in obtaining effective indication with the NE-51 lamp. The "Multi-vue" cap shown at the right gives a high degree of visibility by directing an increased amount of light toward the eye when the indicator is viewed from any angle. When it is desirable to view the electrodes directly, the clear caps shown below are very effective. For concentrating the light into a beam the metal lens holders are equipped with convex lenses as shown.

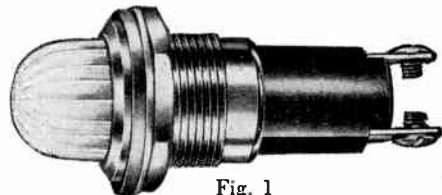


Fig. 1

Multivue caps

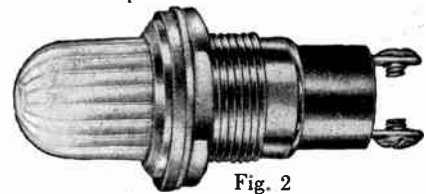


Fig. 2

### CATALOGUE NUMBERS

- 521308-991 Multivue cap, Screw terminals (Fig. 1)
- 531308-991 Multivue cap, Screw terminals (Fig. 2)
- 91408-931 Long clear cap, Soldering terminals (Fig. 4)
- 95408-931 Clear cap, Soldering terminals (Fig. 3)
- 81408-111 Screw-in cap, Convex lens, Soldering terminals (Fig. 20)
- 80408-831 Screw cap, Dome plastic lens, Soldering terminals (Fig. 21)
- 801308-831 Screw cap, Dome plastic lens, Screw terminals
- 51408-111 Screw cap, Convex lens, Soldering terminals (Fig. 22)
- 511308-111 Screw cap, Convex lens, Screw terminals

**COLOR**—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2\*, Amber-3, Blue-4\*, White-5, Yellow-6, Clear-7

\*not recommended with neon lamps.

*Equipped with*  
**SOLDERING TERMINALS**

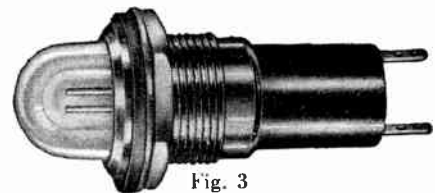


Fig. 3

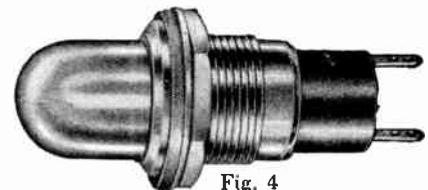
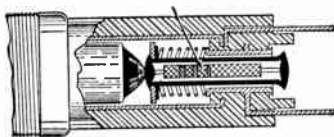


Fig. 4

### BUILT-IN RESISTOR



PATENTED  
No. 2,421,321

External resistors will be furnished which will permit use of these pilot lights on voltages higher than 220 volts.

This series of pilot light assemblies is unique and has several exclusive features. The resistors are permanently built into the high quality DIALCO designed socket.

This socket is constructed with heavy molded bakelite insulation in which the terminals are securely anchored. The insulated socket is mounted in a threaded bushing equipped with nut and shakeproof washer for mounting on a panel of any usual thickness.

# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

## CAPS

All illustrations are approximately actual size

### FRICITION

Convex lens



Fig. 5

### BAYONET

Convex lens



Fig. 6

### SCREW

Torpedo lens



Fig. 7

Large convex lens

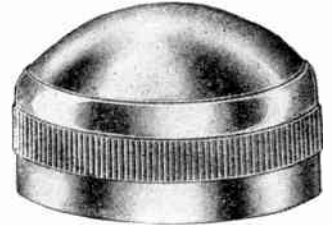


Fig. 8

### SCREW

Dome plastic lens



Fig. 9

Faceted lens



Fig. 10

Convex lens



Fig. 11

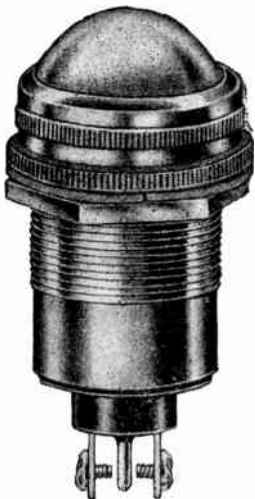
Large torpedo lens



Fig. 12

## ASSEMBLIES FOR 1 INCH MOUNTING HOLE

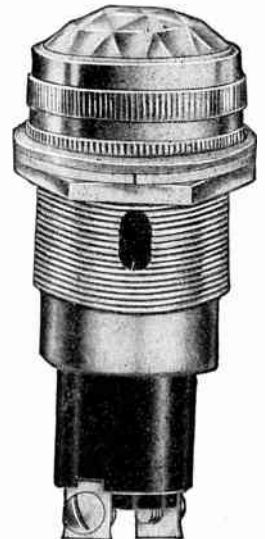
### DOUBLE CONTACT BAYONET



Screw terminals Fig. 15

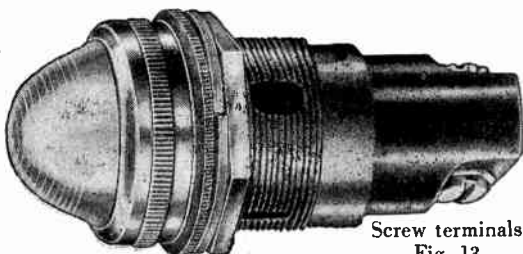


Soldering terminals Fig. 17

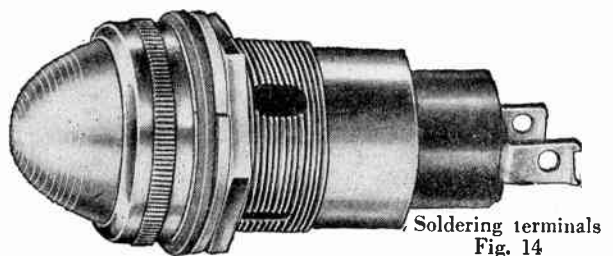


Screw terminals Fig. 16

### CANDELABRA SCREW



Screw terminals  
Fig. 13



Soldering terminals  
Fig. 14

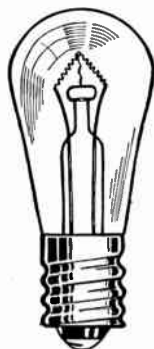
# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

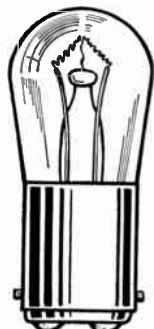
## CATALOG NUMBERS FOR ENCLOSED ASSEMBLIES

Mount in one inch clearance hole  
**UNDERWRITERS' LISTED**



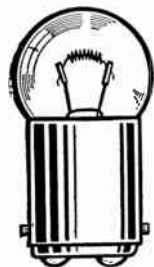
### For S-6 Lamp with Candelabra Screw Base

- 51901-111 Screw cap, Convex lens, frosted back (Fig. 11) Screw terminals (Fig. 13)
- 61901-111 Screw cap, Large convex lens, frosted back (Fig. 8) Screw terminals (Fig. 13)
- 51901-431 Screw cap, Faceted lens (Fig. 10) Screw terminals (Fig. 13)
- 19901-531 Screw cap, Large torpedo lens (Fig. 12) Screw terminals (Fig. 13)
- 51101-111 Screw cap, Convex lens, frosted back (Fig. 11) Soldering lugs (Fig. 14)
- 41901-111 Bayonet cap Convex lens (Fig. 6) Screw terminals (Fig. 13)
- 31901-111 Friction cap Convex lens (Fig. 5) Screw terminals (Fig. 13)
- 47901 Light Shield cap (Fig. 19) Binding Screw terminals (Fig. 13)
- 71101-111 Mechanical dimmer (Fig. 18) Soldering terminals (Fig. 14)
- 78101-111 Polaroid dimmer (Fig. 18) Soldering terminals (Fig. 14)



### For S-6 Lamp with Double Contact Bayonet Base

- 513202-111 Screw cap, Convex lens, frosted back (Fig. 11) Screw terminals (Fig. 16)
- 613202-111 Screw cap, Large convex lens, frosted back (Fig. 8) Screw terminals (Fig. 16)
- 513202-111 Screw cap, Faceted lens (Fig. 10) Screw terminals (Fig. 16)
- 803202-531 Screw cap, Torpedo lens (Fig. 7) Screw terminals (Fig. 16)
- 413202-111 Bayonet cap Convex lens, frosted back (Fig. 6) Screw terminals (Fig. 16)
- 313202-111 Friction cap Convex lens, frosted back (Fig. 5) Screw terminals (Fig. 16)



### For G-6 Lamp with Double Contact Bayonet Base

- 51704-111 Screw cap, Convex lens, frosted back (Fig. 11) Screw terminals (Fig. 15)
- 51704-431 Screw cap, Faceted lens (Fig. 10) Screw terminals (Fig. 15)
- 80704-531 Screw cap, Torpedo lens (Fig. 7) Screw terminals (Fig. 15)
- 80704-841 Screw cap, Dome plastic lens, matted back (Fig. 9) Screw terminals (Fig. 15)
- 51204-111 Screw cap, Convex lens, frosted back (Fig. 11) Soldering terminals (Fig. 17)
- 41204-111 Bayonet cap Convex lens (Fig. 6) Soldering terminals (Fig. 17)
- 31204-111 Friction cap Convex lens (Fig. 5) Soldering terminals (Fig. 17)



### For NE-45 Neon Glow Lamp, Candelabra Screw Base

- 51914-131 Screw cap, Convex lens (Fig. 11) Binding screw terminals (Fig. 13)
- 80914-841 Screw cap, Dome lens (Fig. 9) Binding screw terminals (Fig. 13)
- 41914-131 Bayonet cap Convex lens (Fig. 6) Binding screw terminals (Fig. 13)
- 31914-131 Friction cap Convex lens (Fig. 5) Binding screw terminals (Fig. 13)
- 51114-131 Screw cap, Convex lens (Fig. 11) Soldering terminals (Fig. 14)
- 80114-531 Screw cap, Torpedo lens (Fig. 7) Soldering terminals (Fig. 14)

**COLOR**—The final figure 1 in the above number indicates RED LENS COLOR. If other color is desired, change final figure to one from table below.

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

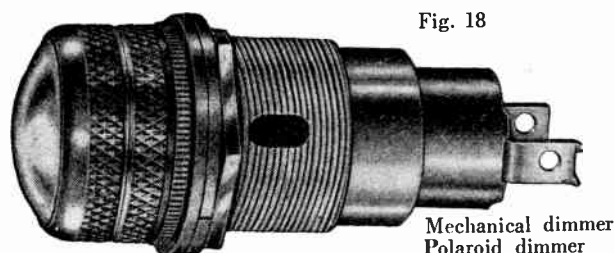


Fig. 18

Mechanical dimmer  
Polaroid dimmer

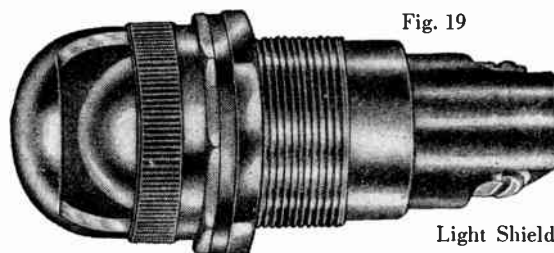


Fig. 19

Light Shield



# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights  
NEW YORK 3, N. Y.

## PILOT LIGHT ASSEMBLIES



### ASSEMBLIES FOR T-3 $\frac{1}{4}$ LAMPS

MINIATURE BAYONET BASE

(for low voltages)

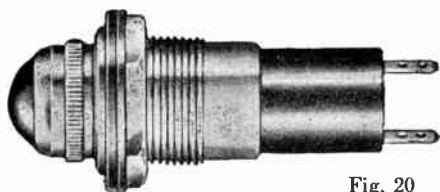


Fig. 20

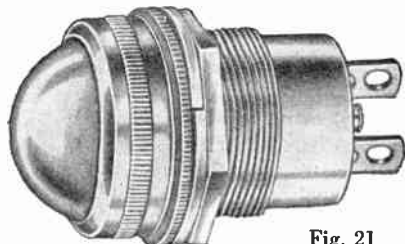


Fig. 21

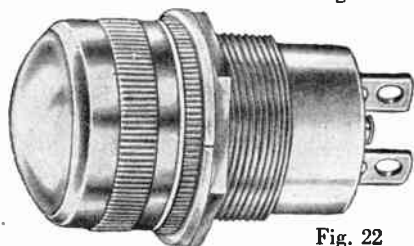


Fig. 22



Fig. 23

### CATALOGUE NUMBERS

- 521310-991 Multivue cap, Screw terminals (Fig. 1)
- 531310-991 Multivue cap, Screw terminals (Fig. 2)
- 91410-931 Long clear cap, Soldering terminals (Fig. 4)
- 95410-931 Clear cap, Soldering terminals (Fig. 3)
- 81410-111 Screw-in cap, Convex lens, Soldering terminals (Fig. 20)
- 80410-831 Screw cap, Dome plastic lens, Soldering terminals (Fig. 21)
- 801310-831 Screw cap, Dome plastic lens, Screw terminals
- 51410-111 Screw cap, Convex lens, Soldering terminals (Fig. 22)
- 511310-111 Screw cap, Convex lens, Screw terminals
- 211310 Light shield cap Screw terminals (Fig. 23)
- 93410-111 Polaroid dimmer cap, Convex lens, Soldering terminals (Fig. 25)
- 98410-111 Dimmer cap, Convex lens, Soldering terminals (Fig. 24)



**COLOR**—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

Smaller assemblies as illustrated in Figs. 20, 23, 24 and 25 mount in 11/16" clearance hole. Figs. 21 and 22 require 1" clearance hole.

### MECHANICAL and POLAROID DIMMERS

mechanical

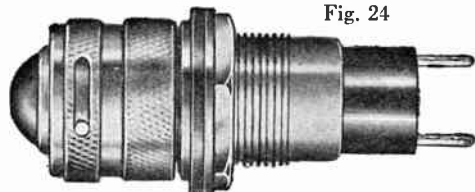


Fig. 24

polaroid

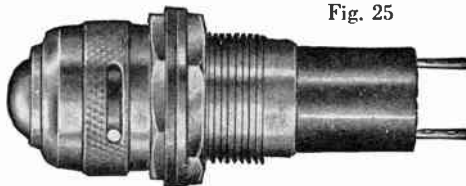


Fig. 25

Any of the mechanical dimmers can be supplied in either the "Complete Blackout" or the regulation type.

# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights  
NEW YORK 3, N. Y.

## PILOT LIGHT ASSEMBLIES

A SELECTION OF OPEN TYPES

For T-3 $\frac{1}{4}$  Low voltage Incandescent Lamps



Miniature Screw Base



FIG. 26

Typical assemblies for bayonet base lamp.  
Available also for screw type, see listing below.



Miniature Bayonet Base

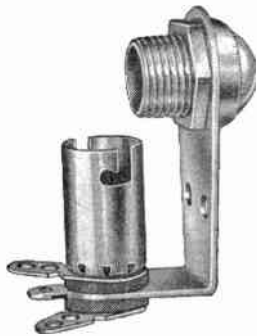


FIG. 27



FIG. 28



### CATALOGUE NUMBERS

#### Assemblies for T-3 $\frac{1}{4}$ miniature bayonet base lamps

No. 810B-431	Faceted $\frac{1}{2}$ " lens.	For $\frac{1}{16}$ " mounting hole.	Fig. 26
No. 710-121	Convex $\frac{1}{2}$ " lens.	For $\frac{3}{16}$ " mounting hole.	Fig. 27
No. 755-621	Convex $\frac{1}{32}$ " lens.	For $\frac{9}{32}$ " mounting hole.	Fig. 28
No. 857B-431	Faceted $\frac{1}{2}$ " lens.	For $\frac{1}{16}$ " mounting hole.	Fig. 29
No. 67B-111	Convex $\frac{3}{4}$ " lens.	For $\frac{3}{16}$ " mounting hole.	Fig. 30

#### Assemblies for T-3 $\frac{1}{4}$ miniature screw base lamps

No. 810M-431	Faceted $\frac{1}{2}$ " lens.	For $\frac{1}{16}$ " mounting hole.	Similar to Fig. 26
No. 510-121	Convex $\frac{1}{2}$ " lens.	For $\frac{3}{16}$ " mounting hole.	Similar to Fig. 27
No. 555-621	Convex $\frac{1}{32}$ " lens.	For $\frac{9}{32}$ " mounting hole.	Similar to Fig. 28
No. 855-431	Faceted $\frac{1}{2}$ " lens.	For $\frac{1}{16}$ " mounting hole.	Similar to Fig. 29
No. 66M-111	Convex $\frac{3}{4}$ " lens.	For $\frac{3}{16}$ " mounting hole.	Similar to Fig. 30

FIG. 29

Octagon lock nut and bracket on these two units welded into one-piece construction.

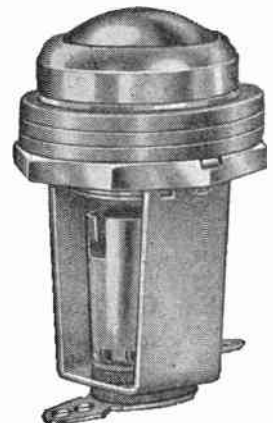
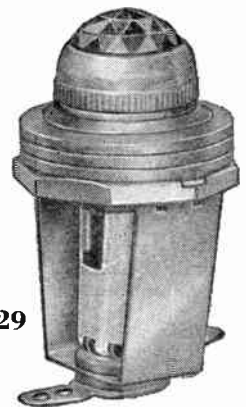


FIG. 30

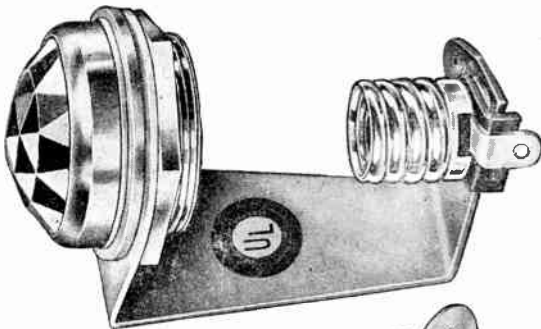
**COLOR**—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

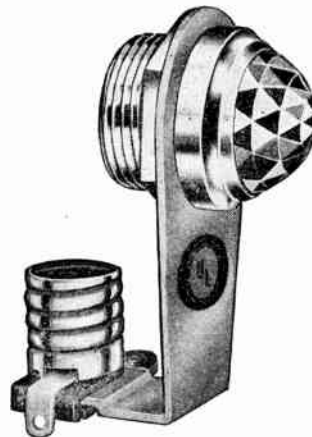
**The DIAL LIGHT COMPANY of AMERICA**  
*Foremost Manufacturer of Pilot Lights*  
**NEW YORK 3, N. Y.**

# PILOT LIGHT ASSEMBLIES

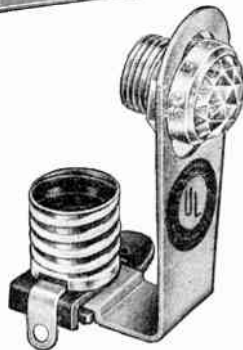
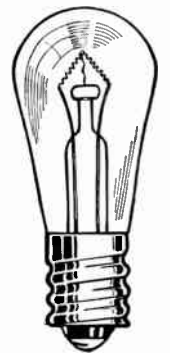
**A SELECTION OF OPEN TYPES**  
**For Candelabra Screw Base Lamps**



**FIG. 31**



**FIG. 33**



**FIG. 32**

**For S-6 Incandescent Lamps, candelabra screw base**

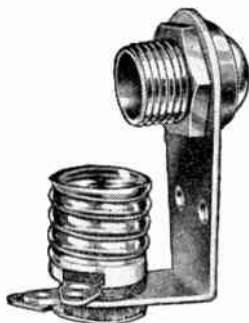
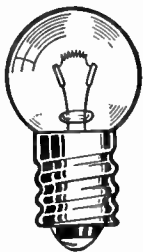
- No. 10-18-14-431 Faceted  $\frac{1}{2}$ " Lens (for  $\frac{7}{16}$ " mounting hole) (Fig. 32)
- No. 25-18-15-431 Faceted  $\frac{5}{8}$ " Lens (for  $\frac{11}{16}$ " mounting hole) (Fig. 33)
- No. 31-18-16-431 Faceted 1" Lens (for 1" mounting hole) (Fig. 31)

All of the above assemblies are listed by Underwriters' Laboratories, Inc.

**COLOR**—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

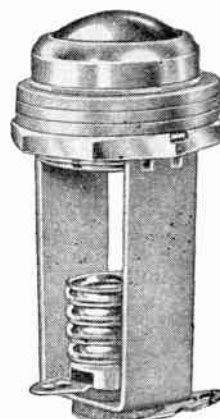
*Octagon lock nut and bracket on these two units welded into one-piece construction.*



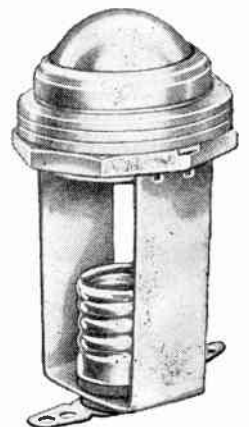
**FIG. 34**

**For G-6 Low voltage lamps, candelabra screw base**

- No. 610-121 Convex  $\frac{1}{2}$ " lens
- Fig. 34 (for  $\frac{7}{16}$ " mounting hole)



**FIG. 36**



**FIG. 35**

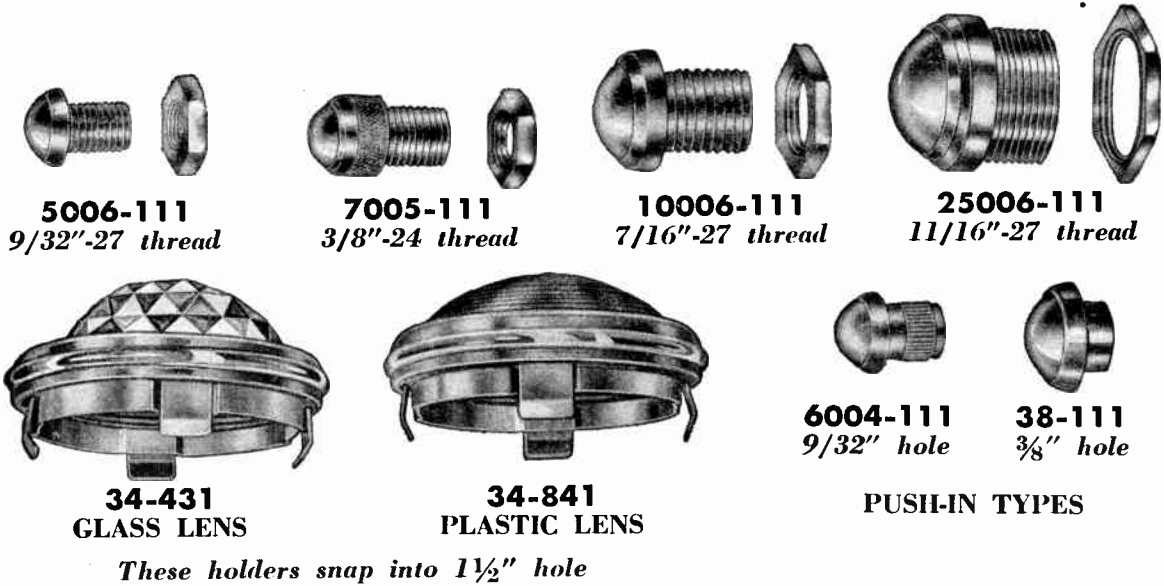
**For NE-45 Neon Glow Lamps, candelabra screw base**

- No. 67BN-831 Dome Plastic Lens ( $\frac{3}{4}$ " diam.) Fig. 35
- No. 66N-131 Convex Glass Lens ( $\frac{3}{4}$ " diam.) Fig. 36
- (Both mount in  $\frac{13}{16}$ " hole. Cap removable)

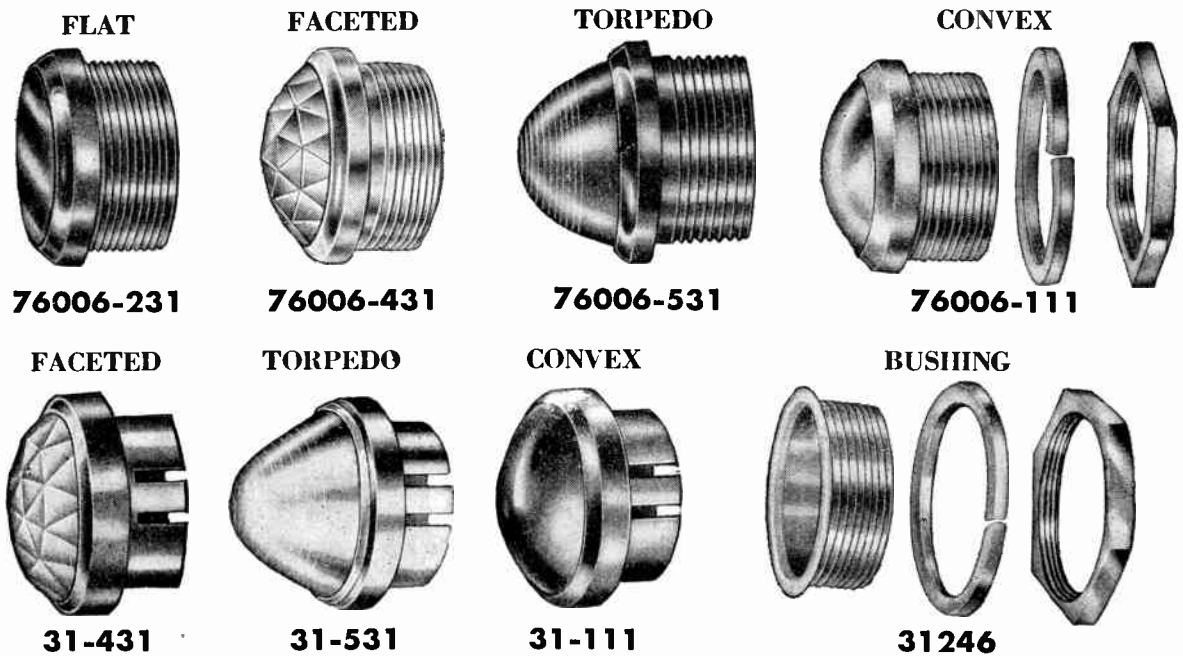
# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights  
NEW YORK 3, N. Y.

## Lens Holders with Lenses for Panel Mounting Screw Types Are Complete With Nut for Shank



*These holders snap into 1 1/2" hole*



The above two groups mount in 1" clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.

**LENS COLOR**—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

---

# The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights  
NEW YORK 3, N. Y.

---

## CONNECTORS FOR SINGLE CONDUCTOR CABLE FOR MICROPHONES - SPEAKERS - PICK-UPS - JACKS

*(using cable shield for second conductor)*

The fittings shown here are designed for use with standard metal shielded single conductor cable up to  $\frac{1}{4}$ " diameter. These connectors are heavily constructed from solid brass and all exposed parts are chrome plated and highly polished.

The cable end connectors are provided with rugged wire spring protectors which prevent sharp bends at the connection. The protector is soldered to the cable sheath and secured in the connector by a set screw so that all strain is relieved from the conductor.



No. 101

### MALE CONNECTOR FOR CABLE

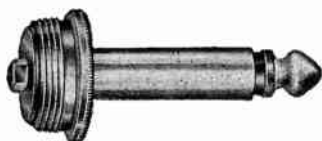
With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



No. 100

### FEMALE CONNECTOR FOR CABLE

With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



No. 102

### PLUG WITH MALE CONNECTOR

Fits standard jacks



No. 51

### MALE CONNECTOR FOR CHASSIS

Has sprung center contact which grounds before cable connection is broken preventing open circuit howls.



No. 103

### CAP AND CHAIN

To protect unused male connectors. Chain secured by screw prevents loss when removed to make connection.



No. 50

### MALE CONNECTOR FOR CHASSIS

Shell grounds to panel — or may be insulated by washers. Fit  $\frac{3}{8}$ " — 24 threaded hole or may be secured by nut.

No. 50 P

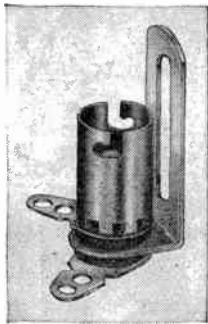
### MALE CONNECTOR FOR CHASSIS *(Similar to No. 50 above)*

Designed for force fit in hole in panel. Requires no nut to secure in place.

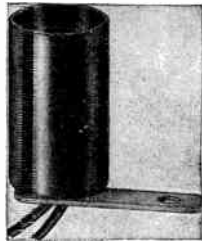
# SOCKETS BRACKET MOUNTED



## MINIATURE BAYONET

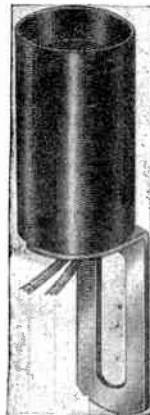


No. 7 Series



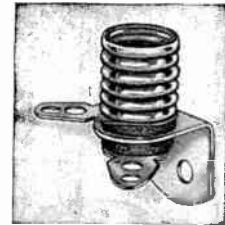
No. 2 Series  
FIBRE TUBE

Wire  
Leads



No. 3 Series  
MOLDED BAKELITE

## MINIATURE SCREW



No. 5 Series

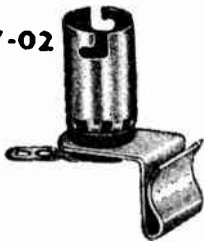
Socket  
suffix      Bracket Description

- 01—Plain clip, upturned
- 02—Plain clip, downturned
- 03—Clip with ears, upturned
- 04—Clip with ears, downturned
- 05—Right angle, upturned, slotted, Slot— $\frac{7}{8}$ " x  $\frac{3}{16}$ "
- 06—Right angle, downturned, slotted, Slot— $\frac{7}{8}$ " x  $\frac{3}{16}$ "
- 07—Plain socket, no bracket
- 08—Right angle, downturned, short, Hole Size— $\frac{5}{32}$ "
- 09—Right angle, upturned, short, Hole Size— $\frac{5}{32}$ "

Socket  
suffix      Bracket Description

- 11—Square U-shaped, Hole Size— $\frac{5}{32}$ "
- 12—Horizontal (no bend), short, Hole Size— $\frac{5}{32}$ "
- 13—Horizontal (no bend), slotted, Slot— $\frac{7}{8}$ " x  $\frac{3}{16}$ "
- 14—Vee with locking tongue, short—1"
- 15—Vee with locking tongue, short— $1\frac{1}{4}$ "
- 16—Vee with locking tongue, intermediate— $1\text{--}5/16$ "
- 17—Vee with locking tongue, long— $1\frac{3}{8}$ "
- 18—Vee with locking tongue, long— $1\frac{1}{2}$ "
- 19—Right angle, upturned, long, Hole Size— $\frac{9}{64}$ "
- 20—Right angle, downturned, long, Hole Size— $\frac{9}{64}$ "

7-02



7-01



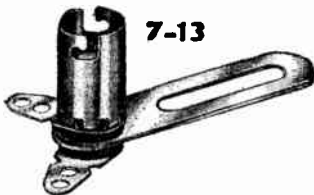
7-04



7-03



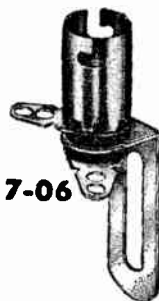
7-13



7-05



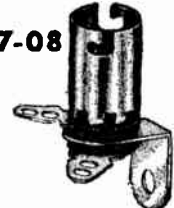
7-06



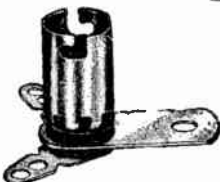
7-09



7-08



7-12



7-11



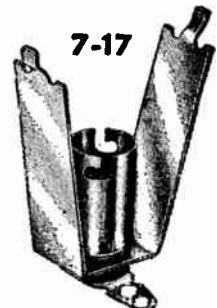
7-19



7-20



7-17





# SOCKETS

BRACKET MOUNTED

75 Watts, 125 Volts

UNDERWRITERS'



LISTED

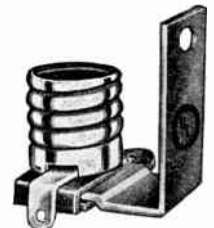
## No. 4 Series Wire Leads

Insulated with heavy molded Bakelite. Square shoulder locks into square hole in bracket — all securely held by large tubular rivet.

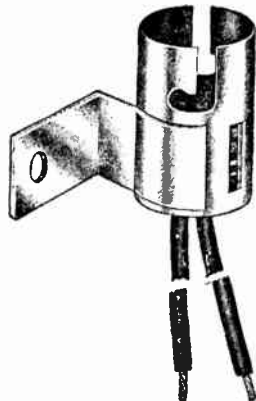


IDEAL FOR S-6  
and C-7 LAMPS

## No. 18 Series



Soldering Terminals  
(locked in position)



## No. 12 Series CERAMIC DISK

## No. 12 Series — Double Contact Bayonet Ceramic Insulating Disk

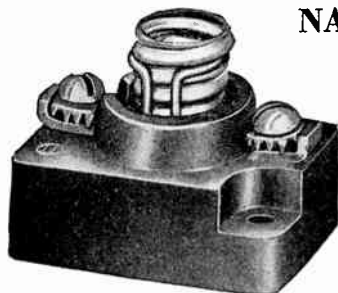
The new "12" series socket is constructed with a high quality ceramic disk supporting the socket contacts. Recesses in the disk receive the lead wires so that no live metal is exposed.

### Wire Leads

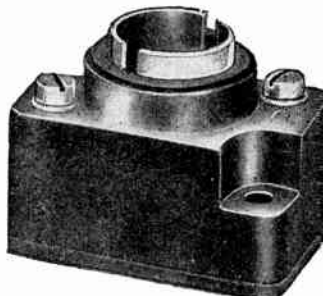
The standard flexible leads are of plastic insulated approved wire, 18 gauge. Usual length is 8 inches; longer leads will be supplied when specified.

### Many Bracket Types

## NAVY SPECIFICATION SOCKETS



Candelabra screw 9S2036  
Candelabra screw 9S5038  
(not illustrated)



Double Contact bayonet 9S4634



Miniature bayonet  
9S4931

## LAMP INSTALLER

The DIALCO lamp installer shown below is a useful tool in installing lamps and in servicing pilot lights.



No. L-73

No. L-45  
For NE-45 Neon



# Dial and Jewel PILOT LIGHT ASSEMBLIES

DRAKE MANUFACTURING CO., 1709 W. HUBBARD ST., CHICAGO 22, ILL.



You can get a DRAKE assembly for

## EVERY USE —

usually at a  
saving!



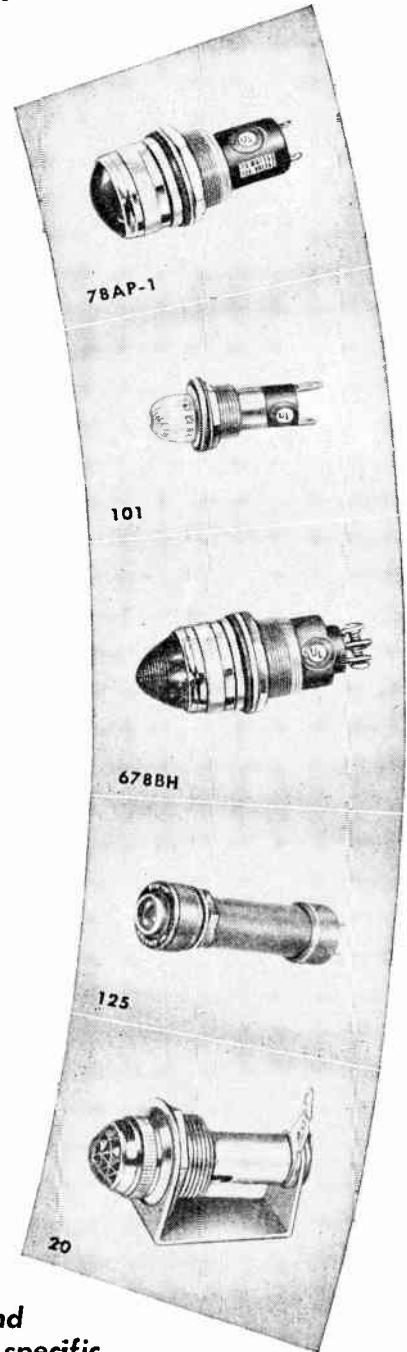
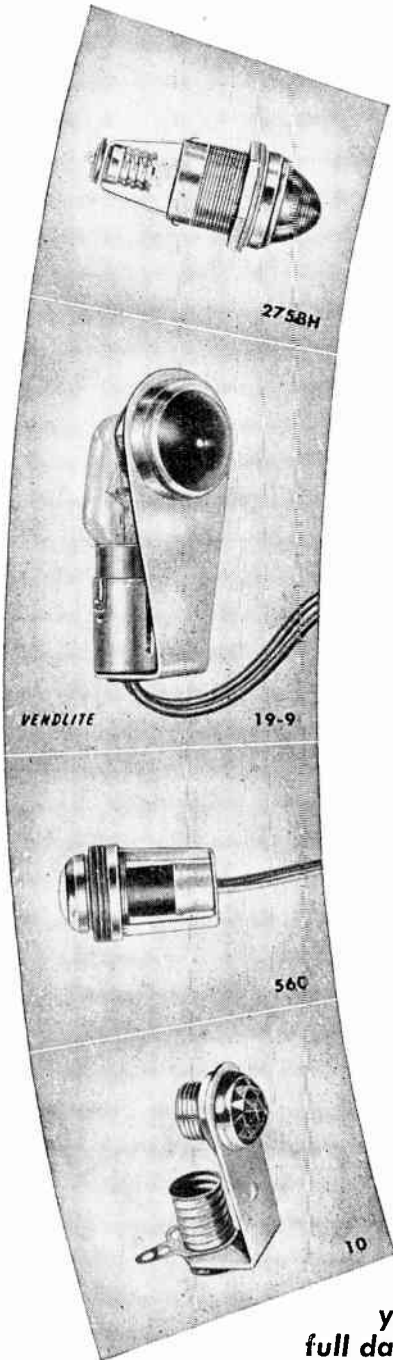
Hundreds of styles, sizes and combinations are available in the big DRAKE line . . . developed over a period of years for almost every conceivable kind of use. It's easy to select from them the exact unit to fit your requirement best. All are made with the meticulous attention to quality and the practical design features which have qualified DRAKE Assemblies as original equipment on so many well-known brands of radios and all kinds of other equipment where miniature lighting is used. And you can credit ingenious DRAKE engineering with the savings in cost which are usually possible when you use these precision-built units.



DRAKE units — many of them of special and unusual design— are being produced in volume for Defense applications. These units, of course, meet JAN specifications. But in spite of the growing stream of Assemblies we are turning out for this vital purpose, DRAKE is still maintaining full service—and making on-time deliveries — on non-defense orders.



Write us, describing  
your application . . . we'll send  
full data on the best units for your specific  
conditions — on the most economical basis!





# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of Radios, Instruments and Electronic Equipment

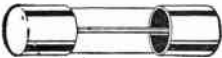
### FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.



Formerly called 8AG.  
Dimension  $\frac{1}{4}$  x 1 inch, Glass tube.

Provide high speed action necessary to protect sensitive instruments.

Voltage	Symbol	Amperes	List Price
250 or less	<b>MJB</b>	$\frac{1}{2}$ 00	\$0.70
"	<b>MJB</b>	$\frac{1}{2}$ 00	.30
"	<b>MJB</b>	$\frac{1}{100}$ or $\frac{1}{32}$	.20



Formerly called 8AG.  
Dimension  $\frac{1}{4}$  x 1 inch, Glass tube.

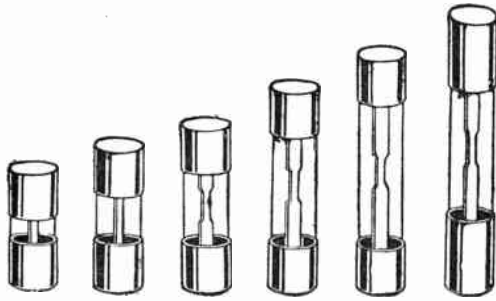
Provide high speed action necessary to protect instruments.

Voltage	Symbol	Amperes	List Price
250 or less	<b>MJW</b>	$\frac{1}{16}$ or $\frac{1}{8}$	\$0.15
"	<b>AGX</b>	$\frac{1}{8}$	.15
"	<b>AGX</b>	$\frac{1}{4}$ , $\frac{3}{8}$ or $\frac{1}{2}$	.12
125 or less	<b>AGX</b>	$\frac{3}{4}$	.12
"	<b>AGX</b>	1, $1\frac{1}{2}$ or 2	.10

The MJW fuses are special low resistance fuses.

### BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fuseing.

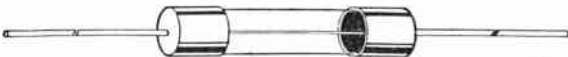


SFE 4 SFE 6 SFE 9 SFE 14 SFE 20 SFE 30

Glass tube — diameter  $\frac{1}{4}$  inch. Length as per table below.  
Test specification—carry 100%, open at 125% in  $\frac{1}{2}$  hour.  
Listed as approved by Underwriters' Laboratories.  
Made according to specifications of Society of Automotive Engineers.

Voltage	Symbol & Amperes	Length Inches	Pounds per 100	List Price
32 or less	<b>SFE4</b>	$\frac{5}{8}$	.70	\$0.05
"	<b>SFE6</b>	$\frac{3}{4}$	.71	.05
"	<b>SFE9</b>	$\frac{7}{8}$	.72	.04
"	<b>SFE14</b>	$1\frac{1}{16}$	.77	.04
"	<b>SFE20</b>	$1\frac{1}{4}$	.83	.035
"	<b>SFE30</b>	$1\frac{1}{16}$	1.05	.06

### BUSS PIG-TAIL FUSES



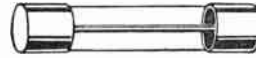
$\frac{1}{4}$  x  $1\frac{1}{4}$  inch Glass tube fuse with  $1\frac{3}{4}$  inch leads of No. 20 tinned copper wire. Symbol GJV.

$\frac{1}{4}$  x  $1\frac{1}{8}$  inch Paper tube fuse with  $1\frac{3}{4}$  inch leads of No. 20 tinned copper wire. Symbol GJC.

Test specifications — carry 110%, open at 135% in 1 hour.  
Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	<b>GJV</b>	$\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ or $\frac{3}{4}$	\$0.20
"	<b>GJV</b>	1, $1\frac{1}{2}$ , 2 or 3	.15
"	<b>GJC</b>	$\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ or $\frac{3}{4}$	.20
"	<b>GJC</b>	1, $1\frac{1}{2}$ , 2 or 3	.15

### BUSS GLASS TUBE FUSES, $\frac{1}{4}$ x $1\frac{1}{4}$ inch



AGC and MTH 4, 5 and 6



MTH 8

Formerly called 3AG.  
Test specification—carry 110%, open at 135% in 1 hour.  
Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	<b>AGC</b>	$\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ or $\frac{3}{4}$	\$0.15
"	<b>AGC</b>	1, $1\frac{1}{2}$ , 2 or 3	.07
"	<b>MTH</b>	4, 5 or 6	.10
"	<b>MTH</b>	8	.15



Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Voltage	Symbol	Amperes	List Price
32 or less	<b>AGC</b>	5, 6 or $7\frac{1}{2}$	\$0.05
"	<b>AGC</b>	10 or 15,	.04
"	<b>AGC</b>	25 or 30	.05

20 ampere size is an SFE 20 fuse.

Sizes larger than 30 ampere are not recommended as clips or fuse holders would not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fusetrone dual-element fuses.

### BUSS CERAMIC TUBE FUSES

$\frac{1}{4}$  x  $1\frac{1}{4}$  inch



Formerly called 3AB

Test specification—carry 110%, open at 135% in 1 hour.  
Listed as approved by Underwriters' Laboratories, 15 amps and less.

Voltage	Symbol	Amperes	List Price
250 or less	<b>ABC</b>	10, 12, 15 or 20	\$0.15

### FUSETRON FUSES, $\frac{1}{4}$ x $1\frac{1}{4}$ inch



Glass tube — Dual-Element type

#### A FUSE WITH A LONG TIME-LAG

These fuses avoid needless blows from starting currents or surges. They have a fuse link which operates only on very high overloads or short-circuits — they have a thermal cutout which functions on low overloads — the thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% in 1 hour.  
Approximate blowing time: at 200% load **MDL** 25 sec. **MDX** 12 sec.  
at 300% " " 8 " " 3 "  
at 500% " " 3 " "  $\frac{1}{2}$  "

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes
250 or less	<b>MDL</b>	$\frac{1}{100}$ , $\frac{1}{32}$ , $\frac{1}{16}$ , $\frac{1}{10}$ , $1\frac{1}{100}$ , $\frac{1}{10}$ , $\frac{1}{10}$ , $\frac{1}{10}$ , $\frac{1}{2}$ , $\frac{3}{10}$ , $\frac{1}{2}$ or 1
125 or less	<b>MDL</b>	$\frac{1}{4}$ , $1\frac{1}{10}$ , 2, $2\frac{1}{2}$ , or $2\frac{3}{4}$
"	<b>MDX</b>	$3\frac{1}{10}$ , 4, 5 or $6\frac{1}{4}$

32 or less **MDL**  $3\frac{1}{10}$ , 4, 5,  $6\frac{1}{4}$ , 8, 10, 15, 20, 25 or 30

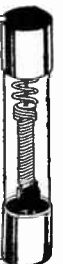
### FUSETRON PIG-TAIL FUSES

These are MDL fuses with  $1\frac{1}{2}$  inch tinned wire leads. 0 to 8 amp. have No. 20 wire, 10 to 15 amp. have No. 16 wire and 20 to 30 amp. have No. 14 wire.

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

#### Symbol MDV

For sizes and all other information see MDL fuses above.



# BUSS Fuses

## FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of Radios, Instruments and Electronic Equipment*

### BUSS FUSE CLIPS for 1/4 inch Fuses

(SFE4, 6, 9, 14, 20, AGX, AGC, ABC, MDL, MJB, MTH fuses)



Spring bronze clips are made of Hercules — a bronze of distinctly superior quality for spring clips. This metal gives clips great gripping strength and ability to retain spring under adverse conditions.

Beryllium copper clips combine low electrical resistance with great gripping strength. This means maximum electrical conductivity and results in cooler operation of clips and fuse.

Size of mounting hole; .130 to .135 inch.  
Center of hole to back-stop; .125 to .135 inch.  
Min. length of contact surface; 3/32 inch  
Maximum height; 1 1/32 inch  
Maximum width; 1 1/32 inch

- 4548 Spring bronze clip, Nickel plated. List Price \$0.02  
4592 Beryllium copper clip, Silver plated. .05

### BUSS CLIP ASSEMBLIES for 1/4 inch Fuses

(SFE4, 6, 9, 14, 20, AGX, AGC, ABC, MDL, MJB, MJW, MTH fuses)

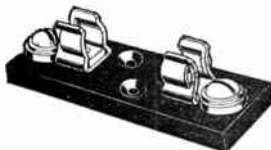


Clips as described above. Brass terminal. 3/16 inch 6-32 washer head terminal screw. 1/4 inch 4-40 flat head iron mounting screw.

- 4431 includes No. 4548 spring bronze clip, terminal screw, terminal and mounting screw. List Price \$0.10  
4432 includes No. 4592 beryllium copper clip, terminal screw, terminal and mounting screw. List Price \$0.13

### BUSS FUSE BLOCKS

Bakelite base blocks 3/16 inch thick. Countersunk mounting holes for No. 6 flat head screws. Brass No. 6 terminal screws. No. 4548 spring bronze clips.



**Full base, Screw terminal Blocks**

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE4	4511	\$0.35	4521	\$0.70	4531	1.00
SFE6	4516	.35	4526	.70	4536	1.00
SFE9	4517	.35	4527	.70	4537	1.00
SFE14, AGX, MJB	4514	.35	4524	.70	4534	1.00
SFE20, ABC, AGC, MDL, MTH	4512	.35	4522	.70	4532	1.00



**Small base, Solder Terminal Blocks**

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE14, AGX, MJB	4520	\$0.15	4485	\$0.30	4403	\$0.45
SFE20, ABC, AGC, MDL, MTH	4405	.15	4408	.30	4411	.45

### Other standard and special fuses, fuse blocks and fuse holders

If the fuses, blocks and holders shown do not fit your requirements ask for information on other types.

Fuses and fuse mountings to meet JAN and Military specifications also are available.

If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

### BUSS FUSE HOLDERS

Make it convenient to mount fuse on any equipment. Changing or inspection of fuse is easy and quick.

Holder has removable knob. Fuse projects beyond body of holder and is not held tight on other end when knob is removed.

Fuse and contacts are protected from dirt and fumes.

Good contact on fuse is made certain by strong coil spring pressure. Poor contact heating that often causes fuse to blow needlessly is eliminated.

Holder bodies are made of black bakelite. All current carrying parts are of brass or copper. Terminals and all contact parts are bright alloy plated.

### PANEL MOUNTED HOLDERS for 1/4 inch Fuses



Holders are inserted through hole in panel and are locked in place by nut on holder. They can be used on panels up to 3/16 inch thick.



Bayonet type knob requires only quarter turn to remove fuse. No screw driver is needed.

Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen or come off.

Vibration will not cause failure of terminals as they are designed to stand severe service.

Neoprene washer and steel locking nut (zinc plated, chromate dipped) furnished with each holder.

Wire hole in terminals; .115 inch.

Normal current carrying capacity; 15 amperes.

Listed as approved by Underwriters' Laboratories.

- List Price
- HJM for 1/4 x 1 inch fuses (AGX, MJB, MJW, SFE 14) \$0.40  
HKP for 1/4 x 1 1/4 inch fuses (ABC, AGC, SFE20, MDL, MTH) .40

### IN-THE-LINE HOLDERS for 1/4 inch fuses

These holders are for mounting fuse in wire. Holders consist of body and bayonet type knob — two contacts ready to be staked on ends of wire — a pressure spring that is used under contact in base of holder.



Holders can also be mounted in panel up to 3/16 inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat spot on holder permits it to be locked against rotation.

Normal current carrying capacity: 15 amperes.

- List Price
- Symbol
- HDI for 1/4 x 1 inch fuses (AGX, MJB, MJW, SFE 14) \$0.20  
Takes No. 18 or smaller wires.  
HDJ-A for 1/4 x 1 1/4 inch fuses (ABC, AGC, MDL, MTH, SFE 20) .20  
Takes No. 18 or smaller wires.  
HDJ-B for 1/4 x 1 1/4 inch fuses (as above) .20  
Takes No. 14 or 16 wires.  
No. 9969 Spring nut for panel mounting above holders. .04

### Holder-and-Fuse Assemblies

Assembly consists of holder, fuse and 19 inch loop of No. 14 wire already staked and soldered to terminals.



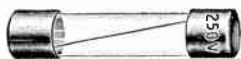
Offer simplest way to install protection. Wire can be cut to give leads of desired length. A spring nut, furnished with holder, can be used to mount holder on panel up to 3/32 inch thick.

- List Price
- HRJ Complete with SFE 20 fuse \$0.40  
HRI Complete with SFE 14 fuse .40  
HRH Complete with SFE 9 fuse .40

# LITTELFUSE

"Quicker than a Short Circuit"

## 3 AG "LITTELFUSES"



¼" x 1¼"

Standard Package—100

Blow Time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200%	0-2 minutes

**311000 Series Littelfuses**—Quick to medium-blowing fuses—for use in radios, auto-radios, amplifiers, etc. Straight-type fuse element—positioned to center of fuse—makes open link always in the visible portion of fuse.

Catalog No.	Amp. rating	Max. volt.	Ohms res.	List Price, each
311005.	5	32	.028	\$0.05
31107.5	7½	32	.02	.05
311010.	10	32	.011	.04
311015.	15	32	.008	.04
311020.	20	32	.006	.035
311030.	30	32	.005	.05

**312000 Series Littelfuses**—Quick-acting fuses—for low time-lag applications similar to the 311000 fuse series above. Protective-coated elements, on fuses to 3 amperes, prevent oxidation and promote clean break on fusion. Diagonal element alignment of this fuse assures accurate alignment and calibration, even when the fuse element is expanded by heat.

Catalog No.	Amp. rating	Max. volt.	Ohms res.	List Price each
312 062	1/16	250	5.400	\$0.15
312 125	1/8	250	6.35	.15
312 250	1/4	250	3.275	.15
312 375	3/8	250	2.38	.15
312 500	1/2	250	1.39	.15
312 750	3/4	250	.89	.15
312001.	1	250	.23	.07
31201.5	1½	250	.146	.07
312002.	2	250	.073	.07
312003.	3	250	.052	.07
312004.	4	250	.049	.10
312005.	5	250	.029	.10
312006.	6	250	.025	.10
312008.	8	125	.022	.15

Approved by Underwriters' Laboratories.

## 3 AG "SLO-BLO" "LITTELFUSES"



¼" x 1¼"

Standard package—100

Blow time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200	60 seconds max. 5 seconds min.

**313000 Series Littelfuses**—Slo-Blo fuses with high time-lag to withstand heavy surges—quick on shorts. Designed for circuits with equipment having high inductive or capacitive surges, such as magnets, solenoids, etc., and for circuits with heavy starting currents, such as motors and lamp circuits. Anti-fatigue construction (compound element, with spring and resistor) makes these fuses ideal for intermittent-duty circuits on vibrators, control circuits, hi-tension electric fences, small magnets, coils, etc. "Pioneered by Littelfuse."

Catalog No.	Former No.	Amp. rating	Max. volt.	List Price, each
313.010	1250	1/100	125	\$0.25
313.032	1261	1/32	125	.25
313.062	1262	1/16	125	.25
313.100	.....	1/10	125	.25
313.125	1263	1/8	125	.25
313.150	.....	15/100	125	.25
313.187	1263-A	3/16	125	.25
313.200	.....	2/10	125	.25
313.250	1264	1/4	125	.25
313.300	.....	3/10	125	.25
313.375	1265	3/8	125	.25
313.400	.....	4/10	125	.25
313.500	1266	1/2	125	.25
313.600	.....	6/10	125	.25
313.750	1267	3/4	125	.25
313.800	.....	8/10	125	.25
313001.	1268	1	125	.25
3131.25	.....	1¼	125	.20
31301.5	1041-C	1½	125	.20
31301.6	.....	1-6/10	125	.20
313002.	1042-C	2	125	.20
31302.5	.....	2½	125	.20
313003.	1043-C	3	125	.20
31303.2	.....	3-2/10	125	.20
313004.	.....	4	125	.20
313005.	1080-C	5	125	.20
3136.25	.....	6¼	32	.20
313008.	.....	8	32	.20
313010.	1081-C	10	32	.20
313015.	1082-C	15	32	.20
313020.	1083-C	20	32	.20

Approved by Underwriters' Laboratories through 5 amps.

## 3 AB "TINY MIGHTY" "LITTELFUSES"



¼" x 1¼"

Standard package—100.

Blow Time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200%	0-2 minutes

**314000 Series Littelfuses**—The smallest Underwriters' Laboratory approved fuses in ratings this high. Steatite enclosed, arc-quenching, powder filled fuses. Shatter-proofed against quick shorts. Medium time lag. Recommended for use with amplifiers, rectifiers, battery charging equipment, small generators, control panels, amusement devices, communication and electronic equipment, radios, signal apparatus, small motor circuits, etc. Take less space than N.E.C. fuses—"Pioneered by Littelfuse."

Catalog No.	Amp. rating	Max. volt.	Ohms res.	List Price, each
314008.	8	250	.021	\$0.15
314010.	10	250	.014	.15
314012.	12	250	.013	.15
314015.	15	250	.012	.15
314020.	20	250	.0007	.15

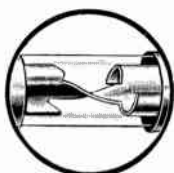
Approved by Underwriters' Laboratories through 15 amps.

# LITTELFUSE

"Quicker than a Short Circuit"

## AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life



4 AG Aircraft 1 Fuse showing reinforced twisted element



Bakelite-enclosed 4 AB Fuse

**CONSTRUCTION:** Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft services for their strength and greater carrying capacity than 3 AG fuses.

**BAKELITE-ENCLOSED:** 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

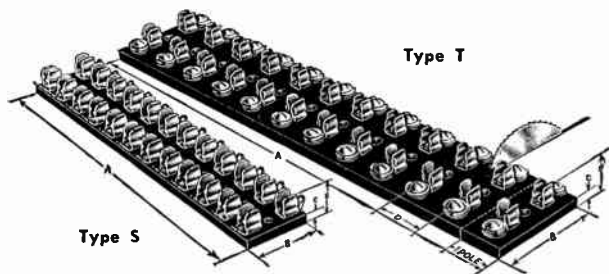
**CURRENT RATING:** Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

**VOLTAGE RATING:** Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

**VIBRATION FACTOR:** Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

Vibration Factor	4AG "LITTELFUSES" 1 1/4" x 3/8" Dia. Unit Wt.—3.5 Gms.						4AB "LITTELFUSES" 1 1/4" x 3/8" Dia. Unit Wt.—3.75 Gms.						5AG "LITTELFUSES" 1 1/2" x 3/8" Dia. Unit Wt.—8.5 Gms.					
	Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	Price, Each	Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	Price, Each	Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	Price, Each
100+	"Slo-Blow"						414001.	1091B	1	250	.39	\$0.25	513001.	1160C	1	250	.88	\$0.25
100+	413001.	1091C	1	250	.71	\$0.25	414002.	1092B	2	250	.16	.25	513002.	1161C	2	250	.24	.25
100+	413002.	1092C	2	250	.094	.25	414003.	1093B	3	250	.055	.25	513003.	1162C	3	250	.18	.25
500+	413003.	1093C	3	250	.059	.25	414005.	1094B	5	115*	.041	.25	513005.	1163C	5	32	.05	.25
500+	413005.	1094C	5	32	.023	.25	414010.	1095B	10	115*	.016	.25	Aircraft					
500+	Aircraft						414015.	1096B	15	115*	.012	.25	511010.	1164	10	32	.039	.15
500+	411010.	1095	10	32	.016	.13	414020.	1097B	20	32	.008	.25	511015.	1165	15	32	.013	.15
500+	411015.	1096	15	32	.010	.13	414025.	1098B	25	32	.007	.25	511020.	1166	20	32	.013	.15
500+	411020.	1097	20	32	.008	.13	414030.	1099B	30	32	.007	.25	511025.	1442	25	32	.030	.15
500+	411025.	1098	25	32	.007	.13	414035.	1100B	35	32	.006	.25	511030.	1167	30	32	.013	.15
500+	411030.	1099	30	32	.007	.13	414040.	—	40	32	.003	.25	511035.	1472	35	32	.008	.15
506+	411035.	—	35	32	.006	.18						511040.	1168	40	32	.010	.15	
500+	411040.	1100	40	32	.004	.20						511050.	1169	50	32	.009	.18	
												511060.	1222	60	32	.010	.18	

\* Good for power supplies up to 25 KVA at 115V—400 cycles.



### NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (1/8" allowance for saw cut).

Fuse Type	Mtg. Type	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
8AG	S	1 3/8	3 1/16	3/8	2 1/32
3AG	S	1 1/8	3/16	3/8	2 1/32
3AG	T	2 3/8	7/32	2 1/8	1 1/16
4AG	T	2 3/8	7/32	2 1/8	1 1/16
5AG	T	2 3/4	9/32	3/4	3 1/32

**Mountings with Solder Terminals—Type "S".** Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

**Mountings with Screw Terminals—Type "T".** Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 356 (3AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L. Type 456 (4AG) has lock washers or terminals.

#### FOR 3AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
356001	1	2 5/8	\$0.35
356002	2	1 11/16	0.70
356003	3	2 1/2	1.05
356004	4	3 1/2	1.40
356005	5	4 1/2	1.75
356006	6	5 1/16	2.10
356007	7	6 1/4	2.45
356008	8	7 1/8	2.80
356009	9	8 1/2	3.15
356010	10	9 1/16	3.50
356011	11	9 27/32	3.85
356012	12	10 3/4	4.20

#### FOR 4AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
456001	1	2 5/8	\$0.40
456002	2	1 11/16	.75
456003	3	2 1/2	1.10
456004	4	3 1/2	1.45
456005	5	4 1/2	1.80
456006	6	5 1/16	2.15
456007	7	6 1/4	2.50
456008	8	7 1/8	2.85
456009	9	8 1/2	3.20
456010	10	9 1/16	3.55
456011	11	9 27/32	3.90
456012	12	10 3/4	4.25

#### FOR 3AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
357001	1	1 1/8	\$0.15
357002	2	1 1/8	.30
357003	3	1 3/8	.45
357004	4	2 3/8	.60
357005	5	3	.75
357006	6	3 5/8	.90
357007	7	4 1/4	1.05
357008	8	4 7/8	1.20
357009	9	5 1/4	1.35
357010	10	6 1/8	1.50
357011	11	6 3/4	1.65
357012	12	7 3/8	1.80

#### FOR 5AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
556001	1	2 7/8	\$0.50
556002	2	1 13/16	.95
556003	3	2 25/32	1.40
556004	4	3 3/4	1.85
556005	5	4 23/32	2.30
556006	6	5 11/16	2.75
556007	7	6 21/32	3.20
556008	8	7 5/8	3.65
556009	9	8 13/16	4.10
556010	10	9 9/16	4.55
556011	11	10 1/2	5.00
556012	12	11 1/2	5.45

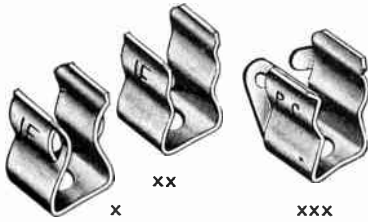
#### FOR 8AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
387001	1	1 1/4	\$0.15
387002	2	1 1/8	.30
387003	3	1 3/4	.45
387004	4	2 3/8	.60
387005	5	3	.75
387006	6	3 5/8	.90
387007	7	4 1/4	1.05
387008	8	4 7/8	1.20
387009	9	5 1/4	1.35
387010	10	6 1/8	1.50
387011	11	6 3/4	1.65
387012	12	7 3/8	1.80

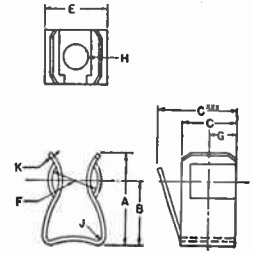
# LITTELFUSE

"Quicker than a Short Circuit"

## LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS



Littelfuse fuse clips are available in three standard styles: "X," with "ears" or fuse stops; "XX," earless; and "XXX," "Lug-Clips," a new Littelfuse clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.



Catalog Number	Former Number	Fuse Adaptation	Type	DIMENSIONS								Unit Wt. grams	Std. Pkg. 100 Wt.—lbs.	List Price Each
				A	B	C	E	F	G	H				

### BERYLLIUM COPPER CLIPS

#### SILVER PLATED—WITH FUSE STOP "EARS"

121001	1216B	SFE, 3AG & 8AG Fuses	X	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1	1	\$0.05
123001	1217B	4AG & 4AB Fuses	X	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.171	1.6	1	.08
125001	1218B	5AG, Hi-Voltage-Midget	X	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3	2	.15
127001	1219	N.E.C.-30 Fuses	X	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{4}$	.203	5.5	2	.18
129001	1221	Standard Hi-Voltage	X	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{16}$	.265	14.5	4	.40

#### SILVER PLATED—EARLESS TYPE

121002	1417	SFE, 3AG & AB, & 8AG	XX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1	1	.05
123002	1437	4AG & 4AB	XX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.171	1.6	1	.08
125002		5AG, Hi-Voltage-Midget	XX	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3	2	.15
127002	1475	N.E.C.-30 Fuses	XX	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{4}$	.203	5.5	2	.18
129002	1476	Standard Hi-Voltage	XX	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{16}$	.265	14.5	4	.40

#### SILVER PLATED—"LUG-CLIP"—SOLDER TERMINAL ATTACHED

121004	New	SFE, 3AG, AB, & 8AG	XXX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{37}{64}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1.2	1	.08
123004	New	4AG Fuses	XXX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.171	1.7	1	.12
125004	New	5AG & Midget Fuse	XXX	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3.5	2	.20

### PHOSPHOR BRONZE CLIPS

#### BURNISHED NICKEL PLATE—WITH FUSE STOP "EARS"

101001	1011B	SFE, 3AG & AB, & 8AG	X	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1	1	.02
103001	1319	4AG & 4AB	X	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.173	1.7	1	.04
105001	2048	5AG, Hi-Voltage-Midget	X	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3.2	2	.05
107001	5048	N.E.C.-30 Fuses	X	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{4}$	.203	5.8	2	.06
109001	1463	Standard Hi-Voltage	X	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{16}$	.265	15.6	4	.16

#### BURNISHED NICKEL PLATE—EARLESS TYPE

101002	125-2	1AG, 3AG & AB, 7AG & 8 AG	XX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1	1	.02
104002		4AG & 4AB	XX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.173	1.7	1	.04
105002	2049B	5AG, Hi-Voltage-Midget	XX	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3.2	2	.05
107002	SP-178	N.E.C. Bantam Fuses	XX	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{4}$	.203	5.8	2	.06

#### BRIGHT-DIP PHOSPHOR BRONZE—"LUG CLIP" SOLDER TERMINAL ATTACHED

101003		1AG, 3AG & AB, 7AG & 8AG	XXX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{37}{64}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	.131	1.2	1	.03
103003		4AG & 4AB	XXX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{9}{32}$	$\frac{3}{16}$	.171	1.7	1	.05
105003		5AG, Hi-Voltage-Midget	XXX	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{15}{32}$	$\frac{7}{32}$	$\frac{7}{32}$	.196	3.5	2	.08



Finger Operated Knob



341001



342003

### "LITTELFUSE" FUSE EXTRACTOR POSTS

Quicker, safer method for mounting and changing fuses. Held in end of removable knob, fuse is easily replaced by unscrewing knob. Available with finger-operated knob or with screw driver slot knob.

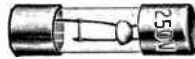
Catalog No.	Former No.	Deser.—Knob, How Operated	Mtg. Hole	Length Under Panel	List Price Each
341001	1075S	3AG—Screw Driver	.500—.505"	$2\frac{3}{32}$	\$0.45
342001	1075F	3AG—Finger	.500—.505"	$2\frac{1}{32}$	.45
342003		3AG—Miniature	.500—.505"	1.035	.45
371001	1087S	SAG—Screw Driver	.500—.505"	$2\frac{3}{32}$	.45
372001	1087F	SAG—Finger	.500—.505"	$2\frac{1}{32}$	.45

# LITTELFUSE

"Quicker than a Short Circuit"

## 8AG INSTRUMENT high speed LITTELFUSES

Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc. Glass-enclosed; 1 x 1/4" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.



Catalog No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res. @ 5 m.a.	APPLICATIONS			List Price Ea.
					Volt-meters Ohms P.V.	All Magnetic Movement Milliammeters	Thermocouples	
361.002		1/500	250	3,470.	Over 1000	Galvanometers	0-0.1 to 0-0.5	\$0.70
361.005	1000	1/200	250	480.	Over 1000	Galvanometers	Up to 0-5	.30
361.010	1001	1/100	250	263.4	1000	Up to 0-1	0-5 to 0-10	.20
361.031	1002	1/50	250	40.0	500-100	0-1 to 0-10	0-10 to 0-25	.20
361.062	1003	1/25	250	5.0	100-500	0-10 to 0-25	0-25 to 0-60	.15
361.125	1004	1/12.5	250	2.0	20-100	0-25 to 0-75	0-75 to 0-150	.15
361.250	1005	1/6.25	250	3.5	10-20	0-75 to 0-150	0-115 to 0-200	.15
361.375	1006	3/8	250	3.0	5-10	0-150 to 0-250	0-200 to 0-300	.15
361.500	1007	1/2	250	2.0	3-5	0-250 to 0-350	0-300 to 0-400	.15
361.750	1007-A	3/4	250	2.0		0-350 to 0-500	0-400 to 0-600	.15
361001.	1008	1	250	.24		0-500 to 0-750	0-600 to 0-1000	.10
36101.5	1008-A	1 1/2	250	.13		0-750 to 0-1000	0-1000 to 0-1500	.10
361002.	1009	2	250	.10		0-1000 to 0-1500	0-1500 to 0-2000	.10
361003.		3	250	.043		0-1500 to 0-2000	0-2000 to 0-3000	.10
361005.		5	32	.030		0-2000 to 0-4000	0-3000 to 0-5000	.10

## BAKELITE IN-LINE FUSE RETAINER

Designed to hang in the cable or mount in the chassis, the inline fuse retainer molded of high impact bakelite is primarily for low-voltage applications: car radios, heaters, spot lights, clocks, etc.



The disassembled unit consists of the bakelite body receptacle, bakelite knob with metal insert, one spring, two knife-edge rivet contacts.

155000 Series—Assembled with an 8" loop of wire lead:

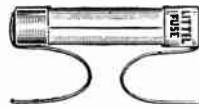
- 155004A For 4-amp SFE and 1AG fuses
- 155006A For 6-amp SFE fuses
- 155009A For 9-amp SFE and 7AG fuses
- 155014A For 14-amp SFE and 8AG fuses
- 155020A For 20-amp SFE and 3AG fuses

List Prices  
**.30 ea.**

Catalog Number	Description	List Price Each
<b>3AG SLO-BLO PIGTAIL FUSES</b>		
315.010	1/100 amp. (125 volt)	.30
315.032	1/32 amp. (125 volt)	.30
315.062	1/16 amp. (125 volt)	.30
315.100	1/10 amp. (125 volt)	.30
315.150	15/100 amp. (125 volt)	.30
315.200	2/10 amp. (125 volt)	.30
315.250*	1/4 amp. (125 volt)	.30
315.300	3/10 amp. (125 volt)	.30
315.400	4/10 amp. (125 volt)	.30
315.500*	1/2 amp. (125 volt)	.30
315.600	6/10 amp. (125 volt)	.30
315.800	8/10 amp. (125 volt)	.30
315001.	1 amp. (125 volt)	.30
3151.25	1 1/4 amp. (125 volt)	.25
31501.6	1-6/10 amp. (125 volt)	.25
315002.	2 amp. (125 volt)	.25
31502.5	2 1/2 amp. (125 volt)	.25
31503.2	3-2/10 amp. (125 volt)	.25
315004.	4 amp. (32 volt)	.25
315005.	5 amp. (32 volt)	.25
<b>3AG PIGTAIL FUSES</b>		
318.062	1/16 amp. (250 volt)	.20
318.125	1/8 amp. (250 volt)	.20
318.250*	1/4 amp. (250 volt)	.20
318.375	3/8 amp. (250 volt)	.20
318.500*	1/2 amp. (250 volt)	.20
318.750	3/4 amp. (250 volt)	.20
318001.	1 amp. (250 volt)	.12
31801.5	1 1/2 amp. (250 volt)	.12
318002.	2 amp. (250 volt)	.12
318003.	3 amp. (250 volt)	.12
318004.	4 amp. (250 volt)	.12
318005.	5 amp. (250 volt)	.12
<b>8AG T.V. FUSES (No Pigtail)</b>		
362.125	1/8 amp. (250 volt)	.15
362.250*	1/4 amp. (250 volt)	.15
362.375*	3/8 amp. (250 volt)	.15
362.500	1/2 amp. (250 volt)	.15
362.750	3/4 amp. (250 volt)	.15
362001.	1 amp. (250 volt)	.10
36201.5	1 1/2 amp. (125 volt)	.10
362002.	2 amp. (125 volt)	.10
362003.	3 amp. (125 volt)	.10
362005.	5 amp. (125 volt)	.05

\*Most commonly used by large volume set manufacturers.

All above fuses approved by Underwriters' Laboratories except 315004 and 315005.



## METER BACK MOUNTING

Cat. No. 383002 (1059)—



Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1 1/4". Length

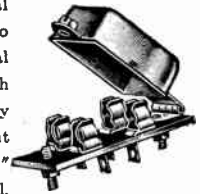
over screw terminal, 1 1/2". Std. Pkg. 20. Wgt. 1/2 lb. List Price Each.....\$0.20

## FUSE MOUNTINGS (3AG)

### Hinged Cover Type

(Meets Underwriters' Requirements)

Cover fibre-lined. Metal shielded cover hinged to bakelite base. Terminal mounting extends through insulated base. Nut lightly staked to cover to prevent loss. Requires 1 1/8" x 1 1/8" knockout hole in panel.



Two 6-32 x 5/16" mounting studs at 2 1/8" centers. Base 2 1/2" x 1 1/4". 3/8" high above panel. Std. Pkg. 20.

Cat. No. List Price Each

351009 (1237A)—Double Pole .....\$0.75

351005 (1379)—Single Pole ..... .50

## TV SNAP ON FUSE HOLDER

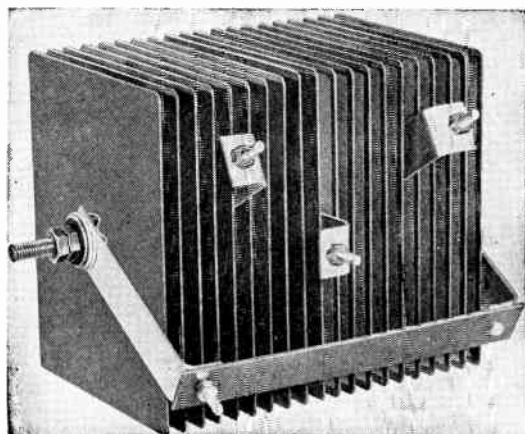


Time saver for pigtail replacement. Snap on blown pigtail, then use regular fuse in other side. No soldering.

In order to provide TV service men with their demand for a larger, more compact unit of TV Snap On Fuse Holders, Littelfuse has produced a package of 10 of the holders in a hard, long-wearing, plastic box.

No. 094025

List Price, per box, \$3.00

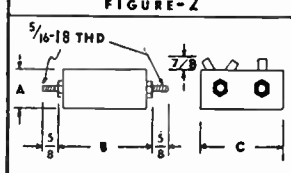
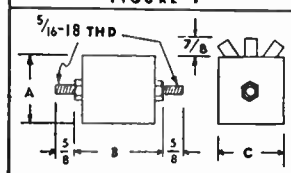
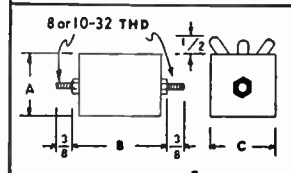
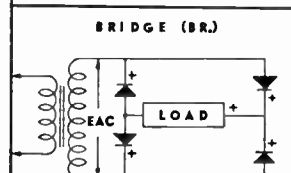
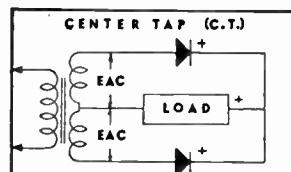


Sarkes  
Tarzian

# "Centre-Kooled" POWER RECTIFIERS

## SINGLE PHASE—FULL WAVE RECTIFIER STACKS

DC OUTPUT At 35°C. Amb.		CIRCUIT	Max. AC Input	APPROXIMATE DIMENSIONS—Refer to			Figure	Catalog No.	CIRCUITS AND DIMENSIONAL DIAGRAMS
Volts	Max. Amps.			Refer to Diagram	Volts	A			
6-10	2	C.T.	13	3"	2 1/4"	3"	2	D-10	
6-10	4	C.T.	13	4"	2 1/4"	4"	2	D-11	
6-10	6	C.T.	13	4"	2 1/2"	4"	2	D-12	
6-10	8	C.T.	13	5"	2 1/4"	6"	2	D-13	
6-10	12	C.T.	13	5"	2 1/2"	6"	2	D-14	
6-10	15	C.T.	13	4 1/4"	2 1/4"	12"	3	D-15	
6-10	22.5	C.T.	13	4 1/4"	2 1/2"	12"	3	D-16	
6-20	2	BR.	26	3"	3"	3"	2	D-17	
6-20	4	BR.	26	4"	3"	4"	2	D-18	
6-20	6	BR.	26	4"	3 3/4"	4"	2	D-19	
6-20	8	BR.	26	5"	3"	6"	2	D-20	
6-20	12	BR.	26	5"	3 3/4"	6"	2	D-21	
6-20	15	BR.	26	4 1/4"	3"	12"	3	D-22	
6-20	22.5	BR.	26	4 1/4"	3 3/4"	12"	3	D-23	
20-40	2	BR.	52	3"	4 1/2"	3"	2	D-24	
20-40	4	BR.	52	4"	4 1/2"	4"	2	D-25	
20-40	6	BR.	52	4"	6"	4"	2	D-26	
20-40	8	BR.	52	5"	4 1/2"	6"	2	D-27	
20-40	12	BR.	52	5"	6"	6"	2	D-28	
20-40	15	BR.	52	4 1/4"	4 1/2"	12"	3	D-29	
20-40	22.5	BR.	52	4 1/4"	6"	12"	3	D-30	
40-60	2	BR.	78	3"	5 3/4"	3"	2	D-31	
40-60	4	BR.	78	4"	5 3/4"	4"	2	D-32	
40-60	6	BR.	78	4"	8 1/4"	4"	2	D-33	
40-60	8	BR.	78	5"	5 3/4"	6"	2	D-34	
40-60	12	BR.	78	5"	8 1/4"	6"	2	D-35	
40-60	15	BR.	78	4 1/4"	5 3/4"	12"	3	D-36	
40-60	22.5	BR.	78	4 1/4"	8 1/4"	12"	3	D-37	
60-100	.5	BR.	130	1.6"	5"	1.6"	1	D-38	
60-100	1	BR.	130	2"	5"	2"	1	D-39	
60-100	2	BR.	130	3"	8 5/8"	3"	2	D-40	
60-100	4	BR.	130	4"	8 5/8"	4"	2	D-41	
60-100	6	BR.	130	4"	12 7/8"	4"	2	D-42	
60-100	8	BR.	130	5"	8 5/8"	6"	2	D-43	
60-100	12	BR.	130	5"	12 7/8"	6"	2	D-44	
100-120	.5	BR.	156	1.6"	5 7/8"	1.6"	1	D-45	
100-120	1	BR.	156	2"	5 7/8"	2"	1	D-46	
100-120	2	BR.	156	3"	10"	3"	2	D-47	
100-120	4	BR.	156	4"	10"	4"	2	D-48	
100-120	6	BR.	156	4"	15 1/4"	4"	2	D-49	
100-120	8	BR.	156	5"	10"	6"	2	D-50	
100-120	12	BR.	156	5"	15 1/4"	6"	2	D-51	



ALL DIMENSIONS  
ARE APPROXIMATE

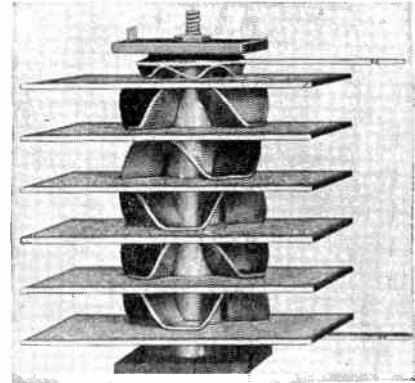
## SARKES TARZIAN, INC., RECTIFIER DIVISION

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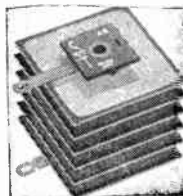
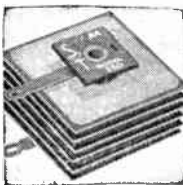
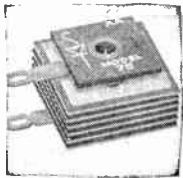
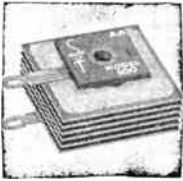
# "Centre-Kooled"

## SELENIUM RECTIFIERS



(Radio Type)

### For All DC Power Requirements



Model No.	Max. DC Current	Max. RMS Input Voltage	Max. RMS Current (MA)	Max. Inverse Peak Voltage	Max. Peak Current (MA)	Dimensions	Application
.5	35	130	90	380	350	3/8"x5/8"x5/8"x5/8"	Boosters
#5	65	130	162	380	650	13/32"x1"x1"x11/16"	B+ Supply—Portable & AC-DC Radio
75	75	130	187	380	750	13/32"x1"x1"x13/16"	B+ Supply—Portable Radio
130	100	130	250	380	1000	13/32"x1 1/4"x13/16"	B+ Supply—AM-FM Radio
100A	100	130	250	380	1000	13/32"x1"x1"x1"	B+ Radio
150	150	130	375	380	1500	13/32"x1 1/4"x13/16"	B+ Supply—Radio-Television
200	200	130	500	380	2000	13/32"x1.6"x1.6"x1"	B+ Supply—Television
250	250	130	625	380	2500	13/32"x1.6"x1.6"x1"	B+ Supply—Television
300	300	130	750	380	3000	x1.6"x1.6"x1.6"x1 7/8"	B+ Supply—Television
350	350	130	875	380	3500	13/32"x2"x2"x15/16"	B+ Supply—Television
450	450	130	1125	380	4500	13/32"x2"x2"x1 7/8"	B+ Supply—Radio-Television
108	100	160	250	440	1000	13/32"x1 1/4"x31/32"	B+ Supply—1/2 Wave, Mobile Radio-TV
78D	75	160	187	440	750	13/32"x1"x1"x1 5/8"	B+ Supply—Doublers —Radio-Television
108D	100	160	250	440	1000	x1 1/4"x1 1/4"x1 5/8"	B+—Doublers —Radio-Television
208D	200	160	500	440	2000	13/32"x1.6"x1.6"x1 5/8"	B+—Doublers —Radio-Television
154B	150	25	270	35	1800	13/32"x1"x1"x11/16"	Filament—Relay Supply
304B	300	25	540	35	3400	13/32"x1 1/4"x11/16"	Filament—Relay Supply
604B	600	25	1080	35	4000	13/32"x1.6"x11/16"	Filament—Relay Supply

## HIGH VOLTAGE SELENIUM RECTIFIERS

Sarkes Tarzian high voltage selenium rectifiers are designed for use in photo-flash supplies, cathode ray oscilloscopes, television receivers, high potential test equipment, and electronic equipments used by military forces.

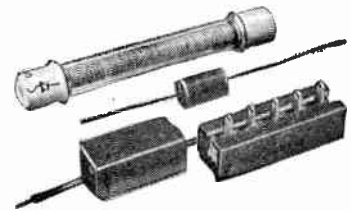
Designated as Type 0 for current ranges to 5 milliamperes and as Type 1 for current ranges to 25 milliamperes, the units are available in half wave, full wave bridge, and center tap stacks. Both types are available with voltage ratings to 4000 in a single unit and hundreds of thousands of volts by using multiple units in series. In center tap and bridge circuits the maximum allowable D.C. current is 10 MA for Type 0 and 50 MA for Type 1 assemblies.

The Type 0, in a glass enclosure is hermetically sealed for high humidity operation (Half Wave units only) and mounting is by means of silver plated ferrules. The bakelite enclosed Type 0 rectifiers are designed for normal commercial use and electrical connection is made by means of axial pigtail leads. For inverse voltage ratings to 208 volts A.C. the unit is self supporting; longer assemblies require a mounting clip.

The Type 1 rectifier is available only in square bakelite enclosures. The unit, normally supplied, is not hermetically sealed; however, it is possible to "capsulize" the Type 1 rectifier for high humidity applications.

For complete information or engineering assistance—write, phone or wire. No obligations on your part.

**New Handbook Available** 80 pages of valuable information about Selenium Rectifiers . . . 48 pages of Radio & Television circuit diagrams . . . 20 pages on Power Rectifiers . . . 3 pages of High Voltage Rectifiers . . . a 7 page cross index replacement guide. (Price 50 cents)



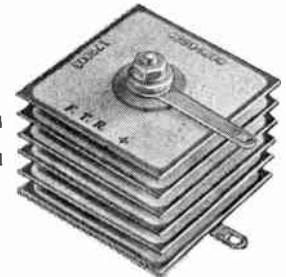
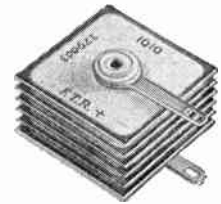
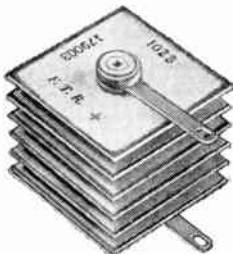
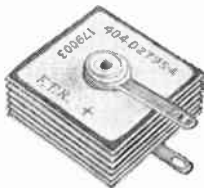
## SARKES TARZIAN, INC., RECTIFIER DIV.

Dept. RM



# Federal Miniature Selenium Rectifiers

The revolutionary rectifier with unlimited use in radio • television • electronics



Federal Code Number	Output MA DC	Input (RMS)		In-verse Peak		Plate Size	Application	Sugg'd Retail Price Each
		Volts	MA	Volts	MA			
1150	20	130	50	380	200	3/8" dia.	B+Booster Bias	\$1.10
1002A	65	130	160	380	750	1" sq.	B+AC-DC5 Tube	1.33
1003A	75	130	220	380	900	1" sq.	B+3 Way Radio	1.55
1101A	100	130	160	380	750	1" sq.	B+Radio Telev.	1.90
1004A	100	130	325	380	1200	1 1/2" x 1 1/2" sq.	B+Radio Telev.	1.90
1005A	150	130	425	380	1200	1 1/2" x 1 1/2" sq.	B+ Radio Telev.	2.25
1006A	200	130	550	380	2000	1 1/2" sq.	B+Telev.	2.70
†1010	250	130	625	380	2000	1 1/2" sq.	B+Telev.	3.00
*1028A	250	130	625	380	2000	1 1/2" sq.	B+Booster Bias	3.00
1087A	275	130	700	380	2000	1 1/2" sq.	B+Telev.	2.85
1090A	300	130	750	380	2000	1 1/2" sq.	B+Telev.	3.05
1023	350	130	900	380	3000	1 1/2" sq.	B+Telev.	3.45
1130	400	130	1000	380	4000	2" sq.	B+Telev.	4.25
1021	450	130	1150	380	4000	2" sq.	B+Telev.	4.30
1179	500	130	1150	380	4000	2" sq.	B+Telev.	4.47
1014A	100	160	325	440	1200	1 1/2" x 1 1/2" sq.	Vibrator	3.05
1029A	200	160	550	440	2000	1 1/2" x 1 1/2" sq.	B+Telev.	3.35
1022	450	160	1150	440	4000	2" sq.	B+Telev.	4.25
1007A	75	160	220	440	900	1" sq.	Doubler Vibrator	3.50
1008A	100	160	325	440	1200	1 1/2" x 1 1/2" sq.	Vibrator Doubler	4.40
1009A	200	160	550	440	2000	1 1/2" sq.	Vibrator Doubler	6.00
1015	150	25	270	35	1800	1" sq.	Bridge Rectifier	1.75
1016	300	25	540	35	2400	1 1/2" x 1 1/2" sq.	Bridge Rectifier	2.05
1017	600	25	1080	35	4000	1 1/2" sq.	Bridge Rectifier	2.60
1013	700	• 18	•••••	•••••	•••••	1 1/2" sq.	Battery Charger	1.00
1018	2000	§ 18	•••••	•••••	•••••	4 1/2" sq.	Battery Charger	3.66
1001	75	20	220	55	900	(Mtg. Plt.)	Bias Rectifier	.63

1019 N.T.C. Resistor (Resistance: Cold, 1400 ohms, Hot, 200 ohms).

.31

\* The characteristics given are based on its use in a half-wave rectifier circuit with a .3 cell battery load.

§ The characteristics given are based on its use in a full-wave rectifier circuit with a .3 cell battery load.

† Rating per section—2 sections per rectifier.

‡ Stud construction.

\* Eyelet construction.

Letter "A" following catalog number indicates locking lug.

## Federal Selenium Rectifier

# Replacement KITS are a Hit with Servicemen!

Each Kit contains 2 of each of 4 "Preferred Types" for MOST Radio-TV Replacements

Federal's 8-unit Kits are the convenient, time-saving way for servicemen to make radio-TV replacements "on the spot."

Kit No. 1 contains types for handling 90% of television replacement jobs.

Kit No. 2 contains types for most radio replacements.

Federal Kits are valuable aids in servicing more than 30,000,000 selenium rectifiers now in the field.

Consult your local Federal Distributor or write to Federal direct.



KIT No. 1



KIT No. 2 (Clear Plastic Utility Package)

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Federal's Miniature Selenium Rectifier Handbook—48 pages of valuable design and application data on America's most complete line of miniature selenium rectifiers.

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## Federal Telephone and Radio Corporation

America's Oldest and Largest Manufacturer of Selenium Rectifiers



# PACKAGED POWER SELENIUM RECTIFIER STACKS

## by Federal

Federal has America's largest stock of stacks for all popular applications . . . available for prompt shipment. Special design data and prices for the asking.

NOTE: Ratings for 35° C. Ambient; Resistive or Inductive loads; all designs shown are for single phase full wave rectification.

## PRICE LIST and DATA SHEET

Effective September 15, 1951

Maximum D.C. Output (Approximate) ‡		Rectifier Stack Code Number	Maximum A.C. Input Volts	Circuit and Stack Conn. Diagram	Rectifier Stack Dimensions			Catalog Number	Net User's Price
Volts	Amps.				A	B ± 1/16"	Fig.		
10	3.0	106C1AX1	13	'B'	3 3/8"	1 9/16"	1	2100	\$ 6.67
	6.0	133C1AX1	13		4 3/8"	1 3/4"	1	2101	8.33
	12.0	136C1AX1	13		5" x 6"	1 3/4"	2	2102	11.91
20	3.0	106B1AX1	26	'A'	3 3/8"	2 1/16"	1	2103	9.42
	6.0	133B1AX1	26		4 3/8"	2 11/16"	1	2104	12.58
	12.0	136B1AX1	26		5" x 6"	2 3/4"	2	2105	20.50
40	3.0	106B2AX1	52	'A'	3 3/8"	3 9/16"	3	2026	15.00
	6.0	133B2AX1	52		4 3/8"	5"	3	2107	21.17
	12.0	136B2AX1	52		5" x 6"	5 1/4"	4	2108	34.00
60	3.0	106B3AX1	78	'A'	3 3/8"	4 1/2"	3	2118	20.00
	6.0	133B3AX1	78		4 3/8"	6 3/4"	3	2033	29.17
	12.0	136B3AX1	78		5" x 6"	7 5/16"	4	2085	46.92
80	3.0	106B4AX1	104	'A'	3 3/8"	5 1/2"	3	2109	24.92
	6.0	133B4AX1	104		4 3/8"	8 9/16"	3	2110	37.17
	12.0	136B4AX1	104		5" x 6"	9 5/16"	4	2111	59.84
100	1.0	139B5AX1	130	'A'	2" sq.	5 3/8"	5	2112	16.25
	2.4	106B5AX1	130		3 3/8"	6 5/8"	3	2113	29.83
	6.0	133B5AX1	130		4 3/8"	10 9/16"	3	2114	45.17
120	0.3	103B6AX1	156	'A'	1 9/32" x 1 13/64"	4 3/4"	5*	2115	14.17
	0.6	104B6AX1	156		1 17/32" sq.	4 7/8"	5	2036	16.34
	1.0	139B6AX1	156		2" sq.	6 7/16"	5	2116	18.75
	2.4	106B6AX1	156		3 3/8"	7 5/8"	3	2038	34.92
	6.0	133B6AX1	156		4 3/8"	12 5/16"	3	2117	53.17

‡ Resistive or Inductive Loads.

\* 8-32 Thread



Consult your local Federal Distributor  
or write to Federal direct—

## Federal Telephone & Radio Corporation

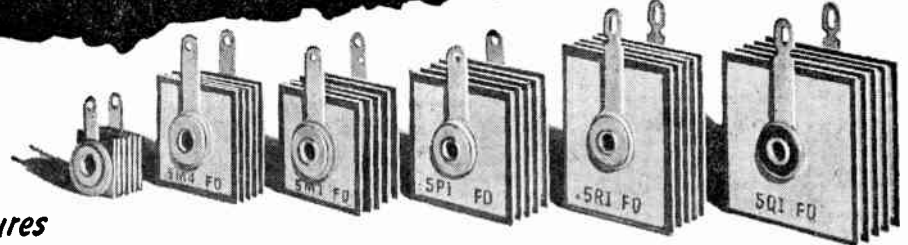
100 KINGSLAND ROAD

SELENIUM-INTELIN DIVISION

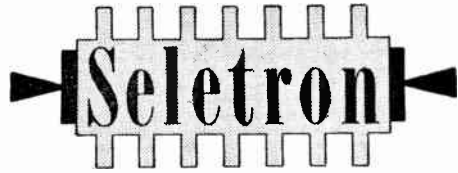
CLIFTON, N. J.



**MILLIONS OF MINIATURES IN SERVICE IN RADIO AND TELEVISION!**



*Miniaturs*



**SELETRON SILENIUM RECTIFIERS**

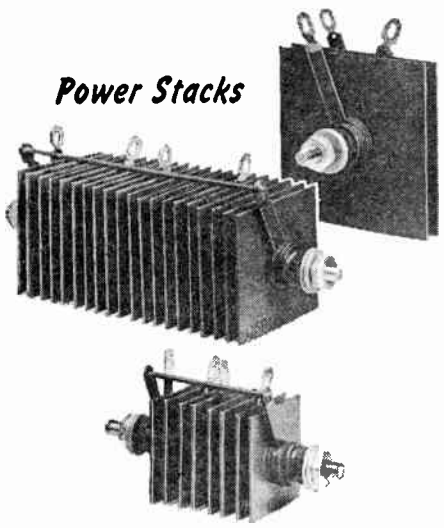
**MINIATURE SELETRON SILENIUM RECTIFIERS**

MODEL NO.	PLATE SIZE	STACK THICKNESS	MAX. INPUT VOLTAGE R.M.S.	MAX. PEAK INVERSE VOLTAGE	MAX. D.C. OUTPUT CURRENT	LIST PRICE
1M1	1" sq.	3/8"	25	75	100 MA	\$0.83
8Y1	1/2" sq.	9/16"	130	380	20 MA*	1.15
16Y1	1/2" sq.	15/16"	260	760	20 MA*	2.28
8J1	1 1/16" sq.	9/16"	130	380	65 MA	1.38
5M4	1" sq.	11/16"	130	380	75 MA	1.65
5M1	1" sq.	7/8"	130	380	100 MA	2.00
5P1	1 3/16" sq.	7/8"	130	380	150 MA	2.45
6P2	1 3/16" sq.	1 3/16"	156	456	150 MA	2.60
5R1	1 1/2" x 1 1/4"	7/8"	130	380	200 MA	2.85
5Q1	1 1/2" sq.	1 1/8"	130	380	250 MA	3.22
6Q1	1 1/2" sq.	1 1/8"	156	456	250 MA	3.28
6Q2	1 1/2" sq.	1 3/8"	156	456	250 MA	3.28
6Q4(+)	1 1/2" sq.	1 1/2"	130	380	300 MA	3.55
5QS1	1 1/2" x 2"	1 1/8"	130	380	350 MA	3.80
6QS2	1 1/2" x 2"	1 1/4"	156	456	350 MA	4.05
5S1	2" sq.	1 1/8"	130	380	500 MA	4.35
6S2	2" sq.	1 3/8"	156	456	500 MA	5.20

\* This rectifier is rated at 25 MA when used with a 47 ohm series resistor.  
 (+) Stud mounted—overall: 2".

SELETRON Selenium Rectifiers are finding use in wider and wider fields of application ranging from half wave stacks for bias supply such as 8Y1 listed at the left, to multiple assemblies capable of delivering many kilowatts. Typical examples of such SELETRON power use are installations operating elevators in more than 100 office buildings in New York and Chicago; an assembly of 48 volts, 10,000 amps for electrolysis of water, and the spectacular Eveready searchlight on New York's Great White Way.

*Power Stacks*



**INDUSTRIAL TYPE SELETRON SILENIUM RECTIFIERS STOCKED BY JOBBERS**  
 Single Phase - Full Wave Bridge - Resistive-Inductive Load

D.C. OUTPUT @ 35°C MAX. AMPS.	APPROX. VOLTS		MAX. INPUT R.M.S. VOLTS	SELETRON RECTIFIER CODE NO.	RECTIFIER LIST PRICE	BRACKETS LIST EACH
	NEW	AGED				
0.9	18	17	24	Q1B1S1B	\$2.40	.17
1.4	19	18	24	S1B1S1B	4.16	.22
3.2	18	17	24	U1B1S1B	6.34	.22
5.2	18	17	24	F1B1S1B	8.82	.28
10.0	18	17	24	H1B1S1B	12.38	.44
20.0	18	17	24	H1B2S1B	23.43	.44
30.0	19	18	24	WH1B3S1B	35.26	.44
0.45	37	35	48	P2B1S1B	5.00	.17
0.9	37	35	48	Q2B1S1B	5.64	.17
1.4	37	35	48	S2B1S1B	7.60	.22
3.2	37	35	48	U2B1S1B	11.25	.22
5.2	37	34	48	F2B1S1B	16.08	.28
10.0	37	34	48	H2B1S1B	22.71	.44
16.0	37	35	48	H2B2S1B	42.73	.44
24.0	37	35	48	H2B3S1B	61.95	.44
0.9	112	105	144	WQ6B1S1B	14.65	.17
1.4	114	108	144	WS6B1S1B	21.32	.22
2.4	112	106	144	U6B1S1B	27.53	.22
5.2	110	103	144	WF6B1S1B	44.46	.28
0.9	130	122	168	WQ7B1S1B	16.57	.17
1.4	133	126	168	WS7B1S1B	24.56	.22
2.4	131	123	168	U7B1S1B	31.29	.22
5.2	129	120	168	WF7B1S1B	50.97	.28

Our Engineering Department will be glad to aid you in the solution of your rectifier problems without obligation. Write for booklet on SELETRON Selenium Rectifiers — Address Dept. US-5.

**SELETRON DIVISION**

**RADIO RECEPTOR COMPANY, Inc.**

*Since 1922 in Radio and Electronics*

**Sales Department: 251 West 19th St., New York 11, N. Y.**  
**Factory: 84 North 9th St., Brooklyn 11, N. Y.**

# ELECTROX<sup>®</sup>

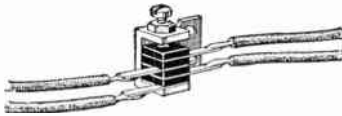
## Low-Capacity

# RECTIFIER UNITS

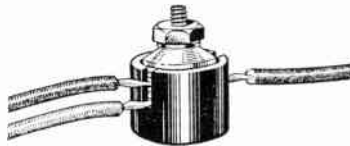
Used by most leading test set manufacturers as original components in their equipment.

\*Trade Mark Reg. U. S. Pat. Off.

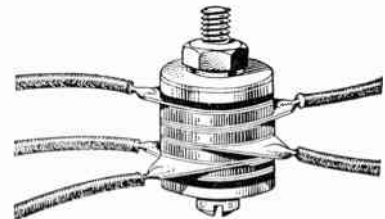
Full and half wave, low-capacity copper oxide rectifiers for instruments, test sets and similar applications. ElectroX Rectifiers are made by a pioneer manufacturer of high-quality, dry disc rectifiers. Each type is specially adapted to meet the individual requirements of the user; each unit is individually inspected, tested, and guaranteed right. For dependability, get genuine ElectroX Rectifiers!



TYPE A-4  
CAT. NO. 5020



TYPE B-2  
CAT. NO. 5047  
CAT. NO. 5049

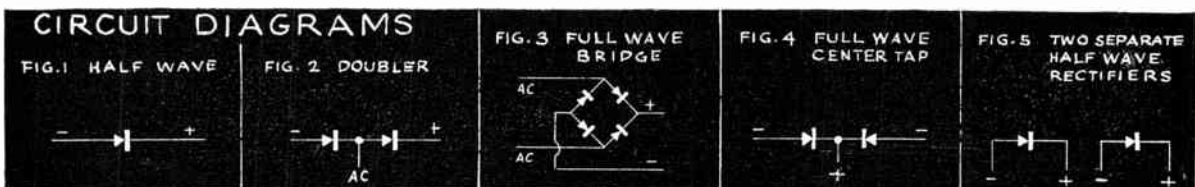


TYPE C-4  
CAT. NO. 5017

Max. Continuous Rating			Circuit Diagram Fig.	Element Diam. Inches	No. of Elements	Connections	Lead Length Inches	Type	Cat. No.
D.C. M.A.	D.C. Volts	A.C. Rms. Volts							
1	1	1.5	3	1/8	4	4 leads	4	AA-4	5064
5	3	4	3	3/16†	4	4 leads	3	A-4	5020
13		3	1	1/8	1	2 leads	3	B-1	5048
13		4	4	1/8	2	3 leads	3	B-2	5047
13		3*	2	1/8	2	3 leads	3	B-2	5049
20	3	4	3	1/8	4	5 leads	3	B-4	5016
32		3	1	3/4	1	2 lugs		C-1	5011
32		3*	2	3/4	2	3 leads		C-2	5057
32		3*	5	3/4	2	4 lugs		C-2	5010
64	3	4.1	3	3/4	4	5 lugs		C-4	5014
64	3	4.1	3	3/4	4	5 leads	3	C-4	5017

\*3 volts A.C. per element.

†3/16" square.



**SCHAUER MANUFACTURING CORP. • Cincinnati, Ohio**  
*Makers, since 1930, of high-quality, dry disc rectifiers.*

# BRADLEY RECTIFIERS AND PHOTOCELLS

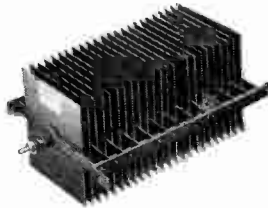
VACUUM PROCESSED FOR PERFORMANCE AS RATED

## SELENIUM

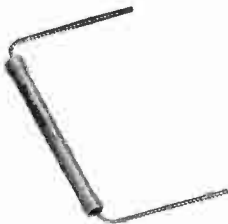


**HIGH-VOLTAGE RECTIFIERS** (SE6M Series). Ratings to 5 ma D.C.—6000 volts maximum peak inverse. Hermetically sealed in glass tubes. Ferrules for fuse type mounting.

**POWER RECTIFIERS** (SE11 Series). Ratings from 50 ma to thousands of amperes. Available in half-wave, full-wave bridge, voltage multiplier, center tap full-wave, polyphase, and special connections to customer's current and voltage requirements. Plate size from 1" x 1" to 5" x 6".

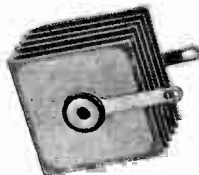


**LIMITER** (SR Series). For magnetic amplifier and special applications. Hermetically sealed to meet all specifications.



**MINIATURE HIGH-VOLTAGE RECTIFIERS** (SE8 Series). Completely sealed in Bakelite housings. Ratings up to 6000 volts peak inverse and 12.5 ma D.C. Size from 1/4" diameter x 3/8" long.

**HALF-WAVE RECTIFIERS** (SE9 Series). Rated from 50 ma to 500 ma. Peak inverse up to 500 volts. Plate size from 1" x 1". Length 1/2" to 1 1/2".



## COPPER OXIDE



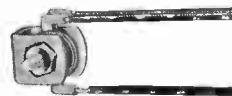
**HIGH CONVERSION RATIO RECTIFIERS** (CX4D Series), for electronic control and instrument work. Ratings from 25 ma to 100 ma and up to 12 volts A.C. Completely enclosed housing. Size 7/8" x 3/4", from 1/2" to 2" long. Single 6-32 screw mounting.



**MINIATURE HERMETICALLY SEALED RECTIFIERS** (CX23 Series). Modulators and bridges with matched sections for detecting phase differentials in A.C. currents and small D.C. potentials applied to balanced A.C. circuits. Maximum 2 volts continuous as modulators, 6 volts as bridges.

**LOW-CURRENT HIGH-FREQUENCY RECTIFIERS** (CX8C Series).

Rated up to 36 volts A.C. 500 microamperes D.C. Size 1/4" diameter x 3/8" long. 2 1/2" tinned leads.



**CONTROL AND TEST EQUIPMENT RECTIFIERS** (C014D Series). Rated from 20 ma half-wave to 35 ma full-wave, up to 6 volts A.C., 4 volts D.C. Single 6-32 screw mounting.

**INSTRUMENT RECTIFIERS** (CX2E Series). Rated up to 6 volts A.C., 4.5 volts D.C., 5 ma D.C. for conventional circuits and special current control applications. Two 7/64" diameter mounting holes. 3" gold leads.



**BALANCED BRIDGES AND MODULATORS** (CX3E Series) with current and temperature characteristics balanced to better than 1% over a range of -40°C. to 70°C. Up to 12 volts A.C., 8 volts D.C., 5 ma D.C. Hermetically sealed.



### NEW HANDBOOK AVAILABLE

Valuable reference for engineers. Contains design considerations as well as complete descriptions of Bradley Rectifiers and Photoelectric Cells. Available on request to qualified engineers.

### SELF-GENERATING PHOTOELECTRIC CELLS

## BRADLEY LABORATORIES, INC.

168 COLUMBUS AVENUE, NEW HAVEN 11, CONNECTICUT

# International Selenium Rectifiers

## MINIATURE RECTIFIERS

As easily installed as a Resistor or Condenser.



Only 2 Soldering Operations required.

130 Volts RMS

Peak Inverse Volts: 380

FOR ELECTRONIC APPLICATIONS UP TO 1,000 MA

Approximate Voltage Drop: 5 volts

RATINGS AVAILABLE

Type No.	RS75	RS100	RS150	RS200	RS250	RS1000
Current (ma)	75	100	150	200	250	1000

SEND FOR BULLETIN IS-1249

## POWER RECTIFIERS



Suitable for Oil Immersion

EFFICIENCY TO 87%

POWER FACTOR 95%

RATINGS TO 250 KW

FOR ELECTROPLATING, BATTERY CHARGING, ELEVATOR AND AIRCRAFT POWER SUPPLY UNITS, ETC.

PARTIAL LIST OF POWER RECTIFIERS

TYPE NO.	DC VOLTS	DC AMPS	SIZE PLATE
D507	0-15	0.5	1 1/4" Sq.
D510	0-15	3.0	3" Sq.
D513	0-15	14.0	6 1/4" x 7 1/4"
D517	15-30	3.0	3" Sq.
D520	15-30	14.0	6 1/4" x 7 1/4"
D521	95	5.0	4 3/8" Sq.

WRITE FOR BULLETIN C-349

## HIGH VOLTAGE RECTIFIERS

CARTRIDGE TYPE

RATINGS TO 25 KV AND 75 MA.

In half-wave, voltage doubler or bridge circuits From 1/4" to 1 1/4" O.D. or built to your specifications

TYPICAL APPLICATIONS

BIAS SUPPLIES  
CONDENSER TESTING  
CATHODE RAY TUBES  
ELECTRON MULTIPLIERS

ELECTROSTATIC PROCESSES  
GEIGER COUNTERS  
INVERSE PEAK SUPPRESSORS  
PHOTOFLASH POWER SUPPLIES

TELEVISION CIRCUITS

TYPE V-HF SERIES  
1/2 WAVE - 5 MA. DC



TYPE V-HF SERIES

DC OUTPUT VOLTAGE	RECTIFIER PART NO.	DC OUTPUT VOLTAGE	RECTIFIER PART NO.
20	V1HF	1000	V50HF
60	V3HF	2000	V100HF
100	V5HF	3000	V150HF
400	V20HF	4000	V200HF

TYPE Y-HP SERIES

1/2 wave - 11 MA. DC



DC OUTPUT VOLTAGE	RECTIFIER PART NO.	DC OUTPUT VOLTAGE	RECTIFIER PART NO.
20	Y1HP	1000	Y50HP
60	Y3HP	2000	Y100HP
100	Y5HP	3000	Y150HP
400	Y20HP	4000	Y200HP

TYPE U-HF SERIES

1/2 wave - 1.5 MA. DC

1/4" Diameter Rating to 4,000 v. DC



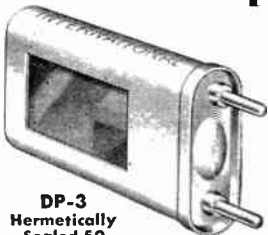
Fit standard automotive type Fuse clips

PARTIAL LIST OF U-HF SERIES AVAILABLE

DC OUTPUT VOLTAGE	RECTIFIER PART NO.	STD. AUTO-TYPE FUSE CLIP	MAX. LENGTH INCHES
200	U10HF	7-AG	27/32
360	U18HF	7-AG	27/32
500	U25HF	8-AG	31/32
600	U30HF	3-AG	1-7/32
700	U35HF	9-AG	1-3/8

WRITE FOR BULLETIN H-1

## PHOTO-ELECTRIC CELLS SELF-GENERATING TYPE



DP-3  
Hermetically Sealed 50 microamperes at 100 foot-candles



DP-2  
Hermetically Sealed 25 microamperes at 100 foot-candles



A-2M  
13 microamperes at 100 foot-candles



DP-5  
Hermetically Sealed Up to 600 microamperes at 100 foot-candles

Unmounted Cells Available



Write for Bulletins PC-649, PPC-250, HPC-450, HPC-252

# International

## RECTIFIER CORPORATION

GENERAL OFFICES:  
1521 E. Grand Ave.  
El Segundo, Calif.  
Phone El Segundo 1890

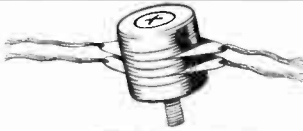
CHICAGO BRANCH OFFICE:  
205 W. Wacker Dr.  
Franklin 2-3889

# CONANT

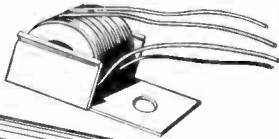
# Miniature Metallic Rectifiers

S T A N D A R D S I N C E 1 9 3 3

**SERIES 500**

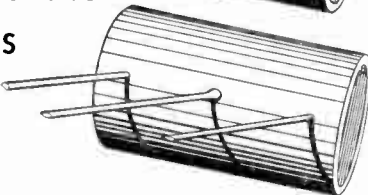


**SERIES 500 ERM**



**SERIES 500 TUA**

**SERIES 500 TUR**

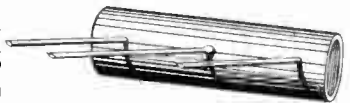


**SERIES 280 ERM**

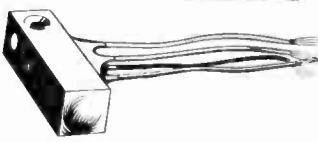


**SERIES 280 TUA**

**SERIES 280 TUR**



**SERIES 160**



**SERIES 160C**



**SERIES 160 ERM**



ALL RECTIFIERS SHOWN ACTUAL SIZE

### INTERNAL CIRCUITS

Standard rectifiers are connected internally according to one of the five circuit diagrams shown.

**SERIES 500** Copper oxide only. Color coded. Welded lead wires 3" long. Synthetic lacquer-enamel finish. Single 6-32 stud mounting. Available in special types. Cell diameter .500". Cell rating 5 r.m.s. volts, 30 average mils.

**SERIES 500-ERM** Copper oxide or selenium. Color coded. Solid lead wires 3" long. Lacquer finish. Single hole mounting. Available in special types. Cell diameter .500". Cell ratings, copper oxide 5 r.m.s. volts, 30 average mils; selenium, 25 r.m.s. volts, 30 average mils.

**SERIES 500-TUA** Selenium only. Color coded. Solid axial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Half wave types only for high voltage. Cell diameter .500". Cell rating 25 r.m.s. volts, 30 average mils. Per cell ratings subject to derating according to rectifier design.

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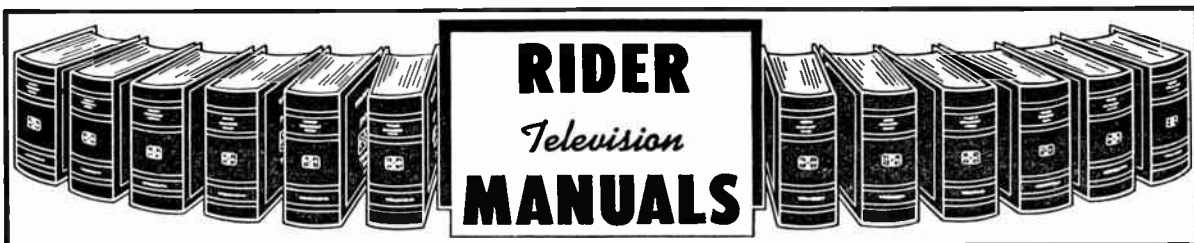
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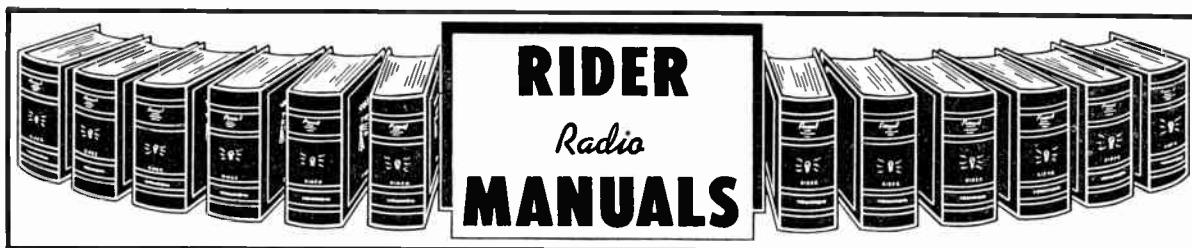
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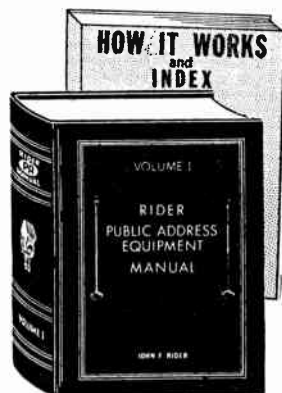
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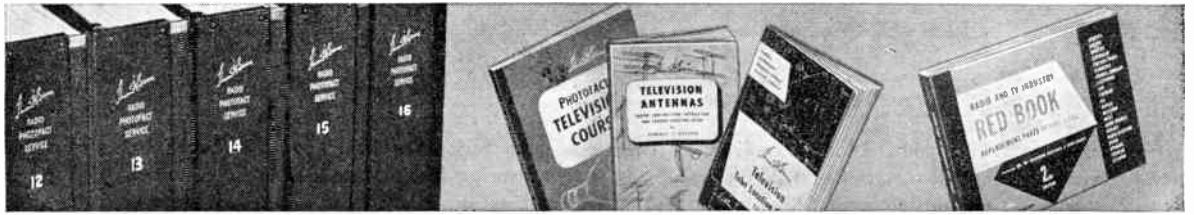
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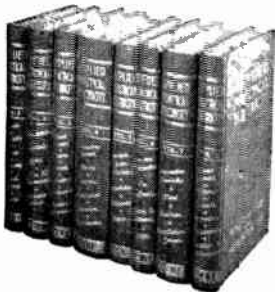
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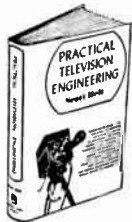


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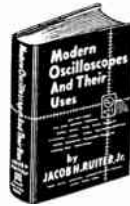
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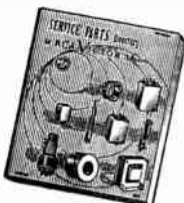
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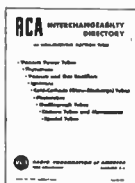
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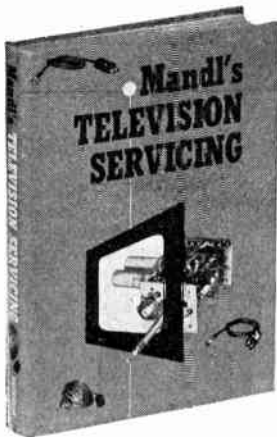
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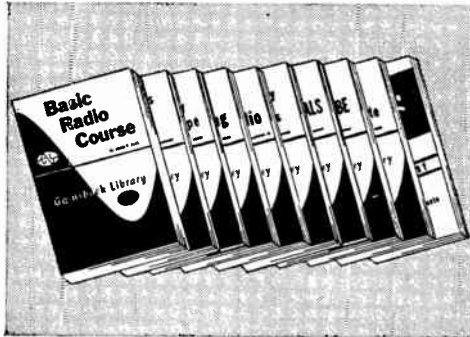


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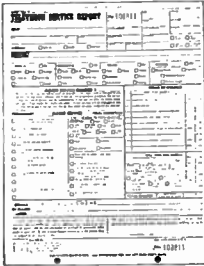
A storehouse of short cuts and kinks for the practicing technician! All new! Hundreds of "tricks of the trade" for adding speed and efficiency to your servicing work. Gathered by the editors of RADIO-ELECTRONICS during the last few years from suggestions by men behind servicing benches all over the United States. 112 pages. Illustrated. 5½" x 8½". \$1.00

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### TELEVISION SERVICE REPORT



- Merchandise your TV service.
- Check off system breaks down entire job to show price of each item.
- Supplies complete service data for future reference.

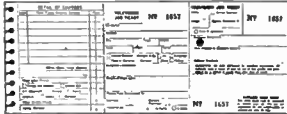
3 copy carbon snap out form (8½" x 11") to handle the complete TV service operation. Contains service department copy, customer copy, and office copy. Spaces provided for all necessary information and service data on set repair. Statements of guarantee and responsibility prominently displayed. Space provided for customer receipt signature. Minor service and final inspection details are shown in check off listing. Serially numbered

customer claim check is part of first copy and contains space (8¼" x 1") for dealer imprint. Each is serially numbered with space provided for dealer's own job numbers. Forms cannot be supplied to specific serial number or imprinted. Shipping weight, 4 lbs.

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Spiral bound book of 100 (3 part) job tickets for TV service. Spaces provided for customer and set information, detail of charges for parts, tubes, material and services, customer complaint, parts-in-warranty, etc. Claim check section has space for dealer

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### TELEVISION SERVICE CALL BOOK

- Supplies important customer receipt.
- Systematizes your service calls.
- Provides complete call data.

The "Television Service Call Book" contains 50 triplicate forms designed specifically for use on home TV service calls. Spaces provided for all essential information. Forms individually numbered. 1st copy white, 2nd copy yellow, 3rd copy pink. Space, 1" x 4¼" provided for dealer rubber stamp imprint. Book measures 9½" x 4¼". Fits conveniently into coat pocket or tool kit. Two carbons supplied for neat copies. Books cannot be supplied to specific number.

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Spiral bound book contains 34 pages describing each type service rendered by the Radio & TV service dealer with blank spaces provided for the dealer to record his price for each service. Gummed pricing tabs are supplied to aid in doing a neat pricing job. Complete range of services listed such as home service calls, pickup and delivery, antenna installation, service contracts and many more. Blank gummed pages are supplied to alter, change or add to the description of any service to fit a specific operation if needed. Type of services optional in some cases such as home calls of which three types are shown. Book size 5½" x 8½". Complete instructions for use included.

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### RADIO WORK SHEET

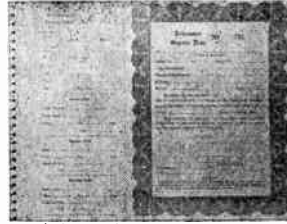


Pad of 50 sheets (8½" x 11") on which spaces are provided for complete details on each repair job. 38 possible check points, adjustments are listed in check-off form. Space provided for listing parts, tubes, material and service rendered as well as dealer rubber stamp imprint. Dealer users find in the "Work Sheet" an excellent means of presenting the set owner with full details on his set repair without spending time in lengthy explanations. Builds customer confidence and good will and assures a thorough repair job every time. Recommended for use with the "Radio Service Record".

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### TELEVISION SERVICE PLAN



- TV Service Contracts for 30, 90 days or 1 year.
- Contains complete contract terms.
- For complete control during contract period.

Spiral bound book contains

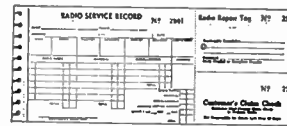
100 TV service contracts. Two part form contains owner certificate with terms and conditions easily understandable. Record stub (3½" x 8½") remains in book and contains spaces for all customer and

set information plus spaces for details of installation and eight service calls. Each contract and stub numbered individually. Contracts are printed in attractive brown with durable maroon cover. Costs of service throughout the contract period can be readily determined at any time during the period and complete control over each contract is assured. Contracts are numbered in books of 100. Numbers start at 101 and run through 1100 in books of 100 numbers. Set owner certificate measures 6½" x 8½".

### TELEVISION SERVICE PLAN

No. 105 (Book of 100 Service Contracts) Net each.....\$2.25

### RADIO SERVICE RECORD



Spiral bound book of 100 (3 Part) job tickets for radio service. Spaces provided for customer and set information, detail of charges for parts, tubes, material and services. Claim check section has space for dealer imprint. Each ticket numbered on all parts. Index

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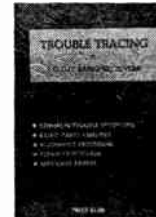
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### TROUBLE TRACING IN AC-DC RADIOS

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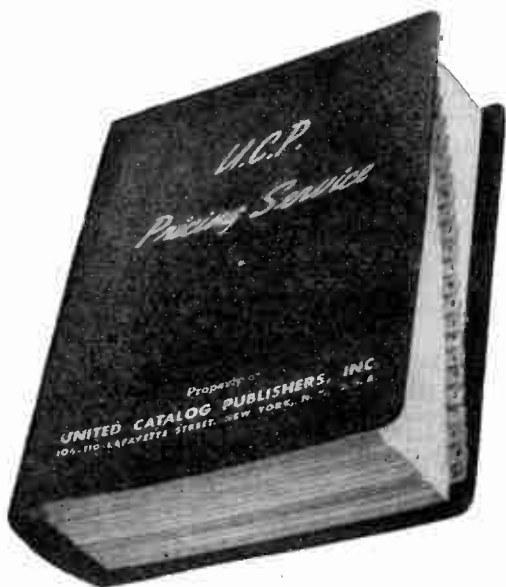
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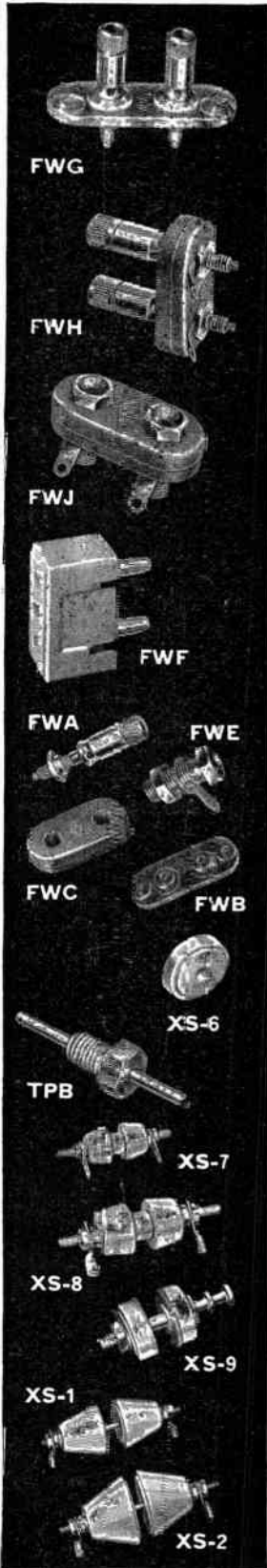
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**FWG**

A Victron terminal strip for high frequency use. The binding posts take banana plugs at the top, and grip wires through hole at the bottom, simultaneously, if desired.

**FWH**

The insulators of this terminal assembly are moulded R-39 and have serrated bosses that allow the thinnest panel to be gripped firmly, and yet have ample shoulders. Binding posts same as FWG above.

**FWJ**

This assembly uses the same insulators as the FWH above, but has jacks. When used with the FWF plug (below), there is no exposed metal when the plug is in place.

**FWF**

This moulded R-39 plug has two banana plugs on 3/4" centers and fits FWG, FWH or FWJ above. Leads may be brought out through the top or side.

**FWA, Post**  
 Brass Nickel Plated

**FWE, Jack**  
 Brass Nickel Plated

**FWC, Insulator**  
 R-39 Insulation.

**FWB, Insulator**  
 Polystyrene insulation.

**XS-6**  
 A low-loss steatite bushing for 1/2" holes. Passes 6-32 screw.

**TPB**  
 A threaded polystyrene bushing with removable .093 conductor moulded in, 1/4" diam., 28 thread.

**XS-7, (3/8" Hole)**

**XS-8, (1/2" Hole)**

**XS-1, (1" Hole)**

**XS-2, (1 1/2" Hole)**

**XS-9**  
 Feed-through insulator. Hole size 13/64". Insulators are adjustable on silver-plated terminal stud for different partition thicknesses. Ceramic insulators are of high grade materials designed for high frequency equipment.

**AA-3**

A low-loss steatite spreader for 6 inch line spacing. (600 ohms impedance with No. 12 wire.)

**AA-5**

A low-loss steatite aircraft-type strain insulator.

**AA-6**

A general purpose strain insulator of low-loss steatite.

**GS-1, 1/2" x 1 3/8"**

**GS-2, 1/2" x 2 7/8"**

**GS-3, 3/4" x 2 7/8"**

**GS-4, 3/4" x 4 7/8"**

**GS-4A, 3/4" x 6 7/8"**

Cylindrical low-loss steatite standoff insulators with nickel plated caps and bases.

**GSJ, (not illustrated)**  
 A special nickel plated jack top threaded to fit the 3/4" diameter insulators GS-3, GS-4 & GS-4A.

**GS-10, 3/4" high**

**GS-10S (not illustrated)** but same as GS-10 except includes threaded stud in top end.

**GS-5, 1 1/4" high**

**GS-6, 2" high**

**GS-7, 3" high**

These cone type standoff insulators are of low loss steatite. They are moulded with a tapped hole in each end for mounting as follows:

**GS-5, 8-32 tap 7/16" deep;**  
**GS-6 & GS-7, 10-24 tap 11/16" deep;**  
**GS-10, 6-32 tap 1/4" deep and GS-10S** as noted above.

**GS-8, with terminal**

**GS-9, with jack**

These low-loss steatite stand-off Insulators are also useful as lead-through bushings.

**XS-3, (2 3/4" hole)**

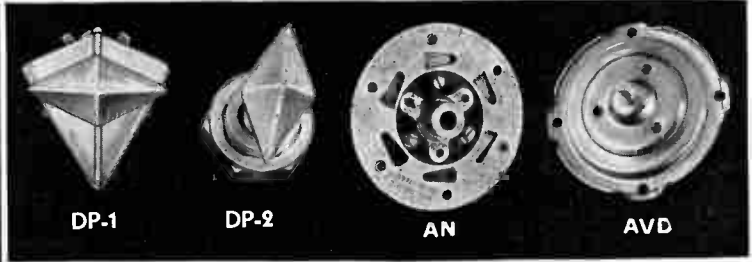
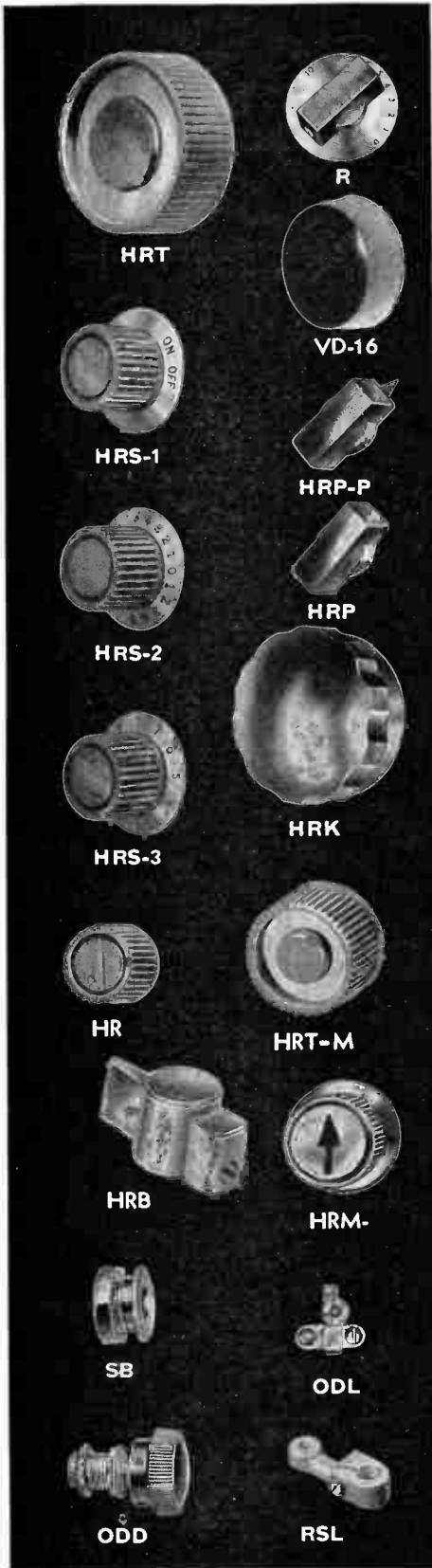
**XS-4, (3 3/4" hole)**

Prices are per pair and include nickel plated spindles, lugs and hardware. These low-loss steatite bowls are ideal for lead-in purposes at high voltages.

**XS-5, Without Fittings**

**XS-5F, With Fittings**  
 These big low-loss bowls have an extremely long leakage path and a 5 1/4" flange for bolting in place. Insulation steatite. Fittings include nickel plated brass spindles, lugs, nuts and washers.





**HRT**

**R**

**DP-1**

**DP-2**

**AN**

**AVD**

**HRS-1**

**VD-16**

**HRT (gray or black)**

The HRT knob is 2 1/8" in dia. and fits 1/4" shafts. This knob has a chrome appearance circle and combined with the HRS series shown below gives the new look to panel layouts.

**DP-1**

Chrome-plated dial pointer

**DP-2**

Diamond head dial pointer

**AN Vernier Mechanism**

A vernier mechanism ratio 5-1 has an insulated output shaft coupling for 1/4" shafts. Drive Shaft fits 3/16" knob.

**AVD Vernier Mechanism**

Similar to AN-Output shaft coupling is non insulated.

For commercial uses many variations available. Write for further particulars.

**R**

This small dial has a 1 5/8" dia. scale calibrated 0-10 in 180° for increased reading with clockwise rotation. Black bakelite knob. Fits 1/4" shaft.

**VD-16**

National's popular dial knob. Same as used on type N knob. Fits 1/4" shaft.

**VD-16A**

Same as above but fits 3/16" shaft.

**HRP-P**

Black bakelite knob 1 1/4" long and 1/2" wide. Equipped with pointer. Especially suitable for use on wafer and other rotary switches on laboratory equipment and the like. (Fits 1/4" shaft).

**HRP**

The type HRP knob has no pointer but is otherwise the same as the knob above. Recommended for uncalibrated or hard-tuning controls. (Fits 1/4" shaft).

**HRK**

Black bakelite knob 2 3/8" dial — extremely rugged. This is the knob used on National type O and type L dials.

**HRT-M**

This is a smaller version of the HRT. Available in choice of gray or black — is 1-7/16" in diameter.

**HRS (gray or black)**

The HRS series knobs are a popular easy to grip knob. They are molded of high quality plastic and have 1 3/8" dia. chrome plated bevel skirts fit 1/4" shafts available in the following scales:

- HRS-1** ON-OFF through 30°
- HRS-2** 5-0-5 through 180°
- HRS-3** 0-10 through 300°
- HRS-4** Single etched line
- HRS-5** 0-10 through 180°

**HRT and HRS knobs can be supplied in quantity in any color.**

**HR (gray or black)**

An HRS type knob without the chrome plated skirt but with a white dot for spotting relative control settings.

**HRB**

Ideal for bandswitching or other applications where a switch is turned to several index positions, the new HRB lever knob has just the right feel — a bright zinc alloy die casting.

**HRM**

Small knurled brass knob, satin chrome finish, arrow head black filled. Two 4-40 Allen set screws used.

**SB**

A nickel plated brass bushing 1/2" dia. (Fits 1/4" shaft).

**ODL**

A locking device which clamps the rim of O, K, L and M Dials. Brass, nickel plated.

**ODD**

Vernier pinch drive for O, L, or other plain dials.

**RSL (fits 1/4" shaft)**

Rotor shaft lock for TMA, TMC and similar condensers.

# POPULAR COMPONENTS

N Dial Net \$4.50  
AD Dial Net \$3.00

The four-inch N and AD Dials have engine divided and die stamped scales respectively. The N Dial has a decimal vernier; the AD Dial employs a pointer. The planetary drive has a ratio of 5 to 1, and is contained within the body of the dial. 2, 3, 4, 5 or blank scale. Fits 1/4" shaft. Specify scale.

B Dial Net \$2.70  
"Velvet Vernier" Dial, Type B, has a compact variable ratio 6 to 1 min., 20 to 1 max. drive that is smooth and trouble free. The case is black bakelite. 1 or 5 scale. 4" dia. Fits 1/4" shaft. Specify scale.

BM Dial Net \$2.10  
The BM Dial is a smaller version of the B for use where space is limited. The drive ratio is fixed. Although small in size, the BM Dial has the same smooth action as the larger units. 1 or 5 scale. 3" dia. Fits 1/4" shaft. Specify scale.

AM Dial Net \$2.25  
The original "Velvet Vernier" mechanism in a metal skirted dial 3" in dia. ratio 5 to 1. It is available with 2, 3, 4, 5 or 6 scale and fits 1/4" shaft.

P Dial Net \$1.00  
The new P dial is the same as the AM except direct drive.

Type O, 3 1/2" dia., scale 2, with HRK knob, fits 1/4" shafts. Net \$1.00

Type L, same as O except 5" dia., scale 2 only. Net \$1.95

Type K, same as O except less knob, complete with ODD vernier drive, scale 2 only. Net \$1.50

Type M, same as K except 5" dia., scale 2 only. Net \$2.25

The dials at the right are for individual calibration: all four employ the noted 5:1 drive ratio Velvet Vernier mechanism and are of excellent quality.

MCN Dial Net \$2.70

The MCN dial has been scaled down to lend itself ideally to mobile installations and small converters and tuners. It may also be mounted on the standard 3 1/2" rack panel where such mounting may be desirable. The dial provides three calibrating scales and a 0-100 logging scale. On the rear side of the dial, the mechanism extends 1/4" below the dial frame. 2 3/4" H. x 3 7/8" W.

SCN Dial Net \$3.00

The SCN dial provides the same dial scales as the ACN dial but in a reduced size. It is used where economy of panel-mounting space is desirable and where a smaller dial would be out of proportion with the size of the panel. 4-7/16" H. x 6 1/4" W.

ICN Dial Net \$6.00

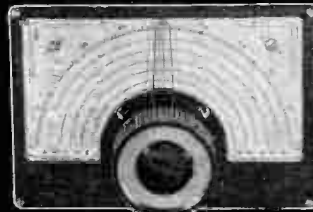
The ICN dial meets those hundreds of requests from amateurs the world over for an illuminated ACN dial. Two dial lights mounted on the top corners of the dial provide efficient and even illumination on all bands. The dial window has been blanked out in semi-circular shape to prevent shadow casting. Dial scales are the same as those used on the ACN dial. 5 1/8" H. x 7 1/4" W.

ACN Dial Net \$3.30

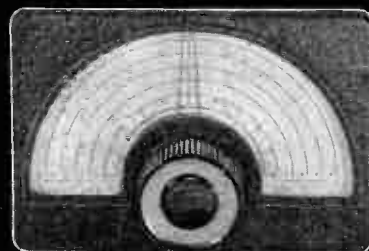
The ACN is the original of this type dial, a National design for the benefit of experimenters who "build their own" and desire direct calibration. 5" H. x 7 1/4" W.



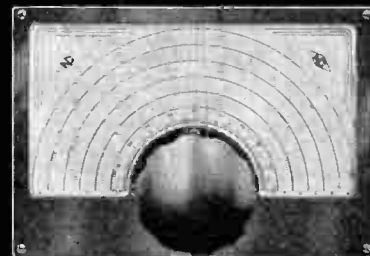
MCN



SCN



ICN



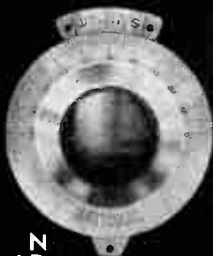
ACN

## DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0-100-0	180°	Either
2	0-100	180°	Counter Clockwise
3	100-0	180°	Clockwise
4	150-0	270°	Clockwise
5	200-0	360°	Clockwise
6	0-150	270°	Counter Clockwise



AM



AD



B



BM



O  
L



K  
M



P





**XLA**

### XLA

A low-loss socket for the 6F4 and 950 series acorn tubes for frequencies as high as 600 Mc. Conventional by-pass condensers may be compactly mounted between the contact terminals and the chassis. Low contact resistance, short and direct leads and low and constant inductance are features.

### TURRET SOCKET ASSEMBLIES

**TSA-1, TSA-2** Designed for our 7-pin and 9-pin miniature tube sockets. Permits compact sub-assembly wiring at base of socket. Cadmium-plated brass center support has a standard length of two inches. Silver-plated brass terminal studs. Available either with holes through which leads can be drawn, or with solid studs. Center supports of varying lengths and other types of terminals can be supplied to manufacturers in quantity.

**XOA-7** (mica-filled bakelite)

**XOR-7** (mica-filled bakelite)

These high quality sockets for the 7 pin miniature tubes have silver plated beryllium copper contacts that correctly grip the tube pins close to the base of the tube to provide the short leads and low inductance so necessary in ultra-high frequency design.

A novel feature of these new sockets is the interchangeability of the contacts, which are easily removed for replacement. This permits the use of a mixture of axial (XOA) and radial (XOR) type contacts in the same socket to obtain the shortest possible leads, or minimum size in tight places. The above sockets all mount with two 4-40 screws on .875" centers. Chassis cutout should be 3/4" dia. Shields for use with these sockets are available.

**XOA-9** (mica-filled bakelite)

**XOR-9** (mica-filled bakelite)

These sockets are for the new 9-pin miniature tubes. The XOR-9 (not illustrated) has radial contacts. Each has all of the features described above for the 7-pin types and they also mount with 4-40 screws. Mounting center dimension is 1 1/8", the chassis cutout should be 13/16" dia.

### TC SERIES MINIATURE TUBE CLAMPS

Easy to assemble — just two

pieces — a spring clip and a base of stainless steel. Base mounts in same holes, using same screws or rivets, as sockets. Easy to remove tube, simply snap off spring clip. Made to government specifications. Types available for all standard miniature tubes.

Type No.	Tube Body Length	Type Socket
TC-1	1 1/8"	7-pin
TC-2	1 1/2"	7-pin
TC-3	2"	7-pin
TC-4	1 1/8"	9-pin
TC-5	1-9/16"	9-pin
TC-6	2"	9-pin

### CIR SERIES SOCKETS

Any Type

Always a popular National component, type CIR Sockets feature low-loss steatite insulation, a contact that grips the tube prong for its entire length, and a metal ring for six position mounting.

XC-4, 5, 6, 7S, 7L and CIR-4, 5, 6, 7S and 7L all have 1-27/32" mounting centers. CIR-8E has slotted holes in plate but will mount on 1-27/32" center. CIR-8 and XC-8 have 1 1/2" mounting centers.

### XC SERIES SOCKETS

XC-4, XC-5, XC-6, XC-7S, XC-7L, XC-8

National wafer sockets have exceptionally good contacts with high current capacity together with low loss steatite insulation. All types have a locating groove to make tube insertion easy. The XC-6 is ideal for use with AR-17 coils. HX-29 A low-loss wafer socket with steatite insulation for the popular 829 and 832 tubes.

**JX-51** A low loss steatite wafer socket for the 813 and other tubes having the Giant 7-pin base. (not illustrated)

**XM-10** A heavy duty metal shell socket for tubes having the XU 4-pin base.

**XM-50** (see XM-10 for style) A heavy duty metal shell socket for tubes having the Jumbo 4-pin base ("fifty watters").

**HX-100** A low loss wafer socket suitable for the type 4-125-A, 4-250-A and other tubes using the Giant 5-pin base. Shield grounding clips are supplied which mount on the chassis with the socket mounting screws to ground the tube shield at three points. Air holes are provided in the socket to permit forced air cooling,



**TSA-1**



**TSA-2**



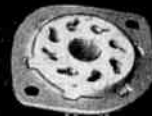
**XOA-7 (Axial)**



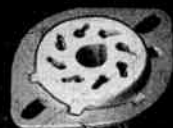
**XOR-7 (Radial)**



**CIR-5**



**CIR-8**



**CIR-8E**



**XC-5**



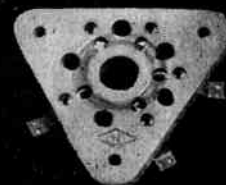
**XC-8**



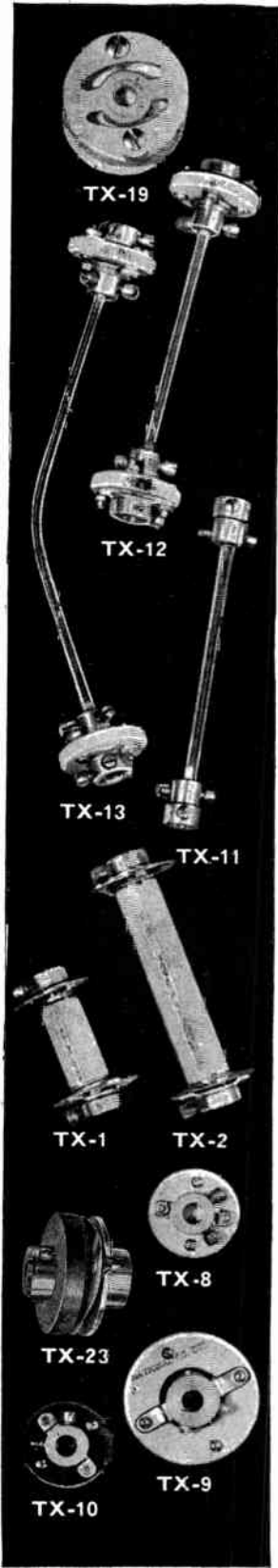
**HX-29**



**XM-10**



**HX-100**



**SHAFT COUPLINGS**

**TX-19**  
 A steatite insulated flexible coupling for 1/4" shafts. Conservatively rated at 5000 volts peak. Diameter 1 3/8", length 1". Length and flash-over voltage can be increased by turning collars outboard.

**TX-11**  
 The flexible shaft of this coupling connects shafts at angles up to 90 degrees, and eliminates misalignment problems. Fits 1/4" shafts. Length 4 1/4".

**TX-12**, Length 4 5/8"

**TX-13**, Length 7 1/8"

These couplings use flexible shafting like the TX-11 above, but are also provided with steatite insulators at each end.

**TX-1**, Leakage path 1"

**TX-2**, Leakage path 2 1/2"

Flexible couplings with glazed steatite insulation which fit 1/4" shafts.

**TX-23**

A deluxe insulated flexible coupling designed for coupling 1/4" shafts. Will handle a maximum radial misalignment of 1/16" also 2 degrees maximum angular misalignment.

**TX-24**

Same as TX-23, shaft size 5/32".

**TX-25**

Same as TX-23, non-insulated.

**TX-8**

A non-flexible rigid coupling with steatite insulation. 1" diam. Fits 1/4" shaft.

**TX-10**

A very compact insulated coupling free from backlash. Insulation is canvas bakelite. 1-1/16" diam. Fits 1/4" shaft.

**TX-10F** (Not illustrated)

A new version of the TX-10 which employs thin canvas bakelite strips for flexibility.

**TX-22** (Not illustrated)

A non-insulated coupling identical to TX-10 except of all metal construction. Makes good electrical connection between coupled shafts.

**TX-9**

This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is steatite. 1 5/8" diam. Fits 1/4" shaft.

**TX-21** (Not illustrated)

Similar to TX-10 except 13/16" long and couples 1/4" shaft to 5/32" shaft.

**SAFETY GRID AND PLATE CAPS**

**SPP-9**

Ceramic insulation. Fits 9/16" diameter.

**SPP-3**

Ceramic insulation. Fits 3/8" diameter. National Safety Grid and Plate Caps have a ceramic body which offers protection against accidental contact with high voltage caps on tubes.

**GRID AND PLATE GRIPS**

Type 12, for 9/16" Caps

Type 24, for 3/8" Caps

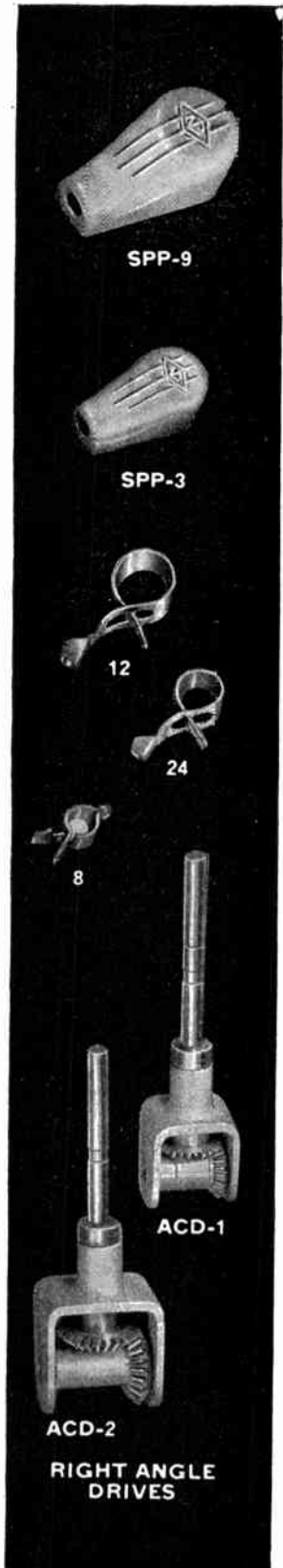
Type 8, for 1/4" Caps

National Grid and Plate Grips provide a secure and positive contact with the tube cap and yet are released easily by a slight pressure on the ear.

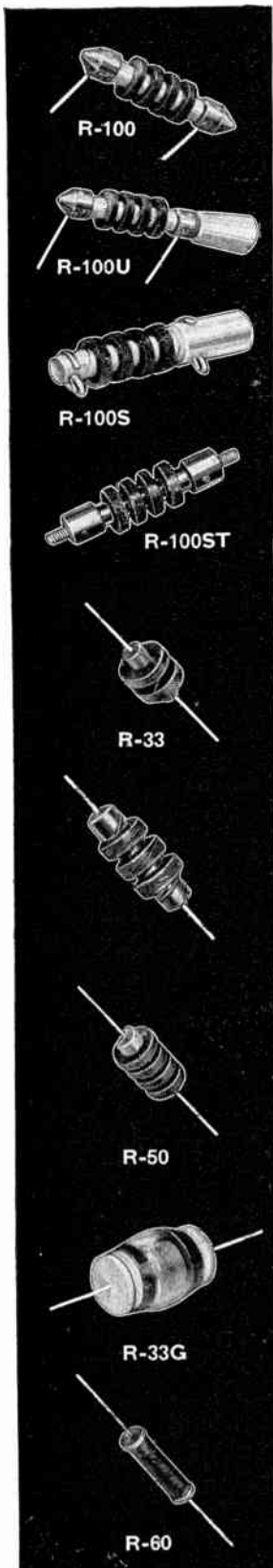
**RIGHT ANGLE DRIVES**

**ACD-1, ACD-2, ACD-3**

These sturdy drives were developed for use with the new National AMT condensers. They are as compact as the torque requirements will allow and have nickel plated cast frames and bronze gears which operate smoothly without chatter or binding. The ACD-1 has 32 pitch gears and a 1/4" dia. dial shaft and drives 1/4" shafts. ACD-2 has 24 pitch gears (for heavier service) and 1/4" dia. shaft driving 1/4" shafts. ACD-3 is the same as ACD-2 except that it drives 3/8" diameter shafts.



# POPULAR COMPONENTS



## R-100, R-100U, R-100S, R-100ST

These RF chokes are identical electrically, but differ in mounting provisions. The R-100 employs pigtail leads; the R-100U has pigtail leads and a removable stand-off insulator; the R-100S has cotter-pin lug terminals and a non-removable stand-off insulator; the R-100ST has a 6-32 threaded stud at each end. These chokes are available in 2.5, 5 and 10 millihenry sizes and are rated at 125 milliamperes.

## R-33

The R-33 series chokes are 2-section RF chokes available in 10, 50, 100 and 750 microhenry sizes. Also available in this series is a single layer solenoid choke of 1 microhenry inductance. All are rated at 100 milliamperes. The chokes are wound on a  $\frac{5}{8}$ " long form and range in diameter up to  $\frac{5}{16}$ " maximum.

## R-50

The R-50 series chokes are 3 and 4-section RF chokes available in 0.5, 1, and 2.5 millihenry sizes. They are rated at 100 milliamperes. The chokes are wound on a 1" long form and have a maximum diameter of  $\frac{15}{32}$ ".

## R-50-1

A 10 millihenry choke wound on an iron core.

## R-33G

The R-33G choke is a 2-section 750 microhenry RF choke hermetically sealed in glass with a current rating of 33 milliamperes. The choke body is 1" long by  $\frac{5}{8}$ " diameter.

## R-60

The R-60 choke is a high current RF choke (500 milliamperes) available in 2 and 4 microhenry sizes. The choke is  $1\frac{1}{8}$ " long by  $\frac{5}{16}$ " diameter.

## R-300, R-300U, R-300S, R-300ST

These RF chokes are similar in size to R-100 series but have higher current capacity. The R-300U is provided with a removable stand-off insulator at one end. The R-300S has a non-removable stand-off insulator and cotter-pin lug terminals. The R-300ST has a 6-32 threaded stud at each end. Inductance values of 0.5, 1.0, 2.5 and 5.0 millihenries are available with a current rating of 300 milliamperes. R-300, R-300U, R-300S and R-300ST are identical electrically.

## R-152

For use in the range between 2 and 4 Mc. Ideal for high power transmitter stages operated in the 80 meter amateur band. Inductance 4 m.h., DC resistance 10 ohms, DC current 600 ma. Coils honeycomb wound on steatite core.

## R-154, R-154U

For the 20, 40 and 80 meter bands, Inductance 1 m.h., DC resistance 6 ohms, DC current 600 ma. Coils honeycomb wound on steatite core. The R-154U does not have the third mounting foot and the small insulator, but is otherwise the same as R-154. See illustration.

## R-175

The R-175 Choke is suitable for parallel-feed as well as series-feed in transmitters with plate supply up to 3000 volts modulated or 4000 volts unmodulated. Unlike conventional chokes, the reactance of the R-175 is high throughout the 10 and 20 meter bands as well as the 40 and 80 meter bands. Inductance 225  $\mu$ h, distributed capacity 0.6 mmf., DC resistance 6 ohms, DC current 800 ma., voltage breakdown to base 12,500 volts.



Manufacturers: We have facilities for quantity production of RF chokes of practically any type. Send us your specifications.

**I. F. TRANSFORMERS**



**IFC, Transformer,**  
**IFCO, Oscillator,**  
 Litz coils wound on a polystyrene form and ceramic insulated air-dielectric trimming condensers make these transformers inherently stable and exceptionally retentive of tuning. The 4 1/2" x 2 3/8" x 2" shield can has two 6-32 spade bolts for mounting. Available for either 175 KC or 450-550 KC. Specify frequency.  
**IFL FM Discriminator**  
**IFM IF Transformer**  
**IFN IF Transformer**  
**IFO FM Ratio Discriminator**  
 IFL, IFM, IFN and IFO transformers operate at 10.7 Mc. and are designed for use in FM Superheterodyne receivers. Coils are precision wound on grooved polystyrene forms and tuning is accomplished by movable iron cores. Bandwidth is not affected by tuning slug position. The transformer cans are 1 3/8" square and stand 3 1/8" above the chassis. Two 6-32 spade bolts are provided for mounting.  
 The IFL transformer is a 10.7 Mc. FM discriminator transformer suitable for use in conventional FM receiver discriminator circuit and is linear over a band of ±100 Kc.  
 The IFM transformer is a 10.7 Mc. IF transformer with a 150 Kc. bandwidth at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFM Transformer and 6SG7 tube.

The IFN transformer is a 10.7 Mc. IF transformer with a 100 Kc. pass band at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFN transformer and 6SG7 tube.  
 The IFO transformer is a 10.7 Mc. FM discriminator transformer of the ratio type and is linear over a band of ± 100 Kc.  
**IFR. Low-priced quality IF transformer.** 455 kc. 2 3/8" high x 1 1/8" square.  
**IFS. Same as IFR but 1720 kc.**  
 15 Mc. IF transformers suitable for ultra high frequency superheterodynes. They are made in two models with and without variable coupling. Approximate stage gain of 10 is obtained with IFJ or IFK Transformer and 6AB7 tube.  
**IFJ, with variable coupling**  
**IFK, with fixed coupling**

**SA:4842**  
 A 456 kc. discriminator transformer for narrow band frequency modulation. Two slug-tuned secondaries are employed and discrimination is accomplished by resonating one at approximately 10 kc. above, the other at approximately 10 kc. below the center frequency of the i.f. channel.

**CD-1, 1/4 pint can**  
 Liquid Polystyrene Cement — is ideal for windings as it will not spoil the properties of the best coil form.

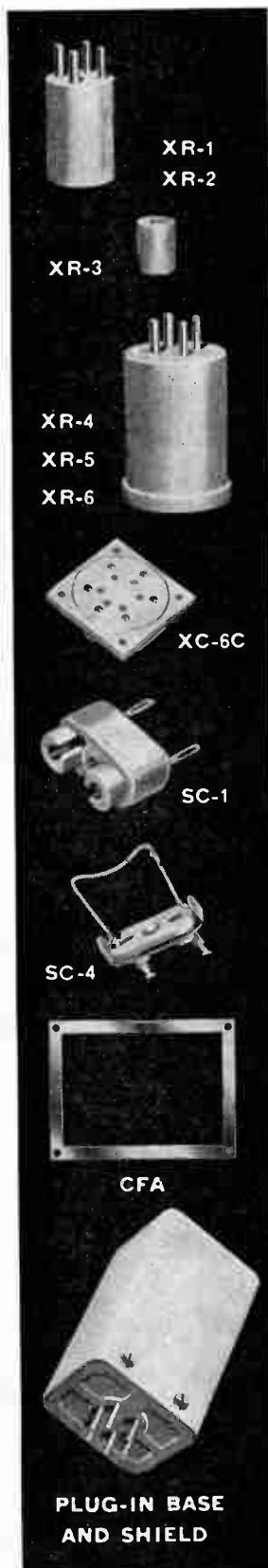
**COILS AND COIL FORMS**

**AR-2 H.F. Coil**  
**AR-5 H.F. Coil**  
 The AR-2 and AR-5 coils are high Q permeability tuned RF coils on low loss mica-filled bakelite forms. The AR-2 coil tunes from 75 Mc. to 220 Mc. with capacities from 100 to 10 mmfd. The AR-5 coil tunes from 37 Mc. to 110 Mc. with capacities from 100 to 10 mmfd. The inductive windings supplied may be replaced by other windings as desired to modify the tuning range.  
**XR-50**  
 These mica-filled bakelite coil forms may be wound as desired to provide a permeability tuned coil. The form winding length is 11/16" and the form winding diameter is 1/2 inch. The iron slug is 3/8" dia. by 1/2" long.

**XR-51 same but with brass slug**  
**OSR**  
 A shielded oscillator coil which tunes to 100 kc. with .00041 mfd. Two separate inductances, closely coupled. Excellent for interruption-frequency oscillator in super-regenerative receivers.  
**CERAMIC SLUG-TUNED COIL FORMS**  
**XR-70** (grooved for #19 wire, with iron slug)  
**XR-71** (same, brass slug)  
**XR-72** (not grooved, winding length 1", with iron slug)  
**XR-73** (same, brass slug)  
**XR-60** (grooved for #26 wire, with iron slug)  
**XR-61** (same, brass slug)  
**XR-62** (not grooved, winding length 1 1/4", with iron slug)  
**XR-63** (same, brass slug)  
 High-grade ceramic coil forms conforming to JAN specifications. May be wound as desired to provide a permeability-tuned coil. Extra lugs provided.



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XR-1  
XR-2

XR-3

XR-4  
XR-5  
XR-6

XC-6C

SC-1

SC-4

CFA

PLUG-IN BASE  
AND SHIELD

Coil Forms molded of R-39 mica-filled bakelite permitting them to be grooved and drilled. Coil Form diameter 1", length 1 1/2".

XR-1, Four Prong

XR-2, Without Prongs

XR-3, molded of R-39 Diameter 9/16", length 3/4" without prongs.

XR-4, Four Prong

XR-5, Five Prong

XR-6, Six Prong  
Molded of R-39 permitting them to be grooved and drilled. Coil Form Diameter 1 1/2", length 2 1/4". A special socket is required for the XR-6. National type XC-6C

SC, Crystal Sockets

The SC-1, SC-2, and SC-3 are crystal mounting sockets for crystal holders with mounting pins spaced 0.5000", 0.486", and .750" respectively and pin diameters of 1/8" and 3/32" and 1/8" respectively, steatite insulation. Single 4-36 or 4-40 screw mounting for SC-1 and SC-2, single 6-32 screw mounting for SC-3.

SC-4 Ceramic crystal socket with clamp. Pin spacing .500". Pin dia. 1/32".

CFA

The National chart frame is supplied with a celluloid sheet to cover the chart size 2 1/4" x 3 1/4" with sides 1/4" wide. Durable finish.

PB-10-5  
5 Prong base and shield

PB-10-6  
6 Prong base and shield

PB-10-A-5  
5 Prong base only

PB-10-A-6  
6 Prong base only

RZ Coil Shield  
1 3/8" square x 4" high.

RS Coil Shield  
1-7/16" x 1 7/8" x 3 1/2" high.

RO Coil Shield  
2" x 2 3/8" x 4 1/8" high. National Coil Shields are formed from a single piece of pure aluminum. They are mechanically strong and have ample thickness to mount small parts on the walls, and include spade belts, for chassis mounting.

T-78 Tube Shield  
National Tube Shield type T-78 is a three-piece pure aluminum shield suitable for shielding glass tubes with ST-12 bulb, such as the 6C6 and 6D6 tubes.

JS-1 Jack Shield  
For shielding small standard jacks mounted behind a panel, or on the ends of extension coils. Indispensable for reducing hum pickup.

XOS Tube Shields  
The XOS tube shield is a two-piece shield for the miniature Button 7 and 9 pin base tubes.

The shield contains a spring which centers tube in shield and holds tube and shield firmly in place.

SHIELDS 7-pin SOCKETS

XOS-1 fit 1-5/16" tube body  
XOS-2 fit 1 1/2" tube body  
XOS-3 fit 2" tube body

SHIELDS 9-Pin SOCKETS

XOS-4 fit 1-5/16" body  
XOS-5 fit 1 1/2" tube body  
XOS-6 fit 2" tube body

FXT Fixed tuned exciter tank similar in general construction to National I.F. transformers, this unit has two 25 mmf., 2000 volt air condensers and an unwound XR-2 Coil form.

FXT (Without plug-in base)

FXTB-5 (With 5 prong base)

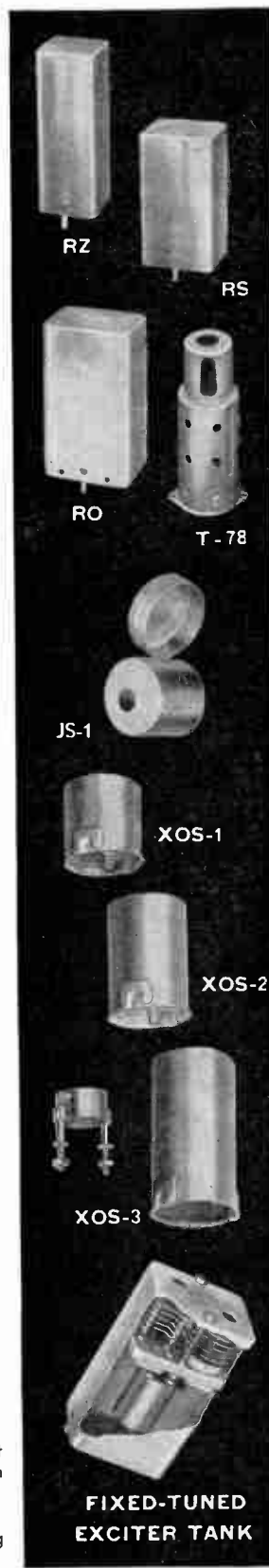
FXTB-6 (With 6 prong base)

Paint (not illustrated)

CP-1, dark gray

CP-2, black  
A high quality air-drying paint that may be applied with a brush.

CP-3, light gray, for spraying and baking.



RZ

RS

RO

T-78

JS-1

XOS-1

XOS-2

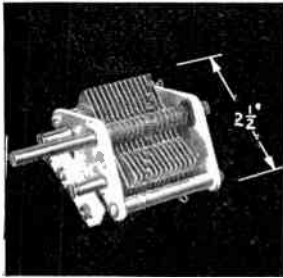
XOS-3

FIXED-TUNED  
EXCITER TANK

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## TYPE TMS TRANSMITTING CONDENSERS

This is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators. Insulation is steatite. Voltage ratings listed are conservative.

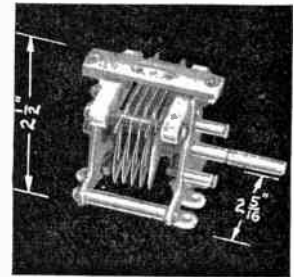


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol
<b>SINGLE STATOR MODELS</b>						
100 Mmf.	9.5	3"	.026"	1000v.	9	TMS-100
150	11	3"	.026"	1000v.	14	TMS-150
250	13.5	3"	.026"	1000v.	22	TMS-250
300	15	3"	.026"	1000v.	27	TMS-300
35	8	3"	.065"	2000v.	7	TMSA-35
50	11	3"	.065"	2000v.	11	TMSA-50
<b>DOUBLE STATOR MODELS</b>						
50-50 Mmf.	6-6	3"	.026"	1000v.	5-5	TMS-50D
100-100	7-7	3"	.026"	1000v.	9-9	TMS-100D
125-125	8-8	3"	.026"	1000v.	11-11	TMS-125D
50-50	10.5-10.5	3"	.065"	2000v.	11-11	TMSA-50D

## TYPE TMK TRANSMITTING CONDENSERS

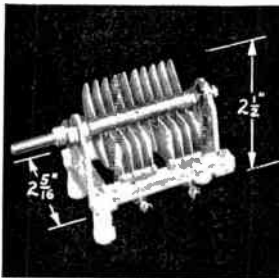
This is a new condenser for exciters and low power transmitters. Special provision has been made for mounting AR-16 coils in a swivel plug-in mount on either the top or rear of the condenser. For stand-off or panel mounting-steatite insulation.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol
<b>SINGLE STATOR MODELS</b>						
35 Mmf.	7.5	2 1/8"	.047"	1500v.	7	TMK-35
50	8	2 3/8"	.047"	1500v.	9	TMK-50
75	9	2 1/2"	.047"	1500v.	13	TMK-75
100	10	3"	.047"	1500v.	17	TMK-100
150	10.5	3 3/8"	.047"	1500v.	25	TMK-150
200	11	4 1/8"	.047"	1500v.	33	TMK-200
250	11.5	4 3/8"	.047"	1500v.	41	TMK-250
<b>DOUBLE STATOR MODELS</b>						
35-35 Mmf.	7.5-7.5	3"	.047"	1500v.	7-7	TMK-35D
50-50	8-8	3 3/8"	.047"	1500v.	9-9	TMK-50D
100-100	10-10	4 1/8"	.047"	1500v.	17-17	TMK-100D
Swivel Mounting Hardware for AR 16 Coils						SMH



## TYPE TMH TRANSMITTING CONDENSERS

A condenser that features very compact construction. Excellent power factor, and aluminum plates .0400" thick with polished edges. It mounts on the panel or on removable stand-off insulators. Steatite insulators have long leakage path.

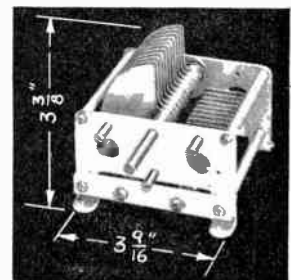


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol
<b>SINGLE STATOR MODELS</b>						
50 Mmf.	9	3 3/4"	.085"	3500v.	15	TMH-50
75	11	3 3/4"	.085"	3500v.	19	TMH-75
100	12.5	5 3/8"	.085"	3500v.	25	TMH-100
150	18	6 3/8"	.085"	3500v.	37	TMH-150
35	11	5 3/8"	.180"	6500v.	17	TMH-35A
<b>DOUBLE STATOR MODELS</b>						
35-35 Mmf.	6-6	3 3/4"	.085"	3500v.	9-9	TMH-35D
50-50	8-8	5 3/8"	.085"	3500v.	13-13	TMH-50D
75-75	11-11	6 3/8"	.085"	3500v.	19-19	TMH-75D

## TYPE TMC TRANSMITTING CONDENSERS

A condenser designed for use in the power stages of transmitters where peak voltages do not exceed 3000 volts. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are aluminum with buffed edges. Insulation is steatite. The stator in the split stator models is supported at both ends.

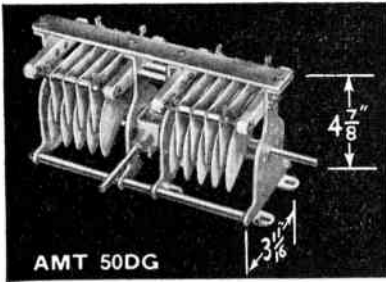
Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol
<b>SINGLE STATOR MODELS</b>						
50 Mmf.	10	3"	.077"	3000v.	7	TMC-50
100	13	3 3/8"	.077"	3000v.	13	TMC-100
150	17	4 3/8"	.077"	3000v.	21	TMC-150
250	23	6"	.077"	3000v.	32	TMC-250
300	25	6 3/4"	.077"	3000v.	39	TMC-300
<b>DOUBLE STATOR MODELS</b>						
50-50 Mmf.	9-9	4 3/8"	.077"	3000v.	7-7	TMC-50D
100-100	11-11	6 3/8"	.077"	3000v.	13-13	TMC-100D
200-200	18.5-18.5	9 3/4"	.077"	3000v.	25-25	TMC-200D



# POPULAR



# COMPONENTS

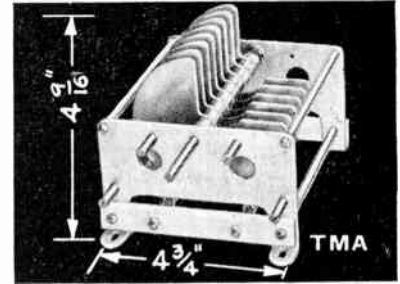


### TYPE AMT

A larger and sturdier model of the TMK condenser. The frame is extremely rigid, with mounting feet a part of the end plates. Heavy steatite insulation.

The solid aluminum tie bar across the top of the condenser acts as a mounting for AR-18 series coils in the double stator models.

The double stator models are available in either standard end drive (D series) or center-drive (DG series) with 1/4" dia. shaft extension.



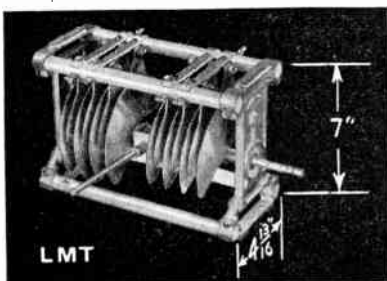
### TYPE TMA

This is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is steatite located outside of the concentrated field.

Maximum Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol
<b>SINGLE STATOR MODELS</b>						
50 Mmf. 100	13 20	4 3/4" 6 3/4"	.177" .177"	6000 v. 6000 v.	9 17	AMT-50 AMT-100
300 50 100 150 230 100 150 50 100	19.5 15 19.5 22.5 33 30 40.5 21 37.5	4 9/16" 4 9/16" 6 2/8" 6 2/8" 9 5/16" 9 1/2" 12 1/2" 7 1/2" 12 3/8"	.077" .171" .171" .171" .171" .265" .265" .359" .359"	3000 v. 6000 v. 6000 v. 6000 v. 6000 v. 9000 v. 9000 v. 12,000 v. 12,000 v.	23 7 15 21 33 23 33 13 25	TMA-300 TMA-50A TMA-100A TMA-150A TMA-230A TMA-100B TMA-150B TMA-50C TMA-100C
75 150 100 50 245 150 100 75 500 350 250	25 60 45 22 54 45 32 23.5 55 45 35	18 1/16" 18 1/16" 13 5/8" 8 5/16" 18 1/16" 13 3/8" 10 15/16" 8 5/16" 18 1/16" 13 3/8" 10 15/16"	.719" .469" .469" .469" .344" .344" .344" .344" .219" .219" .219"	20,000 v. 15,000 v. 15,000 v. 15,000 v. 10,000 v. 10,000 v. 10,000 v. 10,000 v. 7,500 v. 7,500 v. 7,500 v.	17 27 19 9 35 21 15 11 49 33 25	TML-75E TML-150D TML-100D TML-50D TML-245B TML-150B TML-100B TML-75B TML-500A TML-350A TML-250A
<b>DOUBLE STATOR MODELS</b> D—End drive      DG—Center drive						
50-50 100-100 50-50 100-100	13-13 20-20 13-13 20-20	9 3/8" 13 3/8" 9 3/8" 13 3/8"	.177" .177" .177" .177"	6000 v. 6000 v. 6000 v. 6000 v.	18 34 18 34	AMT-50D AMT-100D AMT-50DG AMT-100DG
200-200 180-180 50-50 100-100 60-60 40-40	15-15 10-10 12.5-12.5 17-17 19.5-19.5 18-18	6 7/8" 12 3/4" 6 7/8" 9 3/16" 12 1/2" 12 7/8"	.077" .140" .155" .155" .249" .343"	3000 v. 4000 v. 6000 v. 6000 v. 9000 v. 12,000 v.	16-16 24-24 8-8 14-14 15-15 11-11	TMA-200D TMA-180D TMA-50DA TMA-100DA TMA-60DB TMA-40DC
30-30 60-60 100-100 60-60 200-200 100-100	12-12 26-26 27-27 20-20 30-30 17-17	18 1/16" 18 1/16" 18 1/16" 13 3/8" 18 1/16" 10 15/16"	.719" .469" .344" .344" .219" .219"	20,000 v. 15,000 v. 10,000 v. 10,000 v. 7,500 v. 7,500 v.	7-7 11-11 15-15 9-9 21-21 11-11	TML-30DE TML-60DD TML-100DB TML-60DB TML-200DA TML-100DA

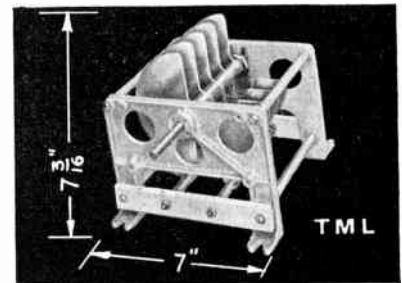
### TYPE LMT

A heavy duty transmitting condenser that completely eliminates troublesome closed loops, vastly simplifying the problem of unwanted harmonics. The rotor shaft is completely insulated from the end plates. Long leakage path (higher safety factor). Plates and parts are extra heavy with highly polished rounded edges to prevent flash-over. Adjustable stator plate mounting and end bearings. Available in single-stator, double-stator, or double-stator right angle center drive models. Same capacities and prices as National TML Condenser.



### TYPE TML

is a heavy duty job throughout. The frame structure (rugged aluminum castings with dural tie bars) and precision bearings assure permanent rotor alignment. All plates are extra thick with rounded and polished edges. This, plus specially treated steatite insulators and a husky self-cleaning rotor contact, provides high flashover, current and voltage ratings.





PSR



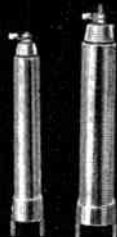
M30



W100



NC-600U



TU BY



STN

**MINIATURE CONDENSERS:**

Type PS variable condensers are compact silver plated units of soldered construction for use as semi-fixed bandsets or padders. Base is steatite — bearing is "snug" but smooth. PSR models are screw-driver adjust type; PSE have 1/4" diameter shafts both ends; PSL are similar to PSR but include rotor shaft lock.

**Type M-30**

The M-30 is a tiny (13/16" x 9/16" x 1/2") mica trimmer — 30 mmf. max. — steatite base.

**Type W-75, 75 mmf.**

**Type W-100, 100 mmf.**

Small air-dielectric padding condensers having a very low temperature coefficient. They are mounted in 1 1/4" diameter aluminum shields and have 1/4" hex heads for socket-wrench adjustment.

The UM condensers are low-loss, aluminum plate staked construction miniature variables designed for UHF converters, VFOs and the like — minimum capacity is exceptionally low. The UMs can be mounted in PB-10 or RO shield cans and have 1/4" dia. shafts front and rear for ganging (see pages 21, 23 and 24 for shield cans and couplings). Plates: straight-line-cap., 180° rotation. Dimensions: Base 1" x 2 1/4", mtg. holes on 5/8" x 1-23/32" centers, 2-5/16" max. length.

The UMB-25 and UMB-50 are differential (balanced stator) models. UM-10D and UMA-25 are double-spaced and the latter is bolted construction for experimental capacity reduction. Hardware for panel or chassis mounting is supplied with all UM condensers.

Capacity	Catalog Symbol		
25 mmf.	PSR-25	PSE-25	PSL-25
50	PSR-50	PSE-50	PSL-50
75	PSR-75	PSE-75	PSL-75
100	PSR-100	PSE-100	PSL-100

Capacity	Minimum Capacity	No. of Plates	Air Gap	Catalog Symbol
15 mmf.	1.5	6	.017"	UM-15
35	2.5	12	.017"	UM-35
50	3	16	.017"	UM-50
75	3.5	22	.017"	UM-75
100	4.5	28	.017"	UM-100
10	1	8	.042"	UM-10D
25	3.4	14	.042"	UMA-25

**BALANCED STATOR MODEL**

25	2	4-4-4	.017"	UMB-25
50	5	8-8-8	.017"	UMB-50

**NEUTRALIZING CONDENSERS:**

**NC-600U**

With standoff insulator

**NC-600**

Without insulator

For neutralizing low power beam tubes requiring from .5 to 4 mmf., and 1500 max. total volts such as the 6L6. The NC-600U is supplied with a GS-10 standoff insulator screwed on one end, which may be removed for pigtail mounting.

**"TU BY" CONDENSERS**

Tubular condensers providing short r.f. path between plate and cathode for tubes having the plate connection at the top. Design reduces harmonics and helps eliminate

parasitics. 3,000 volts or 1,500 volts. 15 mmfd.

**STN**

The Type STN has a maximum capacity of 18 mmf. (3000 V), making it suitable for such tubes as the 809. It is supplied with two standoff insulators.

**NC-800A**

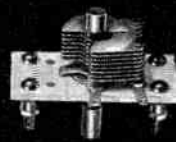
The NC-800A disk-type neutralizing condenser is suitable for the T40, 35TG, 808 and similar tubes. It is equipped with a clamp for locking. The chart below gives capacity and air gap for different settings.

**NC-75**

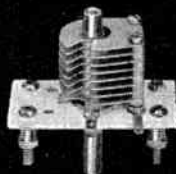
For 812, 75TH and similar tubes.

**NC-150**

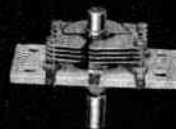
For RK36, 100TH, HK354, 250TH, etc.



UM



UMA-25



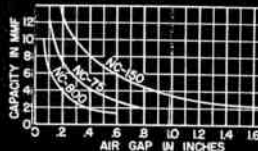
UMB-25



NC-800A



NC-75  
NC-150





## PRECISION CONDENSERS

Originally developed for the famous HRO and NC-100 receivers, National PW and NPW condensers and drive units are well known to professional and amateur radio men throughout the world. Sturdily constructed of the finest materials and carefully adjusted by skilled hands, they have become "standard specifications" for applications requiring smooth, precise control and high re-set accuracy.

The Micrometer Dial reads direct to one part in 500. Division lines are approximately 1/4" apart. The drive, at the mid-point of the rotor, is through an enclosed preloaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact. Stator insulation is steatite. Plate shape is straight-line frequency when the frequency range is 2:1.

PW Condensers are available in 1, 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied.

**PW-1R** Single section right

**PW-1L** Single section left

**PW-2R** Double section right

**PW-2L** Double section left

**PW-2S** Single section each side

**PW-3R** Double section right; single left

**PW-3L** Double section left; single right

**PW-4** Double section each side

**NPW-3** Three sections, each 225 mmf.

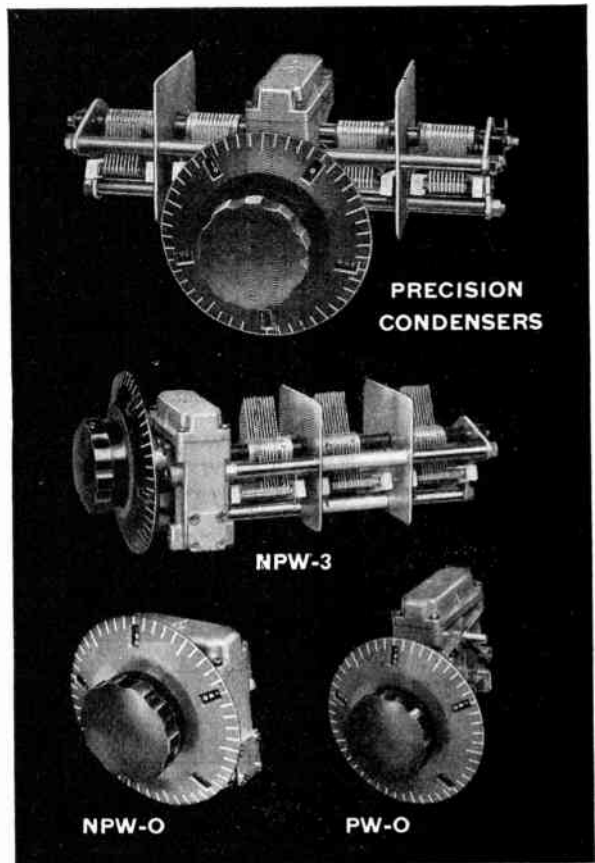
Similar to PW models, except that rotor shaft is perpendicular to panel.

**NPW-O**

Uses parts similar to the NPW condenser. Drive shaft perpendicular to panel. One TX-9 coupling supplied.

**PW-O**

Uses parts similar to the PW condenser. Drive shaft parallel to panel. Two TX-9 couplings supplied.



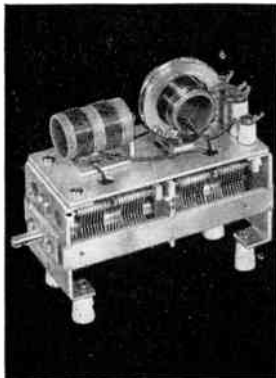
## PW-D

The Micrometer Dial used on the condensers and drives above is available separately. It revolves ten times in covering the complete range and as there is no gear reduction unit furnished, the driven shaft will revolve ten times, also. The PW-D dial fits a shaft 5/16" in diameter.

## MULTI-BAND TANK ASSEMBLIES

The unique MB-150 Multi-Band Tank tunes all amateur bands from 80 through 10 meters with 180° rotation of the shaft; the coils are never changed. The unit is built around a circuit which tunes to two harmonically unrelated frequencies at the same time. Thus, it becomes possible to cover a wide frequency range and yet maintain a reasonably constant L/C ratio. 3" wide x 8 1/4" high (including the GS-10 standoffs) x 9" long overall including the 1/4" dia. shaft and output terminals.

MB-40L



Radio's Master — 17th Edition

J-12

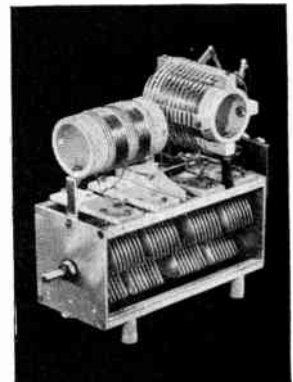
Features of the MB-150:

- (1) For use as the all-band plate tank in push-pull or single-ended stages running up to 150-watts input (1500 volts peak). It is ideal for a pair of 807s or 809s or a single 829B.
- (2) Separate link coupling coil has special clips which adjust to match impedances up to 600 ohms directly. Output couples into a higher powered amplifier, an antenna or an antenna tuning network.
- (3) Fast band changing is accomplished without handling coils, thus removing one of the danger points in the amateur station.

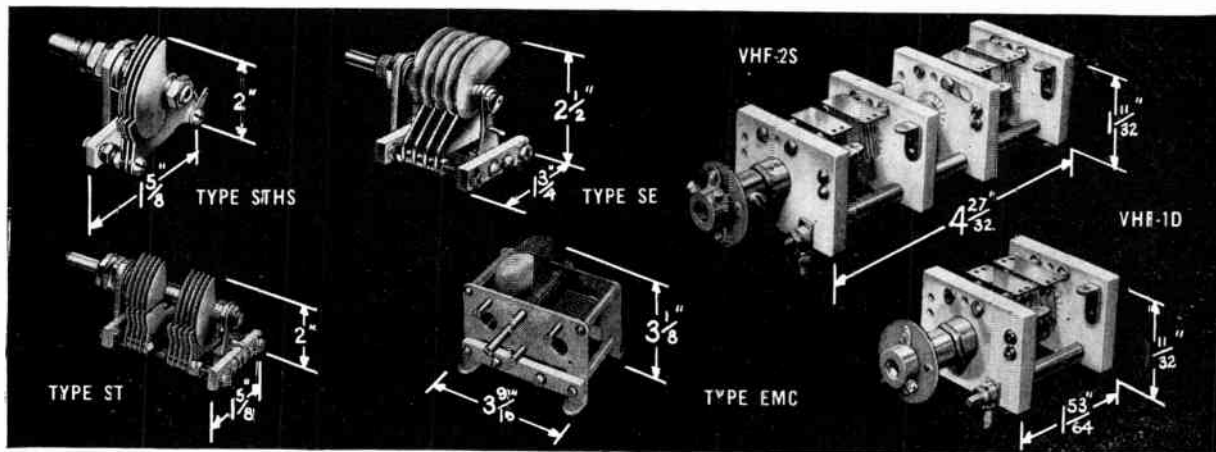
### MB 40L LOW-POWER MULTI-BAND TANK

Same principle as the famous MB-150. Logical application as grid circuit for tubes having MB-150 in plate circuit. Will handle 40 watts input if link kept loaded

MB-150



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**TYPE ST (180° Rotation)  
 STRAIGHT-LINE WAVELENGTH**

The ST Type condenser has Straight-Line Wavelength plates. All double-bearing models have the front bearing insulated to prevent noise. On special order a shaft extension at each end is available, for ganging. On double-bearing single shaft models, the rotor contact is through a constant impedance pigtail Steatite insulation.

NOTE—Type SS Condensers, having straight-line capacity plates but otherwise similar to the Type ST, are available. Capacities and Prices same as Type ST.

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol
<b>SINGLE BEARING MODELS</b>					
15 Mmf.	3 Mmf.	3	.018"	1 3/8"	STHS- 15
25	3.25	4	.018"	1 3/8"	STHS- 25
50	3.5	7	.018"	1 3/8"	STHS- 50
<b>SPLIT STATOR DOUBLE BEARING MODELS</b>					
50-50	5-5	11-11	.026"	2 3/4"	STD- 50
100-100	5.5-5.5	14-14	.018"	2 3/4"	STHD- 100
<b>DOUBLE BEARING MODELS</b>					
35 Mmf.	6 Mmf.	8	.026"	2 1/4"	ST- 35
50	7	11	.026"	2 1/4"	ST- 50
75	8	15	.026"	2 1/4"	ST- 75
100	9	20	.026"	2 1/4"	ST-100
140	10	27	.026"	2 3/4"	ST-140
150	10.5	29	.026"	2 3/4"	ST-150
200	12.0	27	.018"	2 3/4"	STH-200
250	13.5	32	.018"	2 3/4"	STH-250
300	15.0	39	.018"	2 3/4"	STH-300
335	17.0	43	.018"	2 3/4"	STH-335

**TYPE SE (270° Rotation)  
 STRAIGHT-LINE FREQUENCY**

TYPE SE—All models have two rotor bearings, the front bearing being insulated to prevent noise. A shaft extension at each end, for ganging, is available on special order. On models with single shaft extension, the rotor contact is through a constant impedance pigtail. The SEU models (illustrated) are suitable for high voltages as their plates are thick polished aluminum with rounded edges. Other SE condensers do not have polished edges on the plates. Steatite insulation.

15 Mmf.	7 Mmf.	6	.055"	2 1/4"	SEU- 15
25	7.5	7	.055"	2 1/4"	SEU- 25
25	8	7	.055"	2 1/4"	SEU- 25
50	9	11	.026"	2 1/4"	SE- 50
75	10	15	.026"	2 1/4"	SE- 75
100	11.5	20	.026"	2 1/4"	SE-100
150	13	29	.026"	2 3/4"	SE-150
200	12	27	.018"	2 1/4"	SEH-200
250	14	32	.018"	2 3/4"	SEH-250
300	16	39	.018"	2 3/4"	SEH-300
335	17	43	.018"	2 3/4"	SEH-335

**TYPE EMC (180° Rotation)  
 STRAIGHT-LINE WAVELENGTH**

TYPE EMC—A general purpose condenser available in large sizes and having Straight-Line wavelength plates. They are similar in construction to the TMC Transmuting condenser, and have high efficiency and rugged frame. Insulation is Steatite, and Peak Voltage Rating is 1000 volts. Same sizes available with straight line capacity plates, type DXC condenser.

Capacity	Minimum Capacity	No. of Plates	Length	Catalog Symbol
150 Mmf.	9 Mmf.	9	2 1/8"	EMC- 150
250	11	15	2 1/8"	EMC- 250
350	12	20	2 1/8"	EMC- 350
500	16	29	4 3/8"	EMC- 500
1000	22	56	6 3/4"	EMC-1000

**VHF CONDENSERS**

- Shaft extension at rear for ganging purposes. Dual condensers ideal for mixer-oscillator unit.
- Ball bearings front and back for smooth rotation and freedom from back-lash.
- Brackets for mounting 7-pin miniature tube sockets, i.e., National XOA for very short leads from tube to condenser essential for VHF efficiency, and rigid compact unit-assembly that produces better stability.
- Wide low-inductance stator strap connections raise frequency limit of condensers. Coil or strap tank can be connected directly to stator straps allowing maximum inductance in tank and a minimum of inductance between tank and stator.
- Stators, rotors and stator strap connections silver-plated for best efficiency.
- Rigid square construction, heavy insulating end plates.
- Spade bolts allow solid connections to chassis for extreme rigidity.
- Flexible insulating coupling available to connect condenser shaft to 1/4" dial shaft.
- Flexible insulating coupling available to connect two or more condensers together as ganged units.
- High capacity single spaced units for general coverage.
- Low capacity double spaced units for bandspread, suitable for ham use, particularly in the VHF and UHF ham bands.
- Stators solder construction can be removed and replaced by strap tanks for special VHF and UHF application.

**DOUBLE SPACED MODELS**

Two section VHF-2D,  
 Maximum capacity per section stator to stator . . . . . 6.75 mmf.  
 Minimum capacity per section stator to stator . . . . . 3.0 mmf.  
 Net change . . . . . 3.75 mmf.

Single section VHF-1D,  
 Maximum capacity stator to stator . . . . . 6.75 mmf.  
 Minimum capacity stator to stator . . . . . 3.0 mmf.  
 Net change . . . . . 3.75 mmf.

**SINGLE SPACED MODELS**

Two section VHF-2S,  
 Maximum capacity per section stator to stator . . . . . 22.5 mmf.  
 Minimum capacity per section stator to stator . . . . . 3.0 mmf.  
 Net change . . . . . 19.5 mmf.

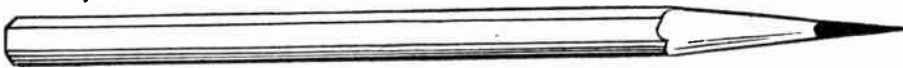
Single section VHF-1S,  
 Maximum capacity stator to stator . . . . . 22.5 mmf.  
 Minimum capacity stator to stator . . . . . 3.0 mmf.  
 Net change . . . . . 19.5 mmf.

# hallicrafters

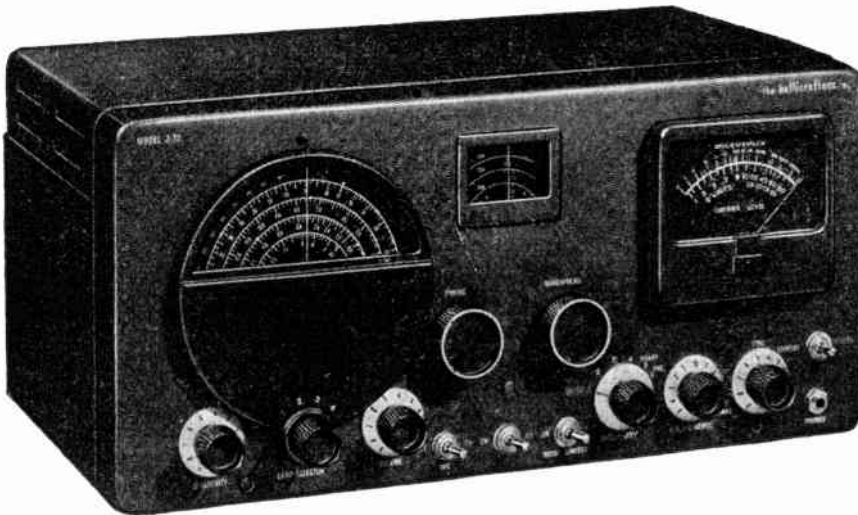


**Model SX-71**

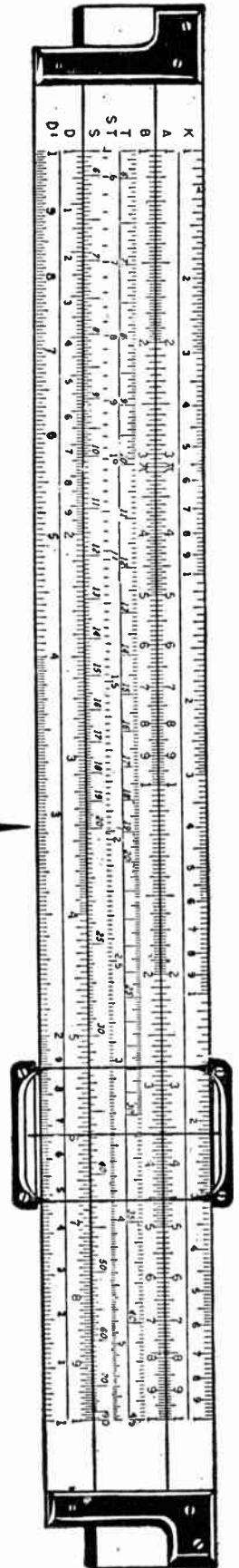
*Precision-built*



*Communication Equipment*



**Model S-76**



# Hallicrafters

## For Definitely Superior Ham Performance

From the Hams at Hallicrafters to Hams everywhere comes this top-performing receiver in the medium price class. Extra sensitivity, selectivity, and stability, definitely superior image rejection with double superheterodyne circuit, plus built-in Narrow Band FM reception. Extra wide dials for main and band-spread tuning. Surpasses in ham performance many receivers priced considerably higher.

**PERFORMANCE:** Continuous AM reception from 538 kc to 35 Mc, and 46 to 56 Mc. Built-in limiter and balanced detector stages for hiss-free NBFM reception. Double conversion (2075 and 455 kc i-f channels) gives image rejection of better than 150 to 1 at 28 Mc. Temperature compensated, voltage regulated. One r-f, two conversion, and 3 i-f stages yield high gain for sensitivity of .7 microvolts with 50 milliwatts output. Audio peaked for communications frequencies, with 3 watt output.

**CONTROLS:** Band Selector 538-1650 kc, 1600-4800 kc, 4.6-13.5 Mc, 12.5-35 Mc, 46-56 Mc. Separate Main and Bandspread tuning controls; bandspread dial calibrated for 80, 40, 20, 10, and 6 Meter Bands. BFO Pitch 3-position Selectivity, Crystal Phasing, Tone, a-f Gain, and r-f Gain controls. ANL, BFO, and Receive/Send switches. "S" meter adjustment on rear.

**PHYSICAL DATA:** Satin black steel cabinet with chrome trim. Piano hinge top. Size 18½ in. wide by 8⅞ in. high by 12 in. deep. Ship. wt. 33 lbs.

**EXTERNAL CONNECTIONS:** Use doublet or single wire antenna. 500 and 3.2 ohm outputs for separate speaker. Phone jack. Socket for external power supply. Connections for remote control. For 105-125 volts 50/60 cycle AC.

**11 TUBES PLUS VOLTAGE REGULATOR AND RECTIFIER:** 6BA6 r-f Amp., 6C4 Osc., 6AU6 Mixer, 6BE6 2nd Conv., three 6SK7 i-f Amps., 6H6 ANL and delayed AVC, 6SC7 BFO and a-f Amp., 6AL5 Det., 6K6GT Output, VR-150 Reg., and 5Y3GT Rect.

**UNIVERSAL MODEL SX71U:** Same as above only for 115/250 volts, 25/60 cycle AC.

**R-46 SPEAKER:** New 10" PM in satin black steel cabinet to match SX-71 and S-76 (also suitable for SX-62). 500-ohm transformer. 80 to 5000 cycle range. 15" wide, 10⅞" high, 10⅞" deep.



## New! A Double Superhet With 50kc 1-F

A new double conversion receiver just introduced as the lower-priced running mate to the already famous SX-71. The only double superhet with 50 kc second i-f and the only set now known with a giant sized 4-inch "S" Meter. Another new Hallicrafters engineering triumph . . . a special value leader in the moderate price range.

**PERFORMANCE:** Continuous coverage 538-1580 kc. and 1.72-32 Mc. Double conversion almost completely eliminates images. 50 kc second i-f gives excellent "skirt" selectivity with "nose" selectivity variable from 5.6 kc down to 500 cycles. Temperature compensated, voltage regulated. One r-f, two conversion, and two i-f stages. 2½ watts output, with audio peaked for communications frequencies.

**CONTROLS:** Band Selector 538-1580 kc, 1.72-4.9 Mc, 4.6-13 Mc, 12-32 Mc; Separate Main and Bandspread tuning; bandspread calibrated for 80, 40, 20, 11, 10 meters; five-position Selectivity with phono switch built-in; BFO Pitch; full-range Tone; AVC, BFO, ANL, Rec./Standby switches. "S" Meter adjustment on rear.

**PHYSICAL DATA:** Satin black steel cabinet with plastichrome. Piano hinge top. Size 18½" wide, 8⅞" high, 9½" deep. Ship. wt. approx. 46 lbs.

**EXTERNAL CONNECTIONS:** Use doublet or single wire antenna. 500 or 3.2 ohm outputs. Phone jack. Phono input jack. Connections external power and for remote control. Mounting holes provided for coax connector. For 105-125 volts 50/60 cycle AC.

**9 TUBES PLUS REGULATOR AND RECTIFIER:** 6CB6 r-f Amp., 6AU6 1st Conv., 6C4 Osc., 6BA6 1st i-f, 6BE6 2nd Conv., 6BA6 2nd i-f, 6AL5 Det., ANL, 6SC7 BFO, 6K6GT Output, VR-150 Reg., 5Y3GT Rect.

*"The Radio Man's Radio"*

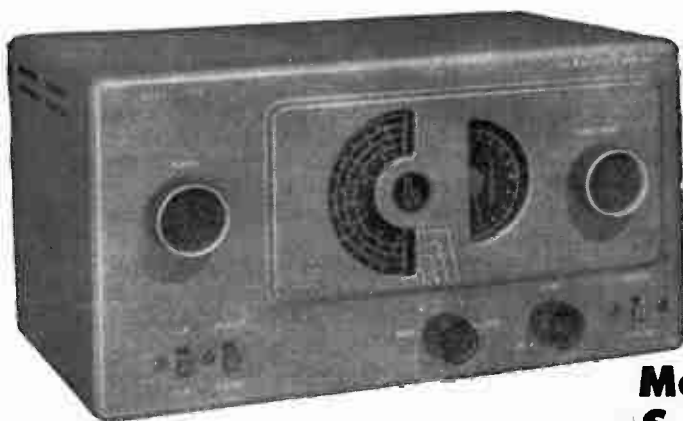
# hallicrafters



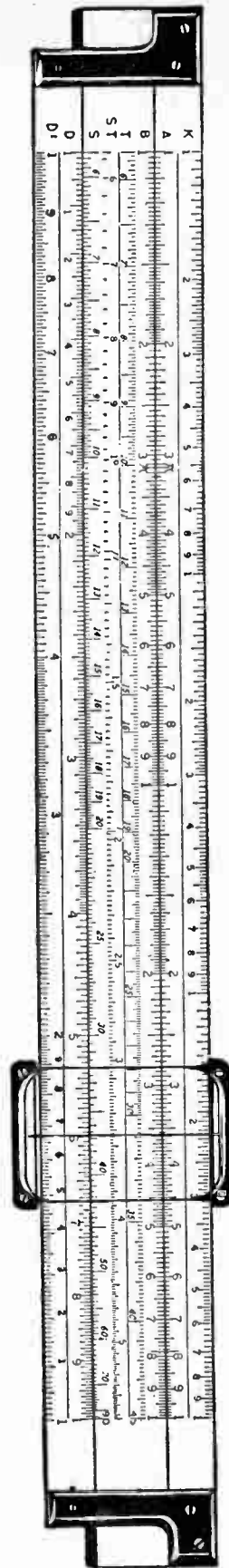
**Model  
S-40B & S-77A**



**Model  
S-53A**



**Model  
S-38C**



# hallicrafters

## New Versions of an Old Favorite

Offers superior performance in the medium price range, born of Hallicrafters long experience in high-quality communications equipment. Complete in itself, with built-in PM speaker.

**PERFORMANCE:** AM reception 540 kc to 43 Mc. Temperature compensated oscillator, One RF and two IF stages. Audio response to 10,000 cycles.

**CONTROLS:** Band Switch 540-1700 kc, 1700-5300 kc, 5.3-15.7 Mc, 15.7-43.0 Mc. Main tuning in Mc; band-spread dial has arbitrary scale. AF and RF Gain controls; AVC, BFO, and Noise Limiter switches; three-position Tone, BFO Pitch, and Receive/Standby controls. Settings for Broadcast Band marked in color for simplified use by others in your family.

**PHYSICAL DATA:** Satin black steel cabinet. Top opens on piano hinge. Size 18½" wide by 8⅞" high by 9½" deep. Ship. wt. 32 lbs.

**EXTERNAL CONNECTIONS:** Doublet or single wire antenna. Phone jack. S-40 uses 105-125 V. 50/60 cycles AC only. S-77A uses 105-125 V. DC or 50/60 cycle AC.

**7 TUBES PLUS RECTIFIER:** (in S-40B) 6SG7 RF Amp., 6SA7 Conv., two 6SK7 IF Amps., 6H6 ANL and AVC, 6SL7 BFO and Det., 6F6G Output, 5Y3GT Rectifier. Comparable AC/DC type tubes used in S-77A.

**UNIVERSAL MODEL S-40BU:** Same as above only for 115/250 volts, 25/60 cycle AC.

## Superb Performance in Compact Size

Unquestionably the finest small communications receiver built. Several steps better than the S-38C but not as good as the S-40B. Complete in itself, with built-in PM speaker.

**PERFORMANCE:** Coverage 540-1600 kc, 2.6-31 Mc plus 48-54.5 Mc. Two stages IF amplification.

**CONTROLS:** Main tuning in Mc; separate band-spread dial with logging scale plus Mc calibration for 48-54.5 Mc band; Receive/Standby switch; Band switch 540-1630 kc; 2.5-6.3 Mc, 6.3-16 Mc, 14-31 Mc, and 48-54.5 Mc; AM/CW; RF Gain, Noise Limiter, AF Gain, two-position Tone; Speaker/Phones switch on rear.

**PHYSICAL DATA:** Satin black steel cabinet with chrome trim. Top opens on piano hinge. Size 12⅞" wide by 7" high by 7¾" deep. Ship. wt. 19 lbs.

**EXTERNAL CONNECTIONS:** Doublet or single wire antenna. Phone tip jacks. Phonograph input jack. 105-125 V. 50/60 cycle AC line.

**7 TUBES PLUS RECTIFIER:** 6C4 Osc., 6BA6 Mixer, two 6BA6 IF Amps., 6H6 Det., AVC and ANL, 6SC7 BFO and AF Amp., 6K6GT Output, 5Y3GT Rectifier.

## The Radio That Amazes the Experts

The lowest priced communications receiver on the market . . . with many features found in much higher priced sets. Standard Broadcast plus three Short-Wave bands. Built-in PM speaker.

**PERFORMANCE:** Continuous AM reception 540 kc to 32 Mc. Maximum sensitivity and selectivity from expertly engineered chassis.

**CONTROLS:** Main Tuning in Mc; separate electrical band-spread dial with arbitrary scale; Speaker/Phones, AM/CW switches; Band Switch 540-1650 kc, 1.65-5 Mc, 5-14.5 Mc, 13.5-32 Mc; AF Gain, Receive/Standby.

**PHYSICAL DATA:** Steel cabinet in gray hammertone finish. Size 12⅞" wide by 7" high by 7¾" deep. Ship. wt. 14 lbs.

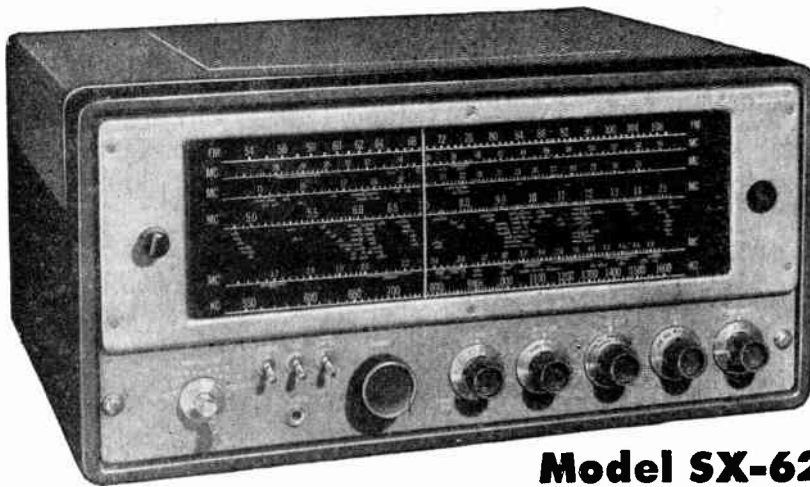
**EXTERNAL CONNECTIONS:** Doublet or single wire antenna. Phone tip jacks. 105-125 V. DC or 50/60 cycle AC.

**4 TUBES PLUS RECTIFIER:** 12SA7, Conv., 12SK7 IF Amp. and BFO, 12SQ7 Det. and AVC, 50L6GT Output, 35Z5GT Rectifier.

**220-VOLT LINE CORD:** Available separately. Works for AC or DC.

*"The Radio Man's Radio"*

# hallicrafters

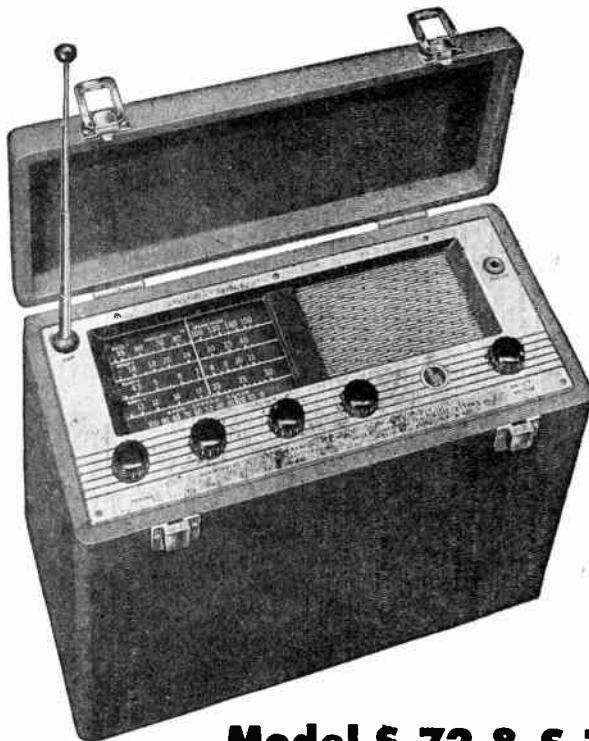


**Model SX-62**

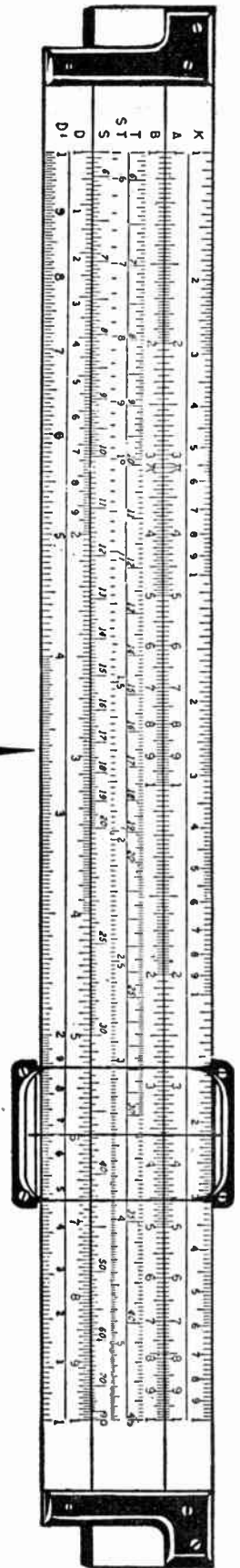
*Precision-built*



*Communication Equipment*



**Model S-72 & S-72L**



# Hallicrafters

## Designed for Top Broadcast Reception

The world's finest receiver for the All-Wave listener. Unequaled in coverage and performance on all three wave bands—Standard Broadcast, Short-Wave or FM. Continuous coverage from 540 kc to 109 Mc. Having basically the same chassis as a fine communications receiver, the SX-62 provides communications-receiver performance in simplified form. A single tuning control covers the wide-vision dial. Only one band lights up at a time—you always know just where you are tuning. In addition a 500 kc crystal calibration oscillator is built in, enabling you to adjust the dial pointer to show the exact frequency being tuned at any time.

**PERFORMANCE:** Continuous AM reception 540 kc to 109 Mc; FM reception 27-109 Mc. Temperature compensated, voltage regulated. Two RF, three IF stages; dual IF channels (455 kc and 10.7 Mc.). Audio flat 50-15,000 cycles; 10 watt push-pull output.

**CONTROLS:** Band Selector 540-1620 kc. 1.62-4.9 Mc, 4.9-15 Mc, 15-32 Mc, 27-56 Mc, 54-109 Mc; Receive/Standby, Calibration Osc. On/Off, Noise Limiter, Tuning, AF Gain, Phono/FM/AM/CW, six-position Selectivity, four-position Tone, RF Gain, Calibration Reset.

**PHYSICAL DATA:** Gray steel cabinet with satin chrome trim. Top opens on piano hinge. Cabinet 20" wide by 10¼" high by 16" deep. Ship. Wt. 70 lbs.

**EXTERNAL CONNECTIONS:** Doublet or single wire antenna. 500 and 5000-ohm outputs. Phone jack. Phonograph input jack. Socket for external power and Remote control connections. 105-125 V. 50/60 cycle AC line.

**14 TUBES PLUS VOLTAGE REGULATOR AND RECTIFIER:** Two 6AG5 RF Amps., 7F8 Conv., 6SK7 IF Amp., 6SG7 IF Amp., 6SG7 IF Amp., 6SG7 FM Limiter and AM Det., 6H6 FM Det., 6J5 BFO, 6H6 ANL, 6SL7 AF Amp., two 6V6 Push-Pull Output, 6C4 Calibration Osc., VR-150 Regulator, 5U4G Rectifier.

**UNIVERSAL MODEL SX-62U:** Same as above only for 115/250 volts, 25/60 cycle AC.

## Regular and Long-Wave 3-Way Portable

You'll always be in touch with the outside world wherever you go with this new Hallicrafters extra-sensitive portable. Designed both for the person who wants better than average operation even in weak signal areas and for the Radio Amateur.

**PERFORMANCE:** Regular Model S-72 covers standard broadcast and three short-wave bands 540 kc to 30 Mc continuously. Long-Wave Model S-72L covers airways ranges and towers and marine beacons 175-420 kc, plus Broadcast and 2 short-wave bands 540 kc to 12.5 Mc. One stage tuned r-f amplification; separate electrical bandspread tuning. Two built-in antennas—loop for broadcast and 61-inch telescoping whip for short-wave. Overall sensitivity 1.8 microvolts at 30 Mc, ranging to 6 microvolts at 1.7 Mc.

**CONTROLS:** Band Selector, r-f Gain, AVC, BFO, a-f Gain, Main tuning, Bandspread tuning.

**PHYSICAL DATA:** Luggage-type cabinet in brown leatherette. Space inside for phones. Size 14" wide, 12¼" high, 7¼" deep. Ship. wt. 16 lbs., less battery pack.

**EXTERNAL CONNECTIONS:** Phone jack. Antenna terminals if needed. 105-125 V. DC or 50/60 cycle AC line. Battery power 100 ma. at 7.5 V. and 30 ma. at 90 V. Takes RCA VS018, Burgess G6M60, General 60B6F65 and similar packs; life 50 to 100 hours.

**8 TUBES PLUS RECT:** 1T4 r-f Amp., 1R5 Osc., 1U4 Mixer, two 1U4 i-f Amps., 1U5 Det. and a-f Amp., 1U5 BFO, 3V4 Output, long-life selenium rectifier.

Long Wave Model S-72L is answer to airplane or boat owner's dream. Receives marine beacons, airways ranges and towers, as well as airways and marine short-wave channels and regular broadcast band.

*"The Radio Man's Radio"*



# hallicrafters



**Model S-81, S-82  
"Civic Patrol"**

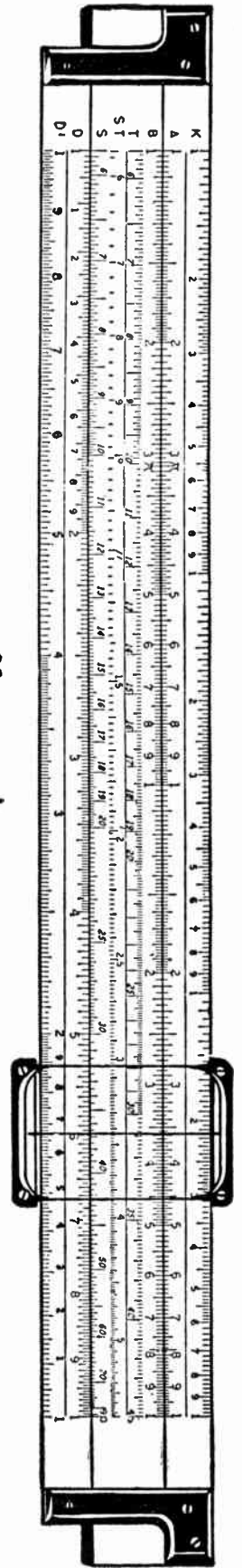
*Precision-built*



*Communication Equipment*



*littlefone*



# Hallicrafters

## New Emergency-Frequency FM Receiver

A compact, easy-to-operate new FM receiver covering police, fire, taxicab, truck, private telephone, railroad, and other industrial frequencies. Especially suited for civilian defense groups in metropolitan areas where a reliable, low cost receiver is required to hear industrial and emergency-service communications. Headphone tip jacks on rear. Built-in PM speaker.

**PERFORMANCE:** Newly designed FM chassis provides low frequency drift and high signal-to-noise ratio. Regular model S-81 covers VHF FM frequencies 152 to 173 Mc; low-band model S-82 covers H/F FM frequencies 30 to 50 Mc. Two i-f stages for extra sensitivity to pull in weak stations.

**PHYSICAL DATA:** Steel cabinet in black wrinkle enamel finish. Size 12 $\frac{7}{8}$ " wide, 7" high, 7 $\frac{1}{4}$ " deep. Ship. wt. approximately 14 lbs.

**EXTERNAL CONNECTIONS:** Use single wire or twin-lead antenna. Tip jack for headphones on rear. 105-125 V. DC or 50/60 cycle AC.

**6 TUBES PLUS RECTIFIER:** 12AT7 Osc. Mixer, 2-12BA6 IF Amps., 12AL5 FM Det., 12SQ7 1st Audio, 50L6 Power Output. Selenium Rectifier.



## New Compact, Lightweight Two-Way Radio-Telephone

The *littlefone* series of equipment are FM two-way radio telephone units operating at 25-50 Mc. or 152-174 Mc. Both the receiver and transmitter are crystal controlled and a total of 22 sub-miniature tubes are used. The complete portable model with antenna and telephone hand-set weighs only fourteen pounds and will operate for more than eight hours on the self-contained rechargeable storage batteries. Models for AC power line and 6/12 volts DC operation employ the same rf chassis as the portable units but an audio power output stage is added to drive the loud speaker. Adjustable squelch controls are available on all models. Power outputs—2 watts on 25-50 Mc and 1 watt on 152-173 Mc. Lower powered dry battery models also available.

*"The Radio Man's Radio"*

SINCE  
1933

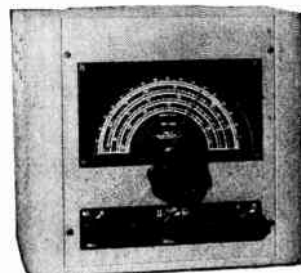
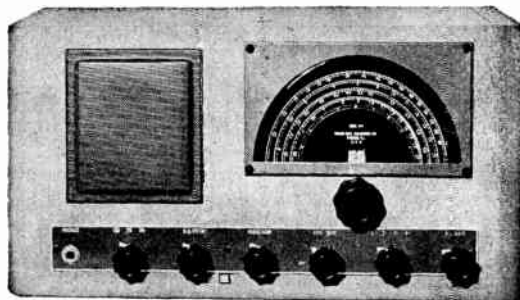


RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

Peoria 6, Illinois U. S. A.



THE RME 84  
FOR HOME—PORTABLE  
OR MOBILE OPERATION

RME 84 at right, VP-2—6 volt power pack with cable attached, optional for RME 84 in center, CM-1—Carrier Level "S" Meter with cord and plug, optional for RME 84 at left.

**The Coverage Is Complete .540 to 44 Megacycles**

An important feature is the continuous coverage ranging from 540 kc to 44 megacycles. This coverage, in addition to providing for the regular broadcast band, takes in the 80, 40, 20, 15 and 10-11 meter amateur bands. The calibration is made on a 7 inch diameter scale. In addition, a smooth-running vernier dial gives band spread on any setting of the main scale. The vernier scale makes five complete revolutions for the 180 degree rotation of the tuning condenser.

**Seven Tubes Have Been Chosen For The RME 84**

1. A 6BJ6 radio frequency amplifier is ahead of the first detector.
2. A 6U8 is used as a first detector and radio frequency oscillator.
3. A 6BJ6 serves as the first IF operating at 455 kc.
4. A 6BJ6 second IF further amplifies the signal.
5. A 6I16 serves as second detector and noise limiter.
6. A 6SL7 serves as BFO and first a.f. amplifier.
7. The 6G6G provides the final audio frequency output.
8. A 5Y3GT is the power rectifier tube.

**Portability Built Into The RME 84**

Conscious of the fact that many thousands of amateurs want a receiver for portable operation, the new RME 84 is equipped with a special socket connection making possible connections to either a B battery and an A battery supply or a similar source of power such as an external vibropack. 135 volts of B and 6 volts of A battery will operate the RME 84 at full power. The drain on the B battery is only 32 milliamperes at 135 volts and the 6 volt A battery provides 1.5 amps, including the two dial lights.

The new noise limiter, of the series type, performs exceptionally well. Also made available for future use with the RME 84 is a signal strength meter to be connected through the special socket located on the rear of the chassis apron.

**SENSITIVITY:** The average sensitivity of the RME 84 is of the order of 2 microvolts over the entire range of the instrument.

RME 84, CODE HANDY, complete for 115 volt, 60 cycle operation and for use with external battery supply. May also be had for 230 volt, 25 cycle operation at additional cost. f.o.b. Peoria, Illinois, Net Selling Price .....\$110.00

VP-2, CODE HOMER, A 6 volt power pack with cable attached, optional equipment for RME 84. f.o.b. Peoria, Illinois, Net Selling Price .....\$32.00

CM-1, CODE HURST, Carrier Level "S" Meter with cord and plug, optional equipment for RME 84. f.o.b. Peoria, Illinois, Net Selling Price .....\$16.00

**VHF-152A  
3 BAND CONVERTER**

Covers the Amateur 11, 10, 6 and 2-meter bands. For use with any receiver tunable to 7.0 mc. Features temperature stabilized oscillator circuits, high image rejection. Full-vision 7" dial. Direct calibration for each band. Built-in power supply. Sensitivity order of 2 microvolts. Output frequency is 7,000 kc. Range: 26.96-29.9 mc, 49.5-54.2 mc, and 143.8-148.2 mc. Uses: 1—6AK5 RF amp., 1—6J6 mixer-osc., 1—5Y3GT rect., and VR150. Has 4 separate 300-ohm antenna inputs; 300-ohm output. Controls: band selector, antenna changeover, tuning, on-off switch.

Dimensions: 11" high, 12" wide, 11" deep, with hinged lid. Standard operation is for 115 volt, 50-60 cycle power source.

Complete with tubes, interconnecting plug and cord to match RME 45 & 50 receivers in appearance. CODE HAMPY, f.o.b. Peoria, Illinois.

Net Selling Price .....\$97.00

VHF-152A CONVERTER, same as above, but designated as TYPE S, housed in two tone gray cabinet to match the RME-84 receiver, cabinet size 10 1/4" wide, 10 1/4" deep, 9 1/4" high. CODE: HARMS .....\$97.00

**THE HF 10-20 CONVERTER**

**For 10-11-15 and 20 Meters**

(Similar in Appearance to VHF-152A)

Covers the 14-14.4, 21-21.5 and 26.96-29.7 mc Amateur bands. Output to any receiver tunable to 7.0 mc—results in complete image suppression. Full temperature compensation and VR150 voltage regulator provide excellent oscillator stability. Uses: 6BA6 TRF, 6J6 oscillator-mixer, 5Y3GT rectifier. Built-in power supply. Average gain 30 db. Output frequency is 7,000 kc. Has 300-ohm antenna input for each band. With shielded output cable for connection to receiver. 300 ohm output. With tubes and instructions.

Model HF 10-20 Converter, Standard Model. CODE HORN, in cabinet to match RME 45 and 50 Receivers in appearance. Dimensions: 11" high, 12" wide, 11" deep. For 115 V. 50-60 cycle operation. f.o.b. Peoria. Net Price .....\$92.00

Model HF 10-20 Type "S" Converter, CODE HILL, in cabinet to match RME 84 in appearance. Dimensions: 9 1/8" high, 10 1/4" wide, 10 1/4" deep. f.o.b. Peoria. Net Price .....\$92.00

SINCE  
1933



**RME**

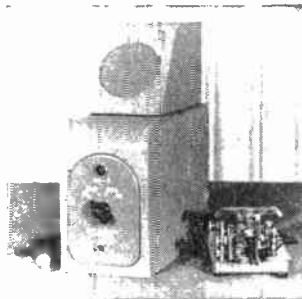
FINE COMMUNICATIONS EQUIPMENT

**RADIO MFG. ENGINEERS, INC.**

Peoria 6, Illinois U. S. A.

**THE  
BOOMERANG  
(MB-3)**

**A Break-In and  
Monitoring Device  
for CW & Fone**



The "Boomerang" is the solution to rapid and efficient break-in, and the avoidance of needless QRM. Dots and dashes are heard in the headphones or the speaker while sending—a great help in perfecting the fist and avoiding errors.

When the key is down, any signal normally going through the receiver is automatically suppressed. Raise the key and instantaneously the receiver functions.

The "Boomerang" can be used as a handy monitor for phone operation, as a code practice oscillator and a tone modulator. Tubes include a 7K7, a 6SL7 and a 6X4 rectifier. Cabinet two-tone grey finish. For 115 V. 50-60 cycle operation.

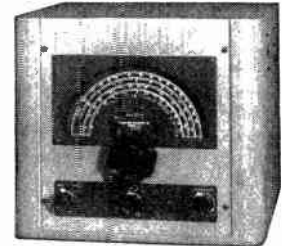
List Price f.o.b. Peoria.....\$33.00

SP-5 Special 3" speaker with amplifier enclosed in housing for MB-3 "BOOMERANG." CODE: HIGH.

Net Price f.o.b. Peoria.....\$15.50

**THE DB22A  
PRESELECTOR**

**Coverage  
.54 to 44 Mc.  
Average Gain 30 DB**



Here's the new DB22A completely redesigned for greater efficiency and higher signal to noise ratio. It uses new 6BA6 miniatures. Image ratio is better than 50 DB with a communications receiver having a single stage of RF. It's calibrated, has smooth planetary tuning, self contained power supply, antenna by-pass switch, gain control and many other features. Model DB22A Preselector, Standard Model, CODE BONET, in cabinet to match RME 45 and 50 Receivers in appearance. Dimensions: 11" high, 12" wide, 11" deep. For 115 V. 50-60 cycle operation.

Net Price f.o.b. Peoria.....\$86.00

Model DB22A—Type "S" Preselector, CODE CLEAR, in cabinet to match RME 84 Receiver in appearance. Dimensions: 9 1/8" high, 10 1/4" wide, 10 1/4" deep.

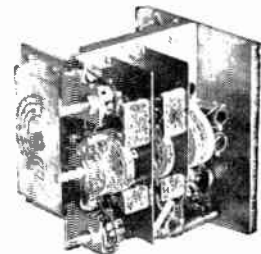
Net Price f.o.b. Peoria.....\$86.00

**MC-53 MOBILE CONVERTER for 2, 6, and 10-11 meters**

The ever increasing demand for mobile equipment and the desire to have portable mobile equipment available for emergency use, which is uniform in performance and operation, has prompted RME to add a mobile converter to the universally popular and efficient line of other converters; namely, the VHF 152A and the HF 10-20.

The MC-53 covers three frequency ranges: 26.5-30 mc, 49.5-54.5 mc and 143.5-149 mc. Each range has its own individual coaxial input connector at an input impedance of 75 ohms. Individual antennas may, therefore, be used for each frequency range and coupled separately. The output cable of the MC-53 converter is connected to the auto-radio antenna socket, the output frequency being 1550 kc into the conventional radio receiver of the car. With an antenna change-over switch in the converter and a separate input connector provided for broadcast reception, the MC-53 may be cut in or out of the antenna circuit at anytime for either high frequency or broadcast reception with a flip of the switch.

The MC-53 requires 200-250 volts at 30 milliamps, which is available from the car radio power supply. The ON-OFF switch has a third position, marked BATT. A separate lead is provided on the converter which may be connected to an auxiliary 6 volt source, and give high-stability operation independent of the car battery voltage. A dry battery source may be employed, since only 150 milliamps are required to heat the oscillator tube heater, and the dry batteries



will last a long time. Such operation is optional with the operator.

The tuning mechanism consists of a high ratio worm gear drive, very rugged and stable. The main tuning knob is located on the side of the cabinet.

An automatic noise clipper circuit is incorporated in the MC-53 as an integral part of the unit. It is mounted inside the converter cabinet and comes complete with an interconnecting cable to be hooked up with the car radio. The tube complement is as follows: 6AK5 rf amplifier; 12AT7 detector and oscillator; OA2 voltage regulator.

Overall size of the cabinet 5 3/4" wide, 4 7/8" high, 5 1/4" deep. Finished in dark grey enamel, weight 4#. Complete with tubes and cables. CODE: MONCO.

Net Price f.o.b. Peoria.....\$66.60

# Harvey-WELLS ELECTRONICS, INC.

SOUTHBRIDGE, MASS.

## BANDMASTER TRANSMITTERS



### The World's Most Versatile Transmitter

40 to 50 Watts - 8 Bands - Phone or CW — No Plug-In Coils  
80, 40, 20, 15, 11, 10, 6 and 2 Meters (completely wired and tested — not a kit)

**100% BREAK-IN OPERATION**

**FOR MOBILE OR FIXED OPERATION**

**FOR NOVICE OR EXPERT**

**BANDMASTER Sr. \$111<sup>50</sup>**

A complete ready to go transmitter including the new crystal-oscillator-vfo switching circuit. Phone or CW — Eight bands — 80, 40, 20, 15, 11, 10, 6 and 2 Meters. Ideal for either mobile or fixed station use. Will operate from A.C. power packs up to 450 volts at 275 ma., vibrator supply or dynamotor supply for

portable mobile operation. Employs Pi antenna matching network. Power input to final is 50 watts with 450 volt power supply on Bands 1 through 7, 30 watts on Band 8. No tuning adjustments are necessary except those required to resonate the final output to the antenna. May be mounted on rack panel with power supply. For use with carbon microphone. No plug in coils.

**CONTROLS:** Band Switch, Excitation Control, Antenna Loading, Amplifier Tuning, Power-on Switch. Carrier-on Switch, Meter Switch. Antenna network will match non-reactive feeder of approximately 50-500 ohms. Frequency calibration chart on front panel as well as two scale grid and plate DC milliammeter.

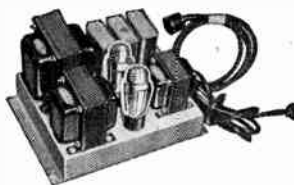
**TUBES:** 6AQ5 Crystal Oscillator, 6AQ5 Buffer-Multiplier, 807 Final Amplifier, 2—6L6G Class B Modulators. In sturdy steel cabinet, 8" wide by 12" high by 8" deep.

## BANDMASTER DELUXE

**\$137<sup>50</sup>**

The last word in a versatile small transmitter for ham or commercial use. Used extensively in foreign countries for important commercial applications. Has built-in three tube preamplifier for use with crystal mike, and ALL the features of the Bandmaster Sr.

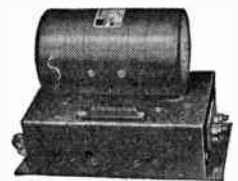
## POWER SUPPLIES AND ACCESSORIES



**APS-50**

Delivers 425 v. at 275. ma. and 6.3 v. at 4 amps. May be mounted on rack panel. For 110 Volt A.C. 50-60 cycles.

**\$39.50**



**DPS-50**

A dynamotor supply for portable operation. Delivers 300 Volts 250 ma.

**For 6 Volt operation \$87.50**

**For 12 Volt operation \$4.50**

(400 Volts 250 ma.)

# LYSCO

# COMMUNICATIONS EQUIPMENT



### TRANSMITTER-EXCITER TRANSMASTER

Mod. 600—TV Areas  
Mod. 500—Wide Open Spaces

**FEATURES:** Break-in keying, illuminated dial, PA Plate meter, 35 watts input on 160, 80, 40, 20, 15, 11 and 10 meters, provisions for modulator tie-in, Grid Meter Jack, complete with tubes and built-in power supply, VFO or Crystal ("Rubbers" the Crystal also), Cabinet 17" x 9" x 11". Tubes OSC 6AG7, 8UFF 6AG7, P. A. 807. Volt. Reg. VR-150 Rect. 5U4G.

### TRANSMITTERS

#### 25 Watts Peak Power Clamp Tube Modulation



Here's a new line of mobile Amateur Units typical of LySCO engineering skill. Installed in beautiful rounded drawn case—black wrinkle finish with attractive silk screened front panel. Dimensions 4" wide x 4 1/2" high x 6" deep. Power input 500v DC. 125 ma. 6.3v AC/DC 1.35 Amps.

Mod.	Band	Tubes	Mod.	Band	Tubes
*A-114T	20 M	3-6AQ5	A-129T	10 M	3-6AQ5
*A-140T	160 M	3-6AQ5	A-175T	75 M	3-6AQ5

### CONVERTERS—Mobile or Fixed



Dimensions 1 1/4 x 4 3/4 x 4". Simple installation. Extremely sensitive, will operate on 45 Volt miniature battery for shelf life of battery. Switch connects Antenna to Converter or receiver and controls filaments of converter. Illuminated Dial. Power requirements: Filaments 6.3 V AC/DC 1 Amp. Plate 45 Volts DC 2.5 Ma. 90 Volts DC Max. I.F. Output Freq. 1500 KC. Tube Complements: RF 6AK5, Mixer 9002, OSC 9002. Model 130—26—30 MC. Model 132—14-14.4—4 MC. Model 133—3.5—4 MC.

### LYSCO DIPMASTER Mod. D11

Grid dip meter. Range 3.4 to 160 MC. Absorption wave meter. Phone monitor. Signal generator. Range 3.4 to 300 MC. Field Strength meter. Plug-in coils. Tube: 955. Power Req.: 15 watts, 115 volts AC/DC. Dimensions 3" x 9" x 3 1/2".



### NOVICE CLASS and CW AMATEUR TRANSMITTERS

Factory wired and tested  
Rounded drawn case  
Black wrinkle finish  
Silk screened panel  
Crystal controlled  
Power Input, 25 watts  
Antenna output impedance, 5 ohms  
Power requirements: 300 to 500 V. D.C. 75 MA, 6.3 V. AC/DC 1.35 amps.

Keying: Combination Oscillator and Clamp  
Dimensions: 4" wide x 4 1/2" high x 6" deep Tube  
A127T, 11 Meters, Tubes: 3-6AQ5 • A180T, 80 Meters, Tubes: 3-6AQ5 • A115T, 20 Meters, Tubes: 3-6AQ5 • A107T, 40 Meters, Tubes: 3-6AQ5 • A160T, 160 Meters, Tubes: 3-6AQ5.

### Model 20

#### LySCO Code Practice OSCILLATOR

Enables the novice to learn code by ear. Operates on 115 AC/DC or 90V "B" battery. Provides tone similar to that which is received off the air. Finished in Black Wrinkle case with silk screened, smooth front panel. Provisions for key and ear phones. Variable pitch control, neon lamp indicates operation.



In usual LySCO tradition this New Model 650 Transmaster for the Novice or CW Ham is a sturdily constructed unit. It features: Complete break-in operation • Built-in antenna coupler with neon lamp resonance indicator for single wire operation on all bands, also 72 ohm coaxial output • Plug-in coils • Multi-meter reads buffer grid or cathode and power amplifier grid or plate

currents • Provisions for Model 401 Clamp Tube Modulator. Tubes: 6V6-GT Crystal controlled oscillator — 6V6-GT Buffer-Multiplier — 6L6G Amplifier — 6V6-GT Dissipation Limiter — 5U4-G Rectifier.

### LYSCO MODULATOR Model 400

Matches LySCO Mod. 500 and  
600 TRANSMASTERS



Dimensions: 9" x 17" x 11" Deep • Black Wrinkle Finish • Output: 60 Watts Audio into 4000 Ohms R.F. Load • Input: High impedance (Crystal or Dynamic Mic) • Tube Line-up: 1st Audio 6SJ7, 2nd Audio 1/2-6SN7, Phase Inverter 1/2-6SN7, Driver P.P. 6SN7, Modulator P.P. 6L6's, Rectifier 5U4G.  
**FEATURES:** Standby on switch has terminated spare contacts for Transmitter keying control. Milliammeter in modulator plate circuit. Will modulate 100 Watt Transmitter.

### LYSCO ANTENNA COUPLER Model 50

For 50' antennas and over. Max. power 75 watts. 5-position switch for coarse tuning, capacitor for fine. Neon indicator. 4" x 4 3/4" x 5".



### MINIATURE VFO Mobile or Fixed

Dimensions 1 1/4 x 4 3/4 x 4". Good stability, Series Tuned, "Colpitts" Oscillator, Illuminated Dial, Calibrated for 80, 40, 20 and 10 Meters. Output on 80 or 40 Meters. Power Requirements 6.3 V AC/DC; 1.35 Amps. 200 V DC Max. 30 Ma. Tube complements: 6AK5 Osc, 6AK5 Buffer, 6AK5 Doubler. Model 381—High impedance, 14" Ribbon Lead with plug for xtal socket. Model 381-R—Same as Mod. 381 except that it has Low impedance, 15" Coax cable with remote tuned circuit on 80 or 40 meters.



### LYSCO PRICE SCHEDULE

Model	Code Practice Oscillator	Amateur Net Price
20	Code Practice Oscillator	\$ 9.95
30	Noise Limiter (Clips Positive & Negative Peaks)	6.95
50	Antenna Coupler	14.50
60	6 Volt Vibrator supply (300 Volts 80 ma.)	32.95
75	TVI Filter Low Pass 50 OHM Line	10.95
A107T	25 Watt CW Transmaster 40 Meters	28.55
A114T	Mobile Transmaster 20 Meters	33.55
A115T	25 Watt CW Transmaster 20 Meters	28.55
A127T	25 Watt CW Transmaster 10-11 Meters	28.55
A129T	Mobile Transmaster 10-11 Meters	33.55
130	Converter 10-11 Meters	39.00
132	Converter 20 Meters	39.00
133	Converter 75 Meters	39.00
A140T	CAP Mobile Transmaster	33.55
C140T	CAP Mobile Transmaster	34.30
A160T	25 Watt CW Transmaster 160 Meters	28.55
A175T	Mobile Transmaster 75 Meters	33.55
A180T	25 Watt CW Transmaster 80 Meters	28.55
381	Mobile VFO High Impedance	26.95
381R	Mobile VFO Low Impedance Remote Tuned Circuit	33.95
400	60 Watt Modulator 4000 Ohm out	119.95
400L	60 Watt Modulator 500 Ohm out	119.95
400R	Same as 400 except Rack Mounted	119.95
400RL	Same as 400L except Rack Mounted	119.95
401	"Clampmaster" Clamp tube modulator	19.95
402	Class B Modulator	29.95
500	All Band Transmaster	131.95
500R	Same as 500 except Rack Mounted	131.95
500S	Same as 500 with built-in Modulator and "Zero-beating" switch	179.95
500RS	Same as 500S except Rack Mounted	179.95
600	All Band Transmaster TVI Free	143.95
600R	Same as 600 except Rack Mounted	143.95
600S	Same as 600 with built in Modulator and "Zero-beating" switch	189.95
600T	Same as 600 with Class B Modulation	194.95
600TR	Same as 600T except Rack Mounted	194.95
600RS	Same as 600S except Rack Mounted	189.95
650	40 Watt All Band CW Transmaster with built-in Antenna Coupler	109.95
905	2 Meter Receiver and Transmitter	199.95
D11	Grid Dip Meter	39.95

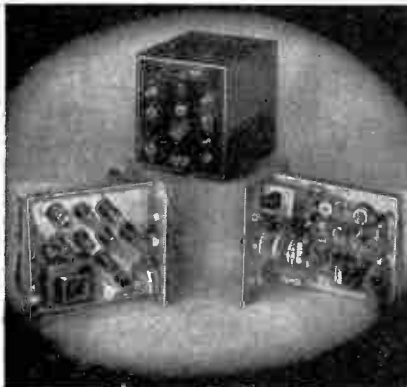
ALL ITEMS COMPLETE WITH TUBES  
Prices subject to change without notice.

**LYSCO MFG. CO., Inc.**

**Hoboken, New Jersey**

# JAMES MILLEN

MALDEN • MASSACHUSETTS



### SECONDARY FREQUENCY STANDARD

A precision frequency standard for both laboratory and production uses, adjustable output, provided at intervals of 10, 25, 100 and 1000 kc, with magnitude useful to 50 mc. Harmonic amplifier with tuned plate circuit and panel range switch. 800 cycle modulator with panel control switch. In addition to oscillators, multivibrators, modulators and amplifiers, a built-in detector with phone jack and gain control is incorporated. Self-contained power supply.

Model 90505, with tubes . . . . . \$

### ABSORPTION WAVEMETERS

The 90600 series of absorption wavemeters are available in several styles and many different ranges. Most popular is kit of four units, covering range of 3.0 to 140 mc.

Model 90600 . . . . . \$

### GRID DIP METER

The No. 90651 MILLEN GRID DIP METER is compact and completely self contained. The AC power supply is of the "transformer" type. The drum dial has seven calibrated uniform length scales from 1.5 MC to 300 MC with generous over laps plus an arbitrary scale for use with special application inductors. Internal terminal strip permits battery operation for antenna measurement.

No. 90651, with tube . . . . . \$

### Additional Inductors for Lower Frequencies

- No. 46702—925 to 2000 KC . . . . . \$
- No. 46703—500 to 1050 KC . . . . . \$
- No. 46704—325 to 600 KC . . . . . \$
- No. 46705—220 to 350 KC . . . . . \$

### LABORATORY SYNCHROSCOPES

The 5" laboratory synchroscopes are available with and without detector-video strips.

Model P-4-2, with tubes . . . . . \$  
Model P-4E-2, with tubes . . . . . \$

### MINIATURE SYNCHROSCOPE

The compact design of the No. 90952, measuring only 7 1/4" x 5 3/4" x 13", and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service" Synchroscope.

No. 90952, with tubes . . . . . \$

### CATHODE RAY OSCILLOSCOPES

The No. 90902, No. 90903 and No. 90905 Rock Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive basic units comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches, etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known trapezoidal monitoring patterns are secured by feeding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode ray tube and audio modulating voltage to horizontal plates. By the addition of such units as sweeps, pulse generators, amplifiers, serva sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic scope unit may be expanded to serve any conceivable industrial or laboratory application.

No. 90902, less tubes . . . . . \$  
No. 90903, less tubes . . . . . \$  
No. 90905, less tubes . . . . . \$

### 'SCOPE AMPLIFIER—SWEEP UNIT

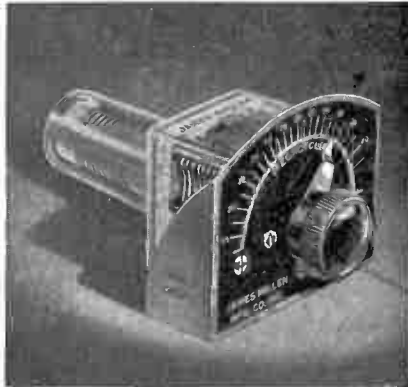
Vertical and horizontal amplifiers along with hard-tube, saw tooth sweep generator. Complete with power supply mounted on a standard 5 1/4" rock panel.

No. 90921, with tubes . . . . . \$

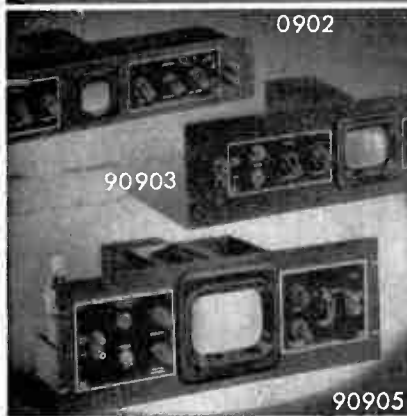
### REGULATED POWER SUPPLIES

A compact, uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipments. 50 watts, with regulated voltage from 0 to 200 volts.

Model 90201, less tubes . . . . . \$



90651



0902

90903

90905



90921

90952

90201

# JAMES M MILLEN

MALDEN · MASSACHUSETTS



92101

### R9'er MATCHING PREAMPLIFIER

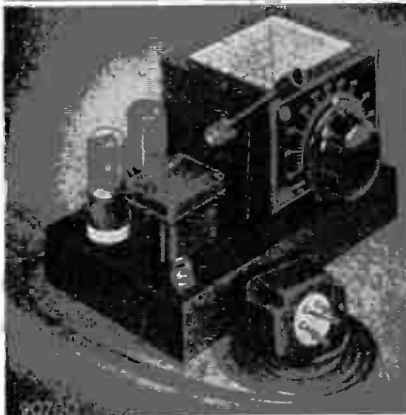
The Millen 92101 is an electronic impedance matching device and a broad-band preamplifier combined into a single unit, designed primarily for operation on 6 and 10 meters. Calls for 20 meter band also available.

No. 92101, less tubes..... \$

### STANDING WAVE RATIO BRIDGE

The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratio on antennas using co-ax cable. As assembled the bridge is set up for 52 ohm line. A calibrated 75 ohm resistor is mounted inside the case for substitution in the circuit when 75 ohm line is used.

No. 90671..... \$



### FREQUENCY SHIFTER

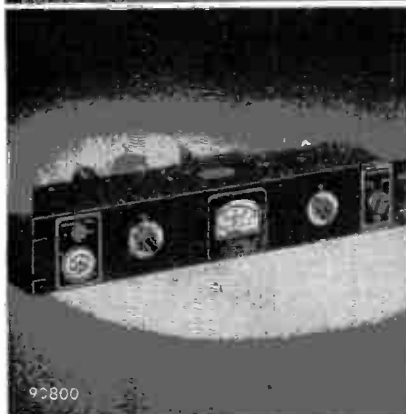
A favorite frequency shifter, plugs in, in place of crystal, for instant finger-tip control of carrier frequency. Low drift, chirpless keying, vibration immune, big band spread, accurate calibration.

Model 90700, with tubes..... \$

### VARIABLE FREQUENCY OSCILLATOR

The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6SK7 broad-band buffer or frequency doubler, a 6A67 tuned amplifier which tracks with the oscillator tuning, and a regulated power supply. Output sufficient to drive an 807 is available on 160, 80 and 40 meters and reduced output is available on 20 meters. Close frequency setting is obtained by means of the vernier control arm at the right of the dial. Since the output is isolated from the oscillator by two stages, zero frequency shift occurs when the output load is varied from open circuit to short circuit. The entire unit is unusually solidly built so that no frequency shift occurs due to vibration. The keying is clean and free from all annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.

No. 90711, with tubes..... \$



90800

### 50 WATT TRANSMITTER

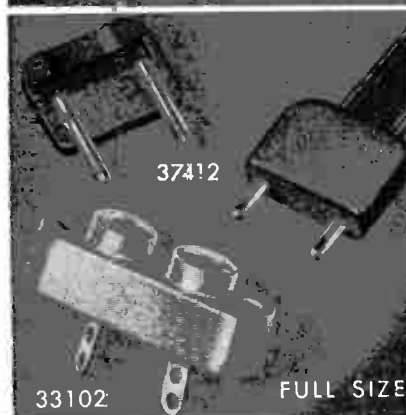
Based on an original Handbook design, this flexible unit is ideal for either low power amateur band transmitter use or as an exciter for high power PA stages.

Model 90800, less tubes..... \$

### OCTAL BASE AND SHIELD

Low loss phenolic base with octal socket plug and aluminum shield can  $1\frac{1}{8} \times 1\frac{1}{8} \times 3\frac{3}{4}$ .

No. 74400..... \$



33102

FULL SIZE

### TRANSMISSION LINE PLUG

An inexpensive, compact, and efficient polyethylene unit for use with the 300 ohm ribbon type polyethylene transmission lines. Fits into standard Millan No. 33102 (crystal) socket. Pin spacing  $\frac{1}{2}$ " diameter .095".

No. 37412..... \$

### PERMEABILITY TUNED CERAMIC FORMS

In addition to the popular shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceramic permeability tuned unshielded forms are available as standard stock items. Winding diameters and lengths of winding space are  $\frac{1}{2} \times \frac{1}{2}$  for 69041-2;  $\frac{1}{4} \times \frac{3}{4}$  for 69043-7-8;  $\frac{1}{2} \times 1\frac{1}{4}$  for 69045-6;  $\frac{3}{8} \times \frac{3}{4}$  for 69044.

No. 69041—(Copper Slug)..... \$  
 No. 69042—(Iron Core).....  
 No. 69043—(Iron Core).....  
 No. 69044—(Copper Slug).....  
 No. 69045—(Copper Slug).....  
 No. 69046—(Iron Core).....  
 No. 69047—(Copper Slug).....  
 No. 69048—(Iron Core).....



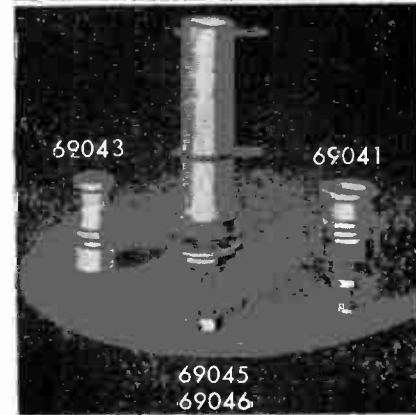
90671



90711



74400



69043

69041

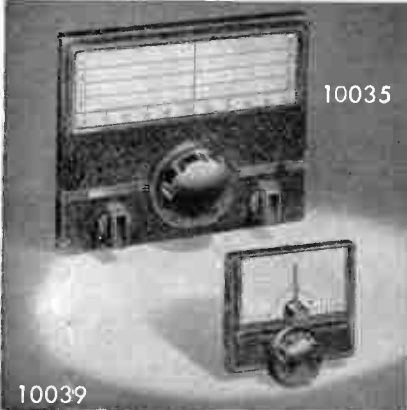
69045

69046



# JAMES MILLEN

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10035



10039

10009

10007

10021

10065

10008

### INSTRUMENT DIALS

The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. Veeder type counter is direct reading in 99 revolutions and vernier scale readings to 1 part in 100 of a single revolution. Has built-in dial lock and  $\frac{1}{4}$ " drive shaft coupling. May be used with multi-revolution transmitter controls, etc., or through gear reduction mechanism for control of fractional revolution capacitors, etc., in receivers or laboratory instruments.

The No. 10035 illuminated panel dial has 12 to 1 ratio; size,  $8\frac{1}{2}$ " x  $6\frac{1}{2}$ ". Small No. 10039 has 8 to 1 ratio; size,  $4$ " x  $3\frac{1}{4}$ ". Both are of compact mechanical design, easy to mount and have totally self-contained mechanism, thus eliminating back of panel interference. Provision for mounting and marking auxiliary controls, such as switches, potentiometers, etc., provided on the No. 10035. Standard finish, either size, flat black or metal.

No. 10039 ..... \$  
 No. 10035 ..... \$  
 No. 10030 ..... \$

### DIALS AND KNOBS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is  $1\frac{1}{2}$ " diameter, 10009 is  $2\frac{1}{2}$ " and 10008 is  $3\frac{1}{2}$ ".  
 No. 10007 ..... \$  
 No. 10008 ..... \$  
 No. 10009 ..... \$  
 No. 10021 ..... \$  
 No. 10065 ..... \$

### PANEL MARKING TRANSFERS

The panel marking transfers have  $\frac{1}{8}$ " black letters. Special solution furnished. Must not be used with water. Equally satisfactory on smooth or wrinkle finished panels or chassis. Ample supply of every popular word or marking required for amateur or commercial equipment.

No. 59001, white letters ..... \$

### HIGH FREQUENCY TRANSMITTER

The No. 90810 crystal control transmitter provides 75 watt output (higher output may be obtained by the use of forced cooling) on the 20, 10-11, 6 and 2 meter amateur bands. Provisions are made for quick band shift by means of the new 48000 series high frequency plug-in coils.

No. 90810, less tubes and crystals ..... \$

### HIGH FREQUENCY RF AMPLIFIER

A physically small unit capable of a power output of 70 to 85 watts on 'phone or 87 to 110 watts on C-W on 20, 15, 11, 10, 6 or 2 meter amateur bands. Provision is made for quick band shift by means of the new No. 48000 series VHF plug-in coils. The No. 90811 unit uses either an 829-B or 3E29.

No. 90811 with 10 meter band coils, less tube ..... \$

### HIGH VOLTAGE POWER SUPPLY

The No. 90281 high voltage power supply has a d.c. output of 700 volts, with maximum current of 250 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available so that this power supply is an ideal unit for use with transmitters, such as the Millen No. 90800, as well as general laboratory purposes. The power supply uses two No. 816 rectifiers and has a two section pi filter with 10 henry General Electric chokes and a 2-2-10 mfd. bank of 1000 volt General Electric Pyranol capacitors. The panel is standard  $8\frac{3}{4}$ " x 19" rack mounting.

No. 90281, less tubes ..... \$

### RF POWER AMPLIFIER

This 500 watt amplifier may be used as the basis of a high power amateur transmitter or as a means for increasing the power output of an existing transmitter. As shipped from the factory, the No. 90881 RF power amplifier is wired for use with the popular RCA or G.E. "812" type tubes, but adequate instructions are furnished for readjusting for operation with such other popular amateur style transmitting tubes as Taylor TZ40, Eimac 35T, etc. The amplifier is of unusually sturdy mechanical construction, on a  $10\frac{1}{2}$ " relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 or 80 meter amateur bands. The standard Millen No. 90800 exciter unit is an ideal driver for the new No. 90881 RF power amplifier.

No. 90881, with one set of coils, but less tubes ..... \$



10030



59001



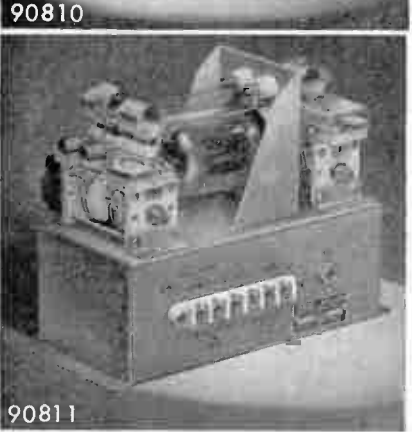
90810



90281



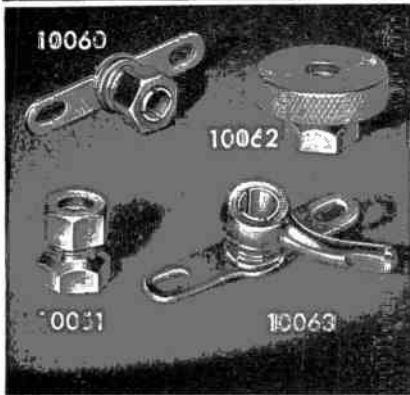
90811



90881

# JAMES MILLEN

MALDEN · MASSACHUSETTS



## SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain  $\frac{1}{4}$ " shaft volume control, condenser, etc. from "plain" to "shaft locked" type. Each to mount in place of regular mounting nut.

No. 10060 ..... \$  
 No. 10061 ..... \$  
 No. 10062 ..... \$  
 No. 10063 ..... \$

## TRANSMITTING TANK COILS

A full line—all popular wattages for all bands. Send for special catalog.

## DIAL LOCK

Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

No. 10050 ..... \$

## RIGHT ANGLE DRIVE

Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

No. 10012 ..... \$

## THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits  $\frac{1}{4}$ " hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

No. 32150 ..... \$

## FLEXIBLE COUPLINGS

The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 is similar to the No. 39001, but is not insulated and is designed for applications where relatively high torque is required. The steatite insulated No. 39001 has a special anti-backlash pivot and socket grip feature. All of the above illustrated units are for  $\frac{1}{4}$ " shaft and are standard production type units.

No. 39001 ..... \$  
 No. 39002 ..... \$  
 No. 39003 ..... \$  
 No. 39005 ..... \$  
 No. 39006 ..... \$

## CATHODE RAY TUBE SHIELDS

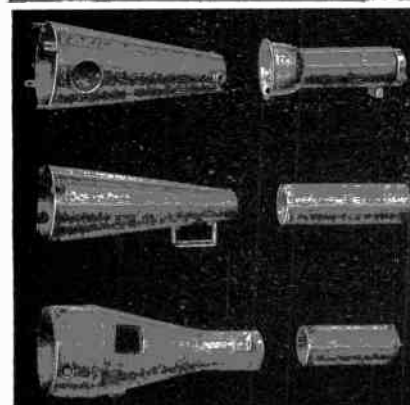
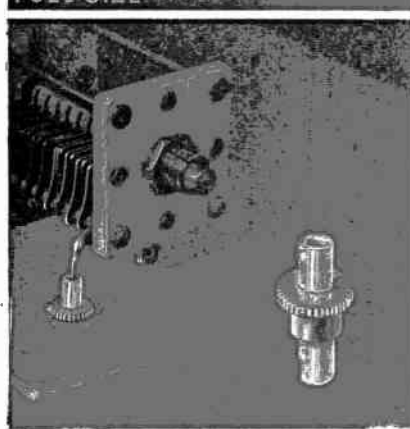
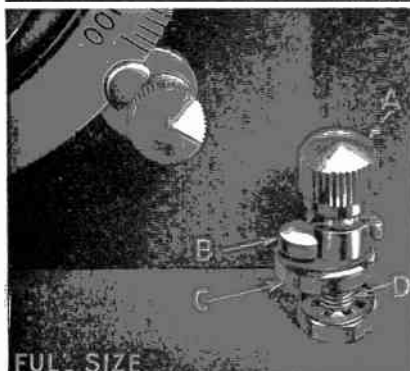
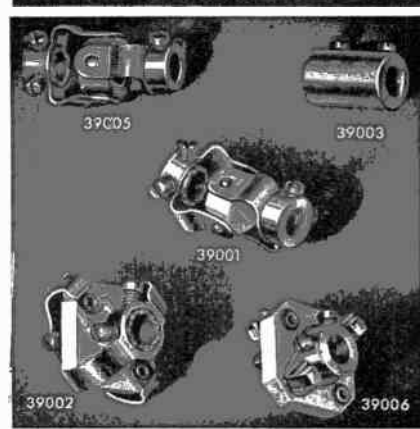
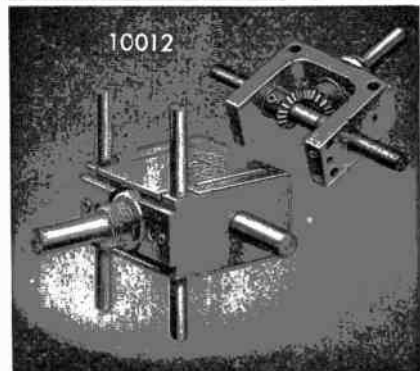
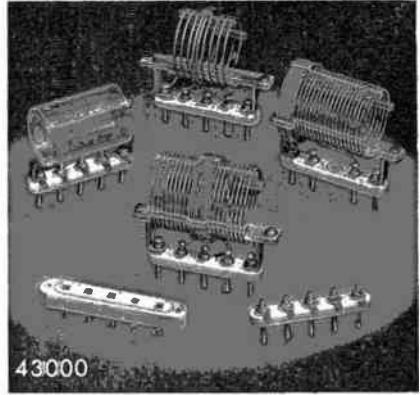
For many years we have specialized in the design and manufacture of magnetic metal shields of nicolai and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.

No. 80045—Nicolai for 5" tube ..... \$  
 No. 80043—Nicolai for 3" tube ..... \$  
 No. 80042—Nicolai for 2" tube ..... \$

## BEZELS FOR CATHODE RAY TUBES

Five inch bezel is of cast aluminum with black wrinkle finish. Complete with neoprene cushion, green lucite filter scale and four screws for quick detachment from panel when inserting tube.

No. 80075—5" ..... \$  
 No. 80073—3" ..... \$  
 No. 80072—2" ..... \$



# JAMES MILLEN

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## TUBE SOCKETS DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.

The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multi-finger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

Voltage regulator dual contact bayonet socket, 33991 black Bakelite insulation and 33992 with low loss high leakage mica filled Bakelite insulation.

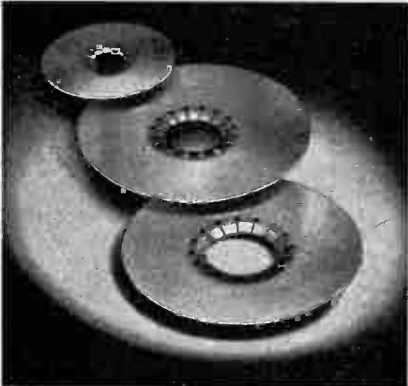
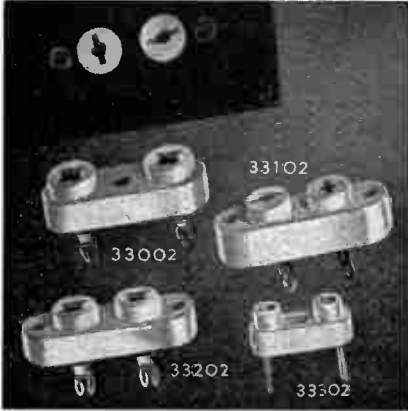
- No. 33004..... \$
  - No. 33005.....
  - No. 33006.....
  - No. 33007.....
  - No. 33008.....
  - No. 33888.....
  - No. 33087.....
  - No. 33002.....
  - No. 33102.....
  - No. 33202.....
  - No. 33302.....
  - No. 33446\*.....
  - No. 33991.....
  - No. 33992.....
- \* For set of 3. Single discs \$2.00 each.

## RF CHOKES

Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midjet RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.

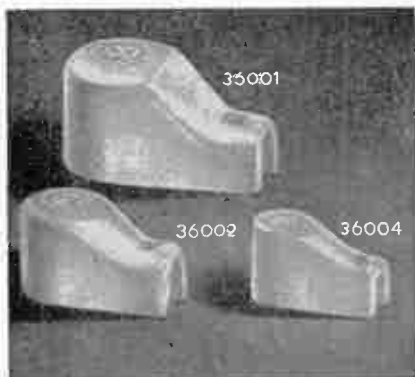
General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104, and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

- No. 34100..... \$
- No. 34101.....
- No. 34102.....
- No. 34103.....
- No. 34104.....



# JAMES MILLEN

MALDEN · MASSACHUSETTS



## CERAMIC PLATE OR GRID CAPS

Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate easy combination "mechanical plus soldered" connection of cable.

- No. 36001—9/16" ..... \$
- No. 36002—3/8".....
- No. 36004—1/4".....

## SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

- No. 36011—9/16"..... \$
- No. 36012—3/8".....

## SAFETY TERMINAL

Combination high voltage terminal and thru-bushing. Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

- No. 37001, Black or Red..... \$
- No. 37501, Low loss.....

## TERMINAL STRIP

A sturdy four-terminal strip of molded black Textolite. Barriers between contacts. "Non turning" studs, threaded 8/32 each end.

- No. 37104..... \$

## POSTS, PLATES and PLUGS

Designed for Application! Compact, easy to use. Made in black and red regular bakelite as well as low loss brown mica filled bakelite or steatite for R.F. uses. Posts have captive head.

- No. 37202 Plates (pr.)..... \$
- No. 37212 Plugs.....
- No. 37222 Posts (pr.).....

## STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.

- No. 37302..... \$
- No. 37303.....
- No. 37304.....
- No. 37305.....
- No. 37306.....

## MIDGET COIL FORMS

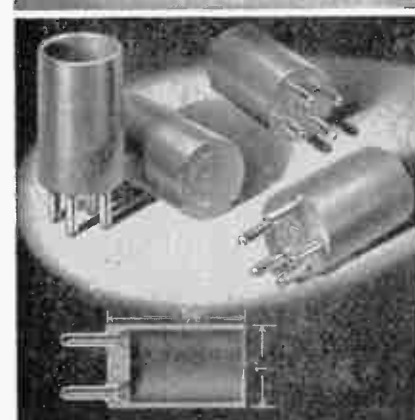
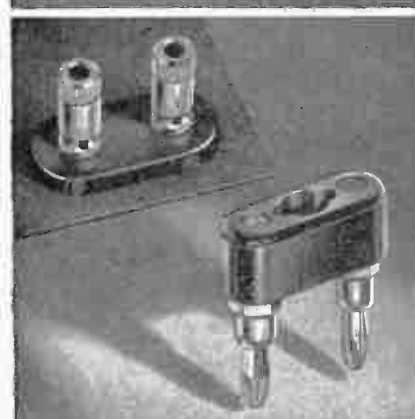
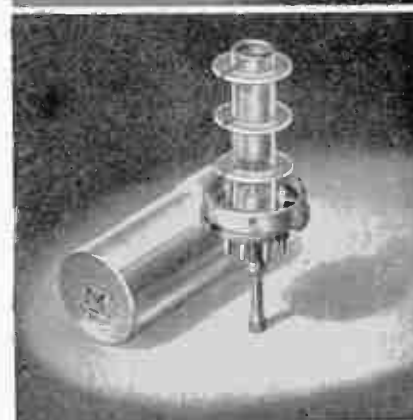
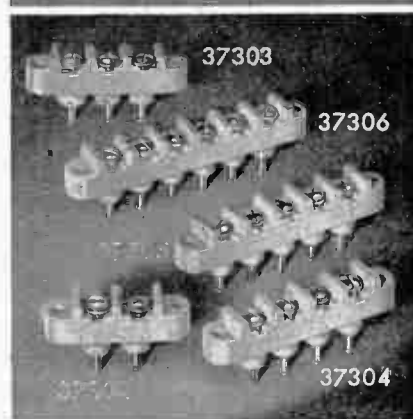
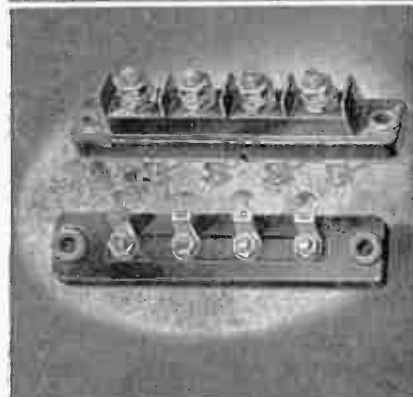
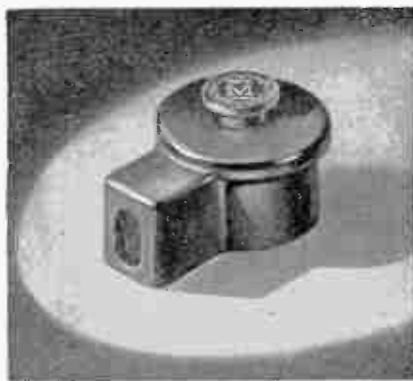
Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

- No. 45000..... \$
- No. 45004.....
- No. 45005.....

## TUNABLE COIL FORM

Standard octal base of low loss mica-filled bakelite, polystyrene 1/2" diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

- No. 74001, with iron core..... \$
- No. 74002, less iron core.....



# JAMES MILLEN

MALDEN · MASSACHUSETTS

## 04000 and 11000 SERIES TRANSMITTING CONDENSERS

A new member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1-1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, rounded-edged, polished aluminum plates with 1 3/4" radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16/1 ratio center drive and fixed angle drive shaft.

Code	Volts	Capacity	Price
11035	3000	35	\$
11050	3000	50	
11070	3000	70	
04050	6000	50	
04060	9000	60	
04100	6000	90	
04200	3000	205	

## 12000 and 16000 SERIES TRANSMITTING CONDENSERS

Rigid heavy channeled aluminum end plates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.

## THE 28000-29000 SERIES VARIABLE AIR CAPACITORS

"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022" or .066" air gap. End plate size: 19/16" x 11/16". Rotor plate radius: 3/4". Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.

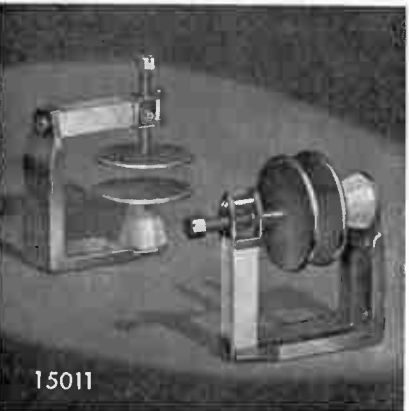
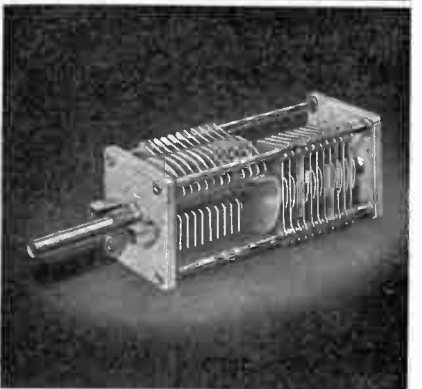
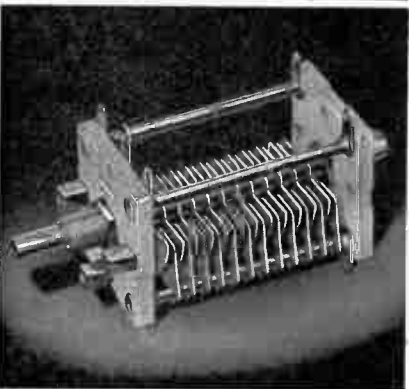
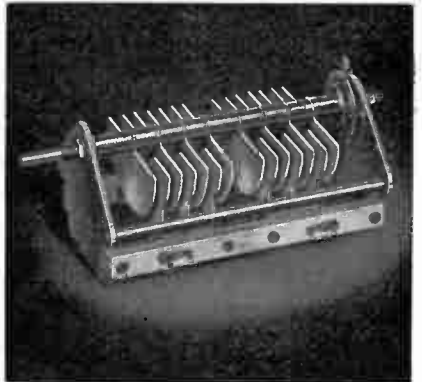
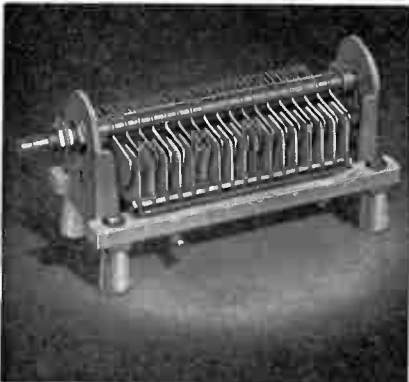
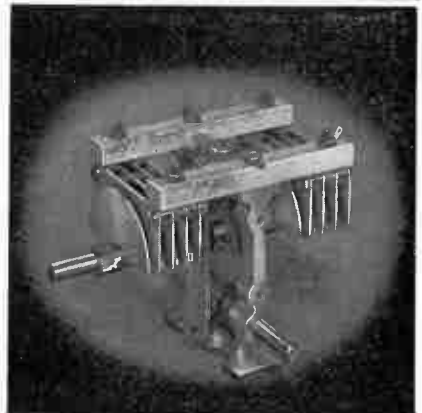
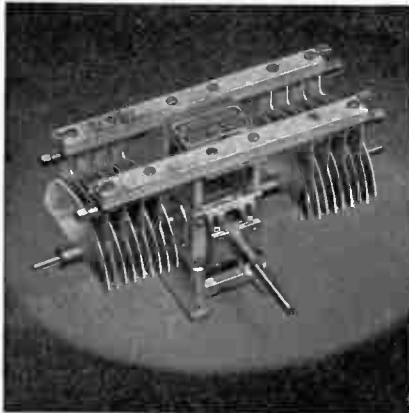
## NEUTRALIZING CAPACITOR

Designed originally for use in our own No. 90881 Power Amplifier, the No. 15011 disc neutralizing capacitor has such unique features as rigid channel frame, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are 2" diameter. Glazed Steatite insulation.

No. 15011..... \$

## I.F. TRANSFORMERS

The Millen "Designed for Application" line of I.F. transformers includes air condenser tuned, and permeability tuned types for all applications. Standard stock units are for 456, 1600 and 5000 kc.B.F.O. also available.



15011



68161

## FIXED and VARIABLE HIGH VOLTAGE VACUUM CAPACITORS & SWITCHES

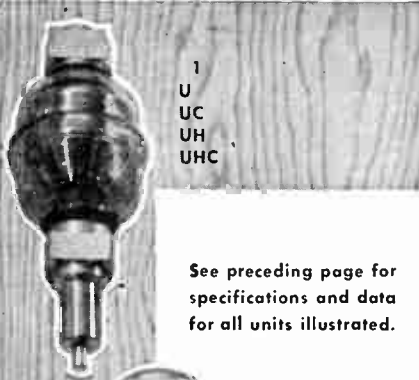
### SPECIFICATIONS

FIGURES	NICKEL TYPES	COPPER TYPES	CAPACITY MMFD.	PEAK VOLTAGE KILOVOLTS	RMS AMPS		OVERALL LENGTH	MAXIMUM O. D.	CONTACT DIAMETER	MOUNTING CENTERS
					NICKEL	COPPER				
24	VC	VCC	6, 12, 25, 50, 75, 100, 150	20, 25, 30	14	42	6 1/2	2 1/4	1 3/16	5 7/8
24	VC	VCC	200, 250	20, 25, 30	14	42	6 1/2	2 11/16	1 3/16	5 7/8
23	W		6, 12, 25, 50, 100	20	10.5		4 3/16	2 1/4	3/8	3 7/8
20	X		5, 10, 15, 20, 25	17	7		3 1/4	1 1/8	1 11/32	2 7/8
21	Y		1, 2, 3, 4, 5	17	7		3 1/4	1 1/8	1 11/32	2 7/8
26		JCS-1	25, 50, 75, 100, 150	7.5, 10, 15		28	3 3/4	2 1/8	5 5/64	3 1/4
25		JCS-2	5, 10, 20, 50	10, 15		21	2 11/16	1 1/2	3/8	2 1/4
27		JCS	250	7.5, 10, 15		42	3 3/4	2 5/8	5 5/64	3 1/8
28		JCS	500	7.5, 10, 15		42	4	3 1/8	5 5/64	3 1/2
29		JCS	1000	7.5, 10		42	4 5/8	3 5/8	2	3 7/8
22		JCS-L	250	3, 5		20	2 1/2	1 7/8	1 11/32	2 1/8
31		JC-2	25, 50, 100	15, 20, 25, 30		42	3 5/8	3 1/4	5 1/64	3 1/4
34		JC-3	20, 40, 50, 60	35, 40, 50, 60		140	8 1/4	3 1/2	2	6 1/4
32		JC-4	100, 125	35, 40, 50, 60		175	9 1/4	5	3 1/8	7
33		JC-5	200	35, 40, 50, 60		225	11 1/4	7	4 1/8	8 3/4
36	M	MC	500, 750, 1000	10, 15, 20	21	60	8 3/8	5	2	6 1/4
37	ML	MLC	500, 750, 1000	25, 30	21	60	9 1/4	5	2	7 1/4
36	MH	MHC	200 or less	35, 40, 50	21	60	8 1/2	5	2	6 3/8
38	MM	MMC	1500, 2000	10, 15	21	125	9 1/4	6 1/8	4 1/8	6 3/4
38	MMH	MMHC	450	35, 40, 45	21	125	9 1/4	6 1/8	4 1/8	6 3/4
35		MC-1	500, 750, 1000	10, 15		150	3 1/4	5	2	2 13/16
30	K		12, 25, 50	35, 40, 50	14		8 1/2	3	1 3/16	7 3/4
14A		TRC-1	1-8, 2-10	15		30	4 1/4	1 3/8	1 3/8	2
14	T		5-25	20	10.5		6 1/4	2 1/4	1 1/2 x 5/8	4
14		TC	5-25	20		21	6 5/8	2 1/8	5/8	4 5/16
16	R		2-8	10, 15, 20	10.5		5 1/2	1 3/4	1 11/32 x 5/8	3
15	TR		2-8	17	10.5		6 1/4	2 1/8	1 11/32 x 5/8	4
18	SS		10-30 per section	25, 30, 35	7		6 1/8	3	1 11/32 x 5/8	3 7/8 x 2 3/8
19		SSC-1	2-10 per section	10		15	6 1/16	2 5/8	9/16 x 5/8	1 1/2 x 3 7/8
17	AT		10-50	20, 25, 30	10.5		6 1/2	3	1 1/2 x 5/8	4
13		ATCS	10-110, 20-200	7.5, 10		20	6 15/16	3	5/8	4 7/16
9		UCS	5-200	7.5, 10, 15, 20		42	8 1/2	2 5/8	5 5/64 x 2	4 3/8
9		UCS	10-300	7.5, 10, 15		42	8 3/4	2 5/8	5 5/64 x 2	4 3/8
10		UCS	25-500	7.5, 10, 15		42	9	3 1/8	5 5/64 x 2	4 7/8
12		UCS-L	4-250	3, 5		20	4 7/8	1 3/4	3/8	3 3/4
11		UCS-V	8-110	7.5, 10, 15		60	4 3/4	3	7/8	3 3/16
6		UCSM	3-500	7.5, 10		80	10	3 5/8	1 13/16	5 1/4
7		UCSX	10-500	7.5, 10, 15		42	9 1/8	3 3/8	5 5/64 x 3 1/8	5
8		UCSX	25-700	7.5, 10		42	9 9/16	3 5/8	2 x 3 1/8	4 3/4
8		UCSX	25-1000	7.5, 10		42	9 3/4	3 5/8	2 x 3 1/8	4 13/16
5		UCSXH	10-200	35, 40, 45		42	10 3/4	4 1/2	2	5 1/2
1	U	UC	50-250	10, 15, 20	21	60	12 7/16	5	2	6 1/2
1	UH	UHC	10-75	35, 40, 50, 60	21	60	11 7/16	5	2	6 1/2
1	UH	UHC	75-150	35, 40, 50, 60	21	60	12	5	2	7 1/16
2	UX	UXC	25-500	10, 15, 20	21	60	14	5	3 1/8	7 11/16
2	UXH	UXHC	25-150	35, 40, 50	21	60	14 5/8	5	3 1/8	8 1/4
3	VM	VMMC	50-1000	10, 15	21	100	14 1/2	6 1/8	4 1/8	7 7/8
4	VMM	VMMC	100-2000	10, 15	21	125	15 1/2	6 1/8	4 1/8	8 5/8
4	VMMH	VMMHC	25-450	35, 40, 45	21	125	15 1/2	6 1/8	4 1/8	8 5/8
TRONAD	TAS-4 500 JR		Variable Capacitor in above ranges Tube EIMAC Type 4x500							
	TAS-5 2500 JR		Variable Capacitor in above ranges Tube EIMAC Type 3x2500							
Also available in both air and water-cooled units from 50 watts to 25 kilowatts. Write for details.										
VACUUM SWITCHES		R-1	Vacuum Switch	50	50	7	3	5/8		5 1/8
		R-2	Vacuum Switch	65	50	9	3	5/8		7 1/4
		R-3	Vacuum Switch	35	50	5	1 13/16	9/16		3
		R-4	Vacuum Switch	20	50	5 1/8	1 9/16	5/8		3 1/8
		R-5	Vacuum Switch	15	35	3 5/8	1 1/2	1 11/32 x 9/16		2 1/2
		R-6	Vacuum Switch	15	35	3 5/8	1 7/16	1 11/32		2 3/16
		RH-1	Vacuum Switch	35	100	6 1/2	2 5/8	7/8		4 1/2
		RK-1	Keying Switch	10	5	5 11/16	4 1/16	1/2		4 1/2
MISC.		Feed-thru	Up to 100 MMFD	20	21	6 3/8	2 5/8	1 7/32		5 1/2
			Vacuum Transformer 2:1 step-up to 40 kv.			5 3/4	2 1/4	1 11/32		

Current ratings may be increased by forced cooling with adequate mountings.

Correspondence invited for other capacities and voltages.

JENNINGS RADIO MANUFACTURING CO. • 970 McLAUGHLIN AVE. • P. O. BOX 1278 • SAN JOSE 8, CAL.



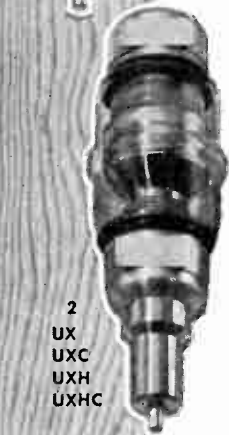
1  
U  
UC  
UH  
UHC

See preceding page for specifications and data for all units illustrated.

# Jennings RADIO

VACUUM ELECTRONIC COMPONENTS

## VARIABLE CAPACITORS



2  
UX  
UXC  
UXH  
UXHC



5  
UCSXH



7  
UCSX  
500



9  
UCS  
300



11  
UCSV



13  
ATCS



18  
SS



3  
VM



6  
UCSM



8  
UCSX  
1000



10  
UCS  
500



12  
UCSL  
250



14 A  
TRC 1



15  
TR



19  
SSC 1



14  
T



16  
R



17  
AT



4  
VMM  
VMMH  
VMMC  
VMMHC

**Jennings Vacuum Capacitors have made effective miniaturization of Radio Transmitters a reality**

At the same time making practical wide frequency ranges and automatic tuning.

Now Jennings Radio Manufacturing Co. is miniaturizing its own vacuum capacitors.

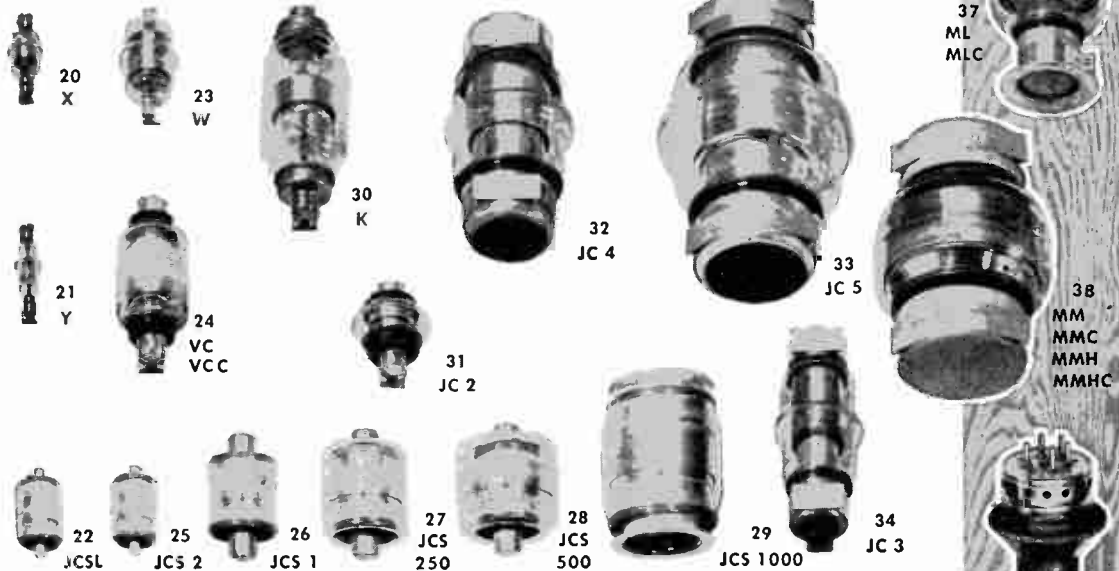
<p>Comparison 1: Vacuum Variable Capacitors Type UC-50-250 mmfd</p> <p>UC 250</p>	<p>Comparison 2: Vacuum Fixed Capacitors Type VC-50 mmfd</p> <p>VC</p>
<p>The new UC SL 4-250 mmfd</p> <p>UCSL 250</p>	<p>The new JCS-2, 50 mmfd</p> <p>JCS 2</p>

These units are typical of the constant new developments and improvements being carried on in the Jennings Radio Development Laboratory

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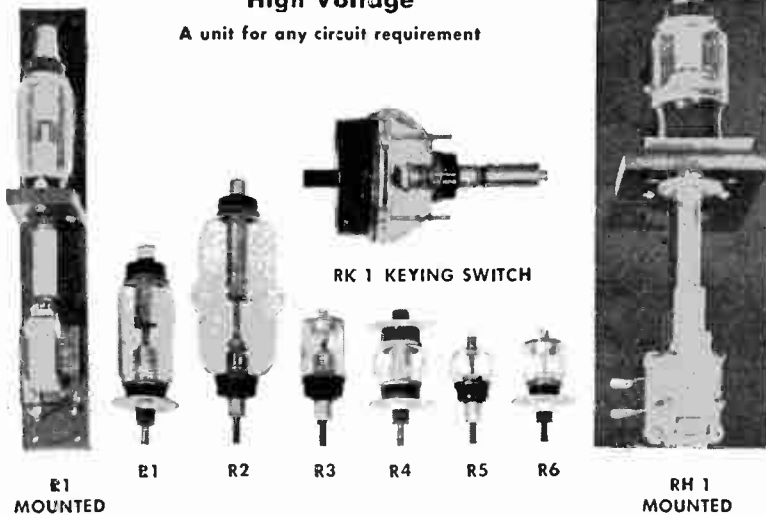
# FIXED AND VARIABLE HIGH VOLTAGE VACUUM CAPACITORS AND VACUUM SWITCHES

## FIXED CAPACITORS



## Vacuum Switches for High Voltage

A unit for any circuit requirement



All cuts appearing on these two pages are in relative proportion to each other.

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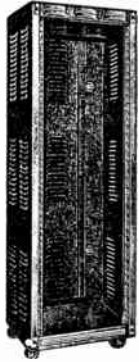




**BUD**



**BUD DE LUXE RELAY RACKS**



These relay racks are made of 16 gauge steel with 1/2" panel supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.

The front and back of the top, the two sides and the door are well louvered to provide adequate ventilation. Snap catches are positioned on the door. A stream-lined appearance is achieved by the use of rounded corners and red-lined chrome trim. The relay rack is shipped knocked-down and complete with all necessary hardware for assembly. All standard 19" panels will fit these racks.

A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPORTS ON THE BOTTOM SO THAT CASTERS CAN BE FASTENED DIRECTLY TO THE BASE, THEREBY ACHIEVING READY MOBILITY. Bud RC-7756 casters will fit this unit. Casters are not included in price of cabinet. These relay racks are supplied in either black or grey wrinkle finish. The overall width is 22" and the depth is 17 1/2" on all sizes listed.

Catalog No.	Overall Height	Panel Space	Shipping Wt.	Dealer Cost
CR-1774	42-1/16"	36 3/4"	90 lbs.	\$32.70
CR-1771	47-5/16"	42"	100 lbs.	37.45
CR-1772	66-9/16"	61 1/4"	135 lbs.	48.60
CR-1773	82-5/16"	77"	155 lbs.	58.50



**BUD DE LUXE CABINET RACKS**



These cabinet racks have rounded corners and attractive red-lined chrome trim. There is a recessed hinged door on the top with a snap catch. These cabinet racks are made of heavy gauge steel and are of sturdy construction. The five large sizes have a hinged rear door, while the small sizes have a welded panel in the rear.

Adequate ventilation is assured by means of louvered sides and a two inch opening in the bottom of the back extends the entire width. "NO-SCRATCH" EXTENDED METAL FEET ARE EMBOSSED ON THE BOTTOM TO MINIMIZE MARRING OF A TABLE TOP. These relay racks are furnished in either black or grey wrinkle finish. Depth 14 1/2", width 22". Will fit standard 19" panels.

Catalog No.	Overall Height	Panel Space	Shipping Wt.	Dealer Cost
CR-1741	10-9/16"	8 3/4"	29 lbs.	\$12.00
CR-1740	12-5/16"	10 1/2"	31 lbs.	13.70
CR-1742	14-1/16"	12 1/2"	32 lbs.	14.55
CR-1739	15-13/16"	14"	36 lbs.	16.20
CR-1743	19-5/16"	17 1/2"	40 lbs.	19.20
CR-1727	22-13/16"	21"	45 lbs.	20.83
CR-1744	25-3/16"	26 1/4"	50 lbs.	22.50
CR-1728	33-9/16"	31 1/2"	55 lbs.	24.00
CR-1745	36-13/16"	35"	60 lbs.	24.90

**BUD JUNIOR CABINET RACKS**



This cabinet rack is a multi-purpose unit that is inexpensive. The cabinet is constructed to accommodate two panels, one is 10 1/2" by 13-5/16", the other 8 3/4" by 18-5/16", these panels are supplied with the cabinet. The BUD Junior Cabinet Rack is spacious enough to accommodate a chassis up to 10" x 17".

The rear of the cabinet is covered by a hinged door with a locking device. The cabinet is furnished in black wrinkle finish only.

Catalog No.	Overall Height	Depth	Width	Shipping Wt.	Dealer Cost
RC-1749A	21-1/16"	10 1/2"	19 3/4"	25 lbs.	\$15.95

**BUD DESK TYPE RELAY RACKS**



Perfect for table mounting of low and medium power transmitters, public address systems, and other electronic instruments. Rack has strong chassis for mounting heavy components. Shipped knocked-down, with necessary hardware, easy to assemble. Standard notched 19" wide panels can be used, panels set in recess so that no edges are exposed. Furnished in black wrinkle finish only. Depth, 12".

Catalog No.	Height	Panel Space	Shipping Wt.	Dealer Cost
RR-1248	24"	21"	15 lbs.	\$6.71
RR-1249	31"	28"	17 lbs.	8.38

**BUD CHASSIS MOUNTING BRACKETS**

Mounting brackets are essential to insure proper support of the chassis. Formed of heavy gauge steel, cut away at the bottom to provide chassis clearance so that chassis can be mounted flush against panel. Finished in Black. Numbers MB-450 and MB-451 designed for chassis height of 4". Sold in pairs only.

Catalog No.	Height	Depth	Dealer Cost Per Pair
MB-458	6 1/2"	8"	\$0.85
MB-448	6 1/2"	10"	1.10
MB-459	6 1/2"	11"	1.20
MB-449	6 1/2"	12"	1.45
MB-460	6 1/2"	13"	1.35
MB-450	8 1/2"	10"	1.60
MB-451	8 1/2"	13"	1.70

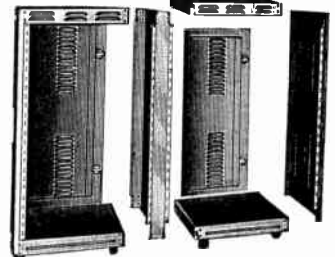
**NEW BUD ADD-a-RACK SERIES**



It has always been necessary to buy special racks without louvers on one side to obtain a maximum of panel space with a minimum of floor space. Now, you no longer need to buy a whole new cabinet when you want additional panel space. Through our new and exclusive Add-a-Rack series, BUD not only offers additional racks at a lower cost, but provides you with a sturdier, better looking assembly.

The illustration at top shows two Add-a-Rack cabinets assembled together. The illustration below shows the unique and ingenious method of adding a unit to your present equipment. Instead of buying an entire new outfit, you purchase only four parts: (1) a door (2) a top (3) a bottom and (4) an Add-a-Rack coupling-unit. The right (or left) hand side of your present relay rack is removed and replaced by the Add-a-Rack coupling-unit; next, a top and bottom is fastened into place, and the side taken from the first rack is fastened on the second rack which has been added. Place the additional door into position and you have two racks properly and efficiently coupled together. In the same simple way, more racks can be added at any time and every one will be in a CONTINUOUS ONE-PIECE assembly.

This series is available in two ways. (1) a double unit consisting of two racks and the Add-a-Rack coupling unit, (2) Add-a-Rack unit, consisting of a door, a top, a bottom and an Add-a-Rack coupling-unit. These units are furnished with all necessary assembling and panel mounting hardware.



Add-a-Rack Unit	Used to Add-a-Rack to	Dealer Cost
AR-1778	CR-1774	\$31.00
AR-1775	CR-1771	36.00
AR-1776	CR-1772	45.00
AR-1777	CR-1773	55.00

Complete unit consisting of the knocked-down parts necessary for two relay racks coupled together.  
 CR-1779 two coupled relay racks same size as CR-1774 \$ 63.70  
 CR-1780 two coupled relay racks same size as CR-1771 73.45  
 CR-1786 two coupled relay racks same size as CR-1772 93.60  
 CR-1799 two coupled relay racks same size as CR-1773 113.50  
 Bud RC-7756 Casters will fit this unit. Casters are not included in price of cabinet.

**BUD TELEPHONE TYPE RELAY RACKS**



Nos. RR-1263 and RR-1264 are made of 1/2" steel channels, three inches deep and arc held together by angle cross pieces of the same material. The design of the base has been improved to incorporate a chassis type bottom, together with the usual side angles, making the rack stronger and more stable. RR-1265 is heavy duty and is made of heavy channel iron supported by two 3/4" thick iron angles that are bolted to the channels to provide additional support to the unit. Black wrinkle finish only. All racks accommodate standard 19" panels in accordance with standards set by RMA.

Catalog No.	Height	Depth	Panel Space	Shipping Wt.	Dealer Cost
RR-1263	35 1/2"	22"	31 1/2"	38 lbs.	\$17.60
RR-1264	70 1/2"	22"	66 1/2"	48 lbs.	20.06
RR-1265	72 1/2"	15"	66 1/2"	97 lbs.	38.10

**BUD VENTILATING GRILLE PANELS**



Made of 1/4" thick steel. The grille is stamped into the panel itself, and is recommended for use where additional ventilation is desirable. All panels are 19" long, furnished in either black or grey wrinkle finish.

Catalog No.	Height	Grille Size	Dealer Price
PS-808	5 1/2"	3 3/4" x 14 3/4"	\$2.64
PS-809	7"	4 3/4" x 14 3/4"	2.85
PS-810	8 3/4"	5 3/4" x 14 3/4"	3.45
PS-811	10 1/2"	6 3/4" x 14 3/4"	3.65
PS-812	12 1/2"	7 3/4" x 14 3/4"	3.90

\* Allows 3 1/2" space for chassis mounting.

Where materials are specified Black Wrinkle Finish, and Grey is desired, a charge of 15% additional will be made  
 Prices on above slightly higher west of the Mississippi River

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**BUD STANDARD RELAY RACK PANELS**



Made of Steel or Aluminum. Steel Panels are made of high grade steel  $\frac{1}{8}$ " thick. Aluminum Panels are made of  $\frac{1}{8}$ " thick Aluminum. All Panels are 19" wide. Furnished in either Black or Grey Wrinkle. Aluminum panels  $\frac{3}{16}$ " thick may be had if desired at 60% increase in cost over  $\frac{1}{8}$ ".

STEEL			ALUMINUM		
Catalog No.	Height	Dealer Cost	Catalog No.	Height	Dealer Cost
PN-1250	1 1/2"	\$ .66	PA-1101	1 3/4"	\$ .75
PN-1251	3 1/2"	.75	PA-1102	3 1/2"	1.08
PN-1252	5 1/2"	.93	PA-1103	5 1/4"	1.38
PN-1253	7"	1.08	PA-1104	7"	1.80
PN-1254	8 3/4"	1.30	PA-1105	8 3/4"	2.10
PN-1255	10 1/2"	1.55	PA-1106	10 1/2"	2.49
PN-1256	12 1/2"	1.85	PA-1107	12 1/4"	2.85
PN-1257	14"	2.15	PA-1108	14"	3.18
PN-1258	15 1/2"	2.45	PA-1109	15 3/4"	3.60
PN-1259	17 1/2"	2.70	PA-1110	17 1/2"	3.99
PN-1260	19 1/2"	3.00	PA-1111	19 1/4"	4.35
PN-1261	21"	3.30	PA-1112	21"	4.65

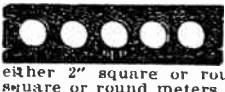
**BUD ENCLOSED METER PANEL**



PN-439 Meter Panel is designed to give maximum protection to meters. The steel panel has a large cut-out, behind which is mounted a blank Masonite sub-panel. This sub-panel has a meter mounting area of  $4\frac{1}{2}$ " x  $15\frac{1}{2}$ "—sufficient space to mount four 3" meters. The meters are protected by a glass insert that mounts in slides. Due to danger from breakage during shipment, this glass is not supplied with the panel. The glass insert should be cut  $16\frac{1}{2}$ " long x  $4\frac{1}{2}$ " wide. Finished in either Black or Grey Wrinkle.

Cat. No.	Length	Width	Dealer Cost
PN-439	19"	5 1/4"	\$5.85

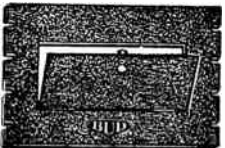
**BUD STEEL METER PANELS**



All meter panels are  $5\frac{1}{4}$ " high, 19" wide, available in either black or grey wrinkle finish. Small holes fit either 2" square or round meters, large holes fit either 3" square or round meters.

Cat. No.	No. of Holes	Diameter	Type Material	Dealer Cost
PN-440	3	2.334"	Steel	\$1.30
PN-441	3	2.334"	Steel	1.85
PN-442	3	2.335"	Steel	1.30
PN-443	5	2.335"	Steel	1.85

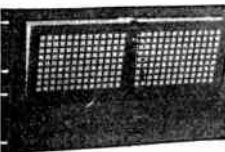
**BUD METAL DOOR RACK PANELS**



If it is desirable to have accessibility to component parts on the chassis, this panel is ideal. Door opening on No. 615— $15\frac{1}{2}$ " x 6"; door opening on No. 616— $15\frac{1}{2}$ " x  $7\frac{1}{2}$ ". Available in either Grey or Black Wrinkle finish. Made of  $\frac{1}{8}$ " high grade sheet steel.

Cat. No.	Length	Width	Dealer Cost
PN-615	19"	$10\frac{1}{2}$ "	\$4.50
PN-616	19"	$12\frac{1}{4}$ "	4.95

**BUD VENTILATED DOOR RACK PANEL**



These panels have a generous perforated area in the door, providing adequate ventilation for adjacent units. The panels are 19" long and available in either Black or Grey Wrinkle finish. Door opening on PS-814  $15\frac{1}{2}$ " x 6". Opening on PS-815  $15\frac{1}{2}$ " x  $7\frac{1}{2}$ ".

Cat. No.	Height	Door Height	Dealer Cost
PN-814	$10\frac{1}{2}$ "	6"	\$5.85
PN-815	$12\frac{1}{4}$ "	$7\frac{1}{2}$ "	6.45

**BUD RACK SHELVES**



Heavy power supplies, modulator units etc., can be mounted on these rack shelves which are supported in the cabinet by the chassis-supporting angles listed on this page. They are designed to slide in from the rear of the cabinet. Made of heavy gauge steel, finished in Black Wrinkle Enamel only.

Cat. No.	Width	Height	Depth	Dealer Cost
CB-1976	19"	1"	15"	\$3.10
CB-1977	19"	1"	12"	2.35

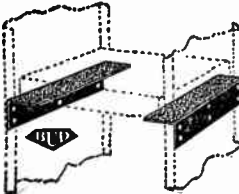
**BUD HEAVY DUTY CHASSIS**



(Furn. with Bottom Plates) These chassis, made of heavy gauge steel, are intended for applications requiring unusual sturdiness and where large weights are involved. Available in either Black Wrinkle finish or Electro-Zinc Plate.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Dealer Cost
CB-1757	CB-1764	8"	17"	2"	\$2.90
CB-1758	CB-1765	8"	17"	3"	3.15
CB-1759	CB-1766	11"	17"	2"	3.30
CB-1760	CB-1767	11"	17"	3"	3.65
CB-1761	CB-1768	13"	17"	3"	4.00
CB-1762	CB-1769	13"	17"	3"	4.40
CB-1763	CB-1770	13"	17"	4"	4.84

**BUD CHASSIS SUPPORTING ANGLES**



When heavy weights are encountered in chassis construction, Bud Chassis Supporting Angles will distribute the weight on the sides of the rack and relieve the panel. Made in two sizes from Black Painted Steel,  $\frac{1}{8}$ " thick. Sold in pairs only.

Cat. No.	Length	Width	Dealer Cost Per Pair
SA-1349	$14\frac{1}{2}$ "	3"	\$1.75
SA-1350	12"	3"	1.65

**BUD REMOVABLE TOP CHASSIS**



Amateurs and experimenters who make periodic changes can do so with a minimum of waste by just discarding the top that has been drilled and replacing it with a new top. Supplied in Black Wrinkle finish or Electro-Zinc plated.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Dealer Cost
CB-196	CB-193	10"	17"	3"	\$3.30
CB-197	CB-194	10"	17"	4"	3.65
CB-251	CB-210	13"	17"	3"	3.45
CB-252	CB-211	13"	17"	4"	4.25

**REPLACEMENT CHASSIS TOPS**

RT-198	RT-195	10"	17"	1/16"	\$1.25
RT-253	RT-212	13"	17"	1/16"	1.55

**BUD CHASSIS BOTTOM PLATES**

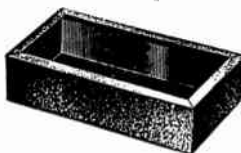


These bottom plates make excellent dust covers and protect all wiring and component parts under the chassis. Each plate has four formed bosses that prevent sharp edges from scratching the table top. Supplied in Black Wrinkle finish or Electro-Zinc Plated finish.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Width	Length	Dealer Cost
BP-705	BP-706	5"	7"	\$ .46
BP-680	BP-667	5"	$9\frac{1}{2}$ "	.43
BP-536	BP-538	5"	10"	.46
BP-681	BP-668	7"	7"	.60
BP-682	BP-669	7"	9"	.62
BP-683	BP-670	7"	11"	.71
BP-537	BP-539	7"	12"	.68
BP-684	BP-671	7"	13"	.75
BP-685	BP-672	5"	$13\frac{1}{2}$ "	.60
BP-516	BP-513	7"	15"	.75
BP-541	BP-540	$8\frac{1}{2}$ "	15"	.76
BP-1069	BP-1067	4"	17"	.60
BP-686	BP-673	7"	17"	.86
BP-707	BP-708	8"	10"	.75
BP-709	BP-710	8"	12"	.86
BP-687	BP-674	8"	17"	.90
BP-688	BP-675	10"	12"	.90
BP-517	BP-514	10"	14"	.85
BP-689	BP-676	10"	17"	1.10
BP-690	BP-677	11"	17"	1.10
BP-691	BP-678	12"	17"	1.20
BP-692	BP-679	13"	17"	1.40
BP-518	BP-515	10"	23"	1.40

Where materials are specified Black Wrinkle Finish only, and Grey is desired, a charge of 15% additional will be made.

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**BUD STEEL CHASSIS BASES**

These chassis are made from one piece of steel, all corners are reinforced and spot welded. The four sides are folded on bottom for additional strength—this also permits a bottom plate to be attached if desired. Furnished in either Black Wrinkle or Electro-Zinc plated.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Gauge	Dealer Cost
CB-628	CB-629	5"	7"	2"	22	\$.85
CB-644	CB-645	5"	9 1/2"	2 1/2"	22	.90
CB-788	CB-776	5"	9 1/2"	1 1/2"	22	.80
CB-604	CB-605	5"	10"	3"	22	1.05
CB-789	CB-1191	7"	7"	2"	22	.90
CB-790	CB-1192	7"	9"	2"	22	1.05
CB-791	CB-1193	7"	11"	3"	20	1.10
CB-792	CB-793	7"	12"	3"	20	1.25
CB-646	CB-1194	7"	13"	3"	20	1.30
CB-647	CB-1198	5"	13 1/2"	2 1/2"	20	1.30
CB-649	CB-1189	7"	15"	3"	20	1.45
CB-665	CB-666	8 1/2"	15"	3"	20	1.65
CB-1068	CB-1066	4"	17"	3"	20	1.30
CB-648	CB-1199	7"	17"	2 1/2"	20	1.55
CB-701	CB-702	8"	10"	2 1/2"	20	1.42
CB-703	CB-704	8"	12"	2 1/2"	20	1.50
CB-650	CB-774	8"	17"	2"	20	1.45
CB-651*	CB-775	8"	17"	3"	20	1.55
CB-652	CB-1195	10"	12"	3"	20	1.50
CB-653	CB-779	10"	14"	3"	20	1.60
CB-654*	CB-769	10"	17"	2"	20	1.60
CB-636*	CB-637	10"	17"	3"	20	1.60
CB-655*	CB-1196	10"	17"	3"	18	1.85
CB-656	CB-1197	10"	17"	3"	18	2.44
CB-657*	CB-770	11"	17"	2"	18	2.00
CB-658*	CB-771	11"	17"	3"	18	2.20
CB-663*	CB-661	12"	17"	2"	18	1.70
CB-664*	CB-662	12"	17"	3"	18	2.00
CB-659*	CB-772	13"	17"	2"	18	2.35
CB-660*	CB-773	13"	17"	3"	18	2.55
CB-640*	CB-641	10"	17"	4"	18	2.04
CB-642*	CB-643	13"	17"	4"	18	3.00
CB-623	CB-624	10"	17"	5"	18	3.65
CB-625	CB-626	13"	17"	5"	18	4.00

\* Indicates chassis which are punched to accommodate Chassis Mounting Brackets.

**BUD OPEN-END CHASSIS**

Used with the various sizes and styles of Bud metal cabinets, these chassis are ideal for any type of small built-up unit such as a record amplifier, code oscillator, etc. U-shaped construction is used.



Ends folded over 3/8" for more strength. Finish is Electro-Zinc Plating.

Cat. No.	Depth	Width	Height	Fits Cab. No.	Dealer Cost
CB-38	7"	6"	2"	C-1584	\$.66
CB-30	5"	7"	1 1/2"		.30
CB-41	7"	7"	1 1/2"	C-973	.75
CB-39	7"	8"	2"	C-1585	.84
CB-996	5 1/2"	9"	1 1/2"	C-993	.70
CB-976	7 1/2"	9"	1 1/2"	C-999, C-1746	.95
CB-40	7"	9"	2"	C-1586	.90
CB-997	7"	11"	1 1/2"	C-994, C-1747	1.00
CB-998	7"	13"	1 1/2"	C-995, C-1748	1.16
CB-34	10 3/4"	14"	2"	C-975A	1.44
CB-35	7 3/4"	15"	2"	C-1190A	1.38

**BUD CHASSIS DECKS**

Chassis are suitable for use in carrying cases and utility cabinets. Each unit is folded over 1 1/2" on the front, 1/2" on the side. Made from Zinc Plated steel. Usable for interstage shielding and supports in regular panel and chassis layouts.



Cat. No.	Width	Depth	Fits Cab. No.	Dealer Cost
CB-522	4 3/4"	5 1/2"	CU-1098	\$.52
CB-523	4 3/4"	4 1/2"	CU-1099	.50
CB-524	6 3/4"	6 1/2"	CU-879	.65
CB-525	5 3/4"	5 1/2"	CU-1124, CC-1096	.60
CB-526	8 3/4"	7 1/2"	CU-880	.92
CB-527	9 3/4"	7 1/2"	CU-881	.95
CB-528	7 3/4"	6 1/2"	CU-882	.75
CB-36	6 1/2"	6 1/2"	CC-1097	.66
CB-37	8 3/4"	6 1/2"	CC-1100	.82

**BUD BOX SHIELDS**

For shielding power transformers and chokes, for covering and protecting various components in other electronic units. Top and sides are one-piece steel. No. BS-1244 has perforated steel ends for ventilation. Flanges at bottom provide for mounting. Finished in Black Wrinkle Enamel only.



Cat. No.	Ends	Length	Depth	Height	Dr. Cost
BS-1244	Ventilated	7 1/2"	4 1/2"	5"	\$1.60
BS-1891	Solid	7 1/2"	4 1/2"	5"	1.65

**BUD ALUMINUM CHASSIS**

The construction and design of these chassis is exactly the same as our steel chassis. The aluminum chassis are welded on government approved spot welders that are the same as used in the welding of aluminum airplane parts. As a result, you can depend on Bud Aluminum Chassis to do a perfect job. Etched Aluminum finish. The gauges in table below are aluminum gauges.



Catalog Number	Depth	Width	Height	Gauge	Dealer Cost
AC-430	4"	6"	3"	18	\$1.02
AC-431	4"	6"	2"	18	1.02
AC-432	4"	17"	3"	18	1.83
AC-402	5"	7"	2"	18	.84
AC-429	5"	7"	2"	18	1.05
AC-403	5"	9 1/2"	2"	18	.99
AC-421	5"	9 1/2"	3"	18	1.17
AC-404	5"	10"	3"	18	1.20
AC-432	5"	13"	3"	18	1.26
AC-433	6"	17"	3"	16	1.89
AC-405	7"	7"	2"	18	.99
AC-406	7"	9"	2"	18	1.08
AC-407	7"	11"	2"	18	1.20
AC-408	7"	12"	3"	18	1.41
AC-409	7"	13"	2"	18	1.26
AC-411	7"	15"	2"	16	2.04
AC-423	7"	17"	3"	16	1.83
AC-424	8"	12"	3"	16	1.71
AC-425	8"	17"	2"	16	1.89
AC-412	8"	17"	3"	16	2.22
AC-413	10"	12"	3"	16	1.89
AC-414	10"	14"	3"	16	2.40
AC-415	10"	17"	2"	16	2.28
AC-416	10"	17"	3"	14	2.58
AC-426	11"	17"	3"	14	2.37
AC-417	11"	17"	3"	14	3.00
AC-418	12"	17"	3"	14	3.18
AC-419	13"	17"	2"	14	2.82
AC-420	13"	17"	3"	14	3.36
AC-427	10"	17"	4"	14	2.97
AC-428	13"	17"	4"	14	3.84

**BUD STREAMLINED AMPLIFIER FOUNDATIONS**

Use this unit to obtain beauty in an amplifier and similar apparatus. Each foundation consists of a standard chassis on which is mounted a removable top cover. Chromium trim is used to add additional attractiveness to the equipment. All chassis are 3" high and complete units are 9" high. Sturdy Easy Grip handles are attached to chassis. Black or Grey Wrinkled Finish.



Cat. No.	Width	Depth	Dealer Cost
CA-1750	10-1/16"	5"	\$3.90
CA-1751	12-1/16"	7"	5.06
CA-1752	17-1/16"	7"	5.50
CA-1753	17-1/16"	10"	6.33

**BUD SLOPING PANEL AMPLIFIER FOUNDATIONS**

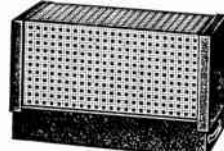
Each foundation consists of a 4" sloping front chassis on which is mounted a removable top cover. The top cover contains grilles cutouts and louvers for adequate ventilation. All have handles mounted on chassis. All chassis are 3 1/2" high and all units are 9 1/2" overall height. Cover is finished in Grey Wrinkle with chrome trim and the chassis is finished in Black Wrinkle.



Cat. No.	Top Depth	Chassis Length	Chassis Depth	Dealer Cost
CA-1980	5"	10"	8"	\$5.10
CA-1981	7"	12"	10"	5.94
CA-1982	7"	17"	10"	6.85
CA-1983	10"	17"	13"	7.50

**BUD AMPLIFIER FOUNDATIONS**

Each unit consists of a regular chassis on which is attached a perforated metal cover which provides a lot of ventilation. Chassis have easy grip handles attached to same. Finished in Black Wrinkle only.



Cat. No.	Height	Width	Depth	Chassis Height	Dealer Cost
CA-699	8-5/16"	9 3/4"	5 1/2"	2 1/2"	\$3.85
CA-1125	8-5/16"	13 3/4"	5 1/2"	2 1/2"	4.25
CA-1126	8-5/16"	17 1/2"	7 1/2"	2 1/2"	5.50
CA-1127	8-13/16"	17 1/2"	10 1/2"	3"	7.15
CA-1128	8-13/16"	12 1/2"	10 1/2"	3"	6.05

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**BUD INSTRUMENT & RECEIVER CABINETS**

Each cabinet has an evenly recessed hinged cover with convenient finger lift. The panel on front of cabinet is readily attached with self-tapping screws. Louvers provide ample ventilation. These Cabinets are finished in Black Wrinkle only. For chassis to fit these cabinets see Open End Chassis listed on other page.

Cat. No.	Height	Width	Depth	Dealer Cost
C-973	7"	8"	8"	\$3.20
C-993	7"	10"	8"	3.48
C-994	7"	12"	8"	4.00
C-995	7"	14"	8"	4.20
C-1190	8"	16"	8"	6.00
C-975	9"	15"	11"	6.00



**BUD STREAMLINED CABINETS**

Distinctive features of these cabinets are the rounded front corners and recessed hinged top. All parts built into this cabinet are easily accessible. Overall height, 8". Depth, 8 1/4". Finished in Black Wrinkle only. Suitable chassis may be found under listing of Open End Chassis on other page.

Catalog Number	Panel Size	Cabinet Width	Cabinet Height	Dealer Cost
C-1789	8" x 8"	10 1/2"	8"	\$3.25
C-1746	8" x 10"	12 1/2"	8"	4.00
C-1747	8" x 12"	14 1/2"	8"	4.50
C-1748	8" x 14"	16 1/2"	8"	5.15
C-1790	8" x 16"	18 1/2"	8"	5.75

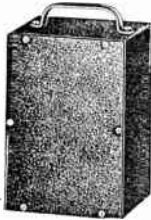
**BUD DELUXE STREAMLINED CABINETS**

These cabinets are identical with those listed above, except that they have a 1/2" vertical chrome strip at each side of the panel, and are supplied in Gray Wrinkle Enamel only.

Catalog Number	Panel Size	Cabinet Width	Cabinet Height	Dealer Cost
C-1791	8" x 8"	10 1/2"	8"	\$4.15
C-1781	8" x 10"	12 1/2"	8"	4.62
C-1782	8" x 12"	14 1/2"	8"	4.95
C-1783	8" x 14"	16 1/2"	8"	6.18
C-1792	8" x 16"	18 1/2"	8"	6.50

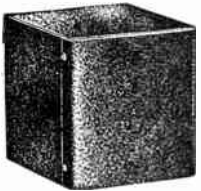
**BUD METAL CARRYING CASES**

These carrying cases have many uses. An easy grip handle is fastened to the top. Front and back panels are removable. Steel welded construction assures maximum strength with minimum weight, an important requirement for portable work. Finish is Black Wrinkle only. For chassis to fit these cabinets see Chassis Decks on other page.



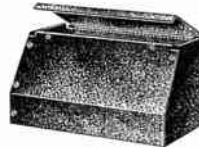
Cat. No.	Depth	Width	Height	Dealer Cost
CC-1095	5"	6"	9"	\$2.48
CC-1091	5"	9"	6"	2.48
CC-1096	6"	7"	12"	2.90
CC-1092	6"	12"	7"	3.42
CC-1097	7"	7 3/4"	15"	3.60
CC-1100	8"	10"	10"	3.42
CC-1093	7"	15"	9"	5.00

**BUD STREAMLINED SCOPE AND UTILITY CABINETS**



These are attractive cabinets that are adaptable to a variety of uses. All cabinets are supplied with chassis. Prices shown below include chassis. The chassis height on all except CU-1991 and CU-1992 is 1 1/2". CU-1991 is designed for 3" cathode ray tube and has a hinged cover to provide easy access to tube or other components. Chassis height is 2". CU-1992 is designed for a 5" cathode ray tube and also has a hinged cover. Chassis height, 3".

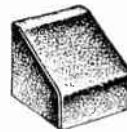
Catalog Number	Width	Depth	Height	Dealer Cost
CU-1990	5 1/2"	8 1/4"	8"	\$3.50
CU-1984	7 1/2"	8 1/4"	8"	3.52
CU-1985	9 1/2"	8 1/4"	8"	3.92
CU-1986	11 1/2"	8 1/4"	8"	4.30
CU-1987	13 1/2"	8 1/4"	8"	5.00
CU-1988	15 1/2"	8 1/4"	8"	5.50
CU-1989	17 1/2"	8 1/4"	8"	6.25
CU-1991	7 1/2"	13"	8"	6.00
CU-1992	9 1/2"	19"	12"	8.00



**BUD SLOPING PANEL CABINETS**

The entire front panel is removable if desired. This cabinet is also provided with a hinged top for easy accessibility to tubes or other parts that are mounted on chassis. All cabinets are finished in Black Wrinkle only.

Catalog Number	Height	Width	Depth	Fits Chassis	Dealer Cost
C-1584	6 1/2"	7-1/16"	7 1/4"	7" x 6" x 2"	\$3.15
C-1585	6 1/2"	9-1/16"	7 1/4"	7" x 8" x 2"	3.58
C-1586	6 1/2"	11-1/16"	7 1/4"	7" x 10" x 2"	3.96
C-1892	8"	13-1/16"	8 1/2"	8" x 12" x 2 1/2"	4.75
C-1893	10"	18-1/16"	10 1/2"	10" x 17" x 3"	6.66



**BUD SLOPING PANEL UTILITY BOX**

A compact, sloping panel cabinet, providing a streamlined appearance and enough space to house conveniently a 2 or 3 miniature tube amplifier or gadget. A 3/8" flange around the rear opening of the cabinet provides a convenient back cover mounting. Accommodates a Bud miniature chassis. Finished in black wrinkle.

Cat. No.	Height	Width	Depth	Use Chassis No.	Dealer Cost
C-1602	4"	4"	4 1/4"	CB-1617	\$1.20
C-1603	4"	5"	4 1/4"	CB-1618	1.30
C-1604	4"	6"	4 1/4"	CB-1619	1.40
C-1605	4"	7"	4 1/4"	CB-1620	1.50

**BUD SLOPING PANEL UTILITY CABINET**

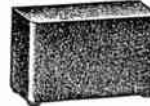
A metal box that can be used for numerous purposes. Finished in Black Wrinkle Enamel only.



Cat. No.	Height	Width	Depth	Dealer Cost
C-1578	4 1/4"	4"	4"	\$1.00
C-1579	4 1/4"	5"	4"	1.15
C-1580	4 1/4"	6"	4"	1.32
C-1581	4 1/4"	7"	4"	1.59

**BUD STREAMLINED MULTI-PURPOSE CABINETS**

Handsome streamlined metal cabinet, finished in grey wrinkle. Back of Cabinet open for ventilation.



Cat. No.	Height	Width	Depth	Use Chassis No.	Dealer Cost
C-1784	4 1/2"	3 3/8"	3 3/8"	CB-1623	\$1.65
C-1785	4 1/2"	5 1/2"	3 3/8"	CB-1628	1.93
C-1787	4 1/2"	7 1/2"	3 3/8"	CB-1625	1.70
C-1788	6 1/2"	5 1/2"	3 3/8"	CB-1625	1.75

**BUD MINIATURE AMPLIFIER FOUNDATION**

With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is a 5" x 7" x 2". The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Finished in black wrinkle.



Cat. No.	Height	Width	Depth	Chassis Height	Dealer Cost
CA-1754	6"	7-3/16"	5-3/32"	2"	\$3.50

**BUD ALUMINUM MINIATURE CHASSIS**

These small, open end aluminum chassis are just the thing for miniature tube applications or sub-assemblies. Made of hard aluminum with 1/4" flange on bottom, allowing the chassis to be fastened down or a bottom plate to be attached. Extremely useful for small receivers, outboard uses, such as narrow band FM adapters or any use where space is limited. Finish is etched aluminum.



Cat. No.	Depth	Width	Height	Fits Chassis No.	Dealer Cost
CB-1623	2 5/8"	2 3/4"	1 1/4"	C-1784	\$ .30
CB-1624	1 3/4"	3 1/8"	1"	CU-883	.33
CB-1625	3 1/4"	4 1/2"	2"	C-1788	.36
CB-1626	2 3/4"	4 1/8"	1"	CU-728	.36
CB-1627	3 3/4"	4 1/2"	1 1/2"	CU-729	.36
CB-1628	3"	6 1/8"	1 1/4"	C-1785	.42
CB-1629	5 3/8"	4 7/8"	1 1/2"	CA-1098	.45
CB-1617	4"	3 3/8"	4"	CA-602	.36
CB-1618	4"	3 3/8"	1"	C-1603	.39
CB-1619	4"	5 1/8"	1"	C-1604	.42
CB-1620	4"	6 3/8"	1"	C-1605	.45

Where materials are specified Black Wrinkle Finish only, and Grey is desired, a charge of 15% additional will be made.

Prices on above slightly higher west of the Mississippi River  
Only a few of many BUD Products are shown. For complete catalog, write BUD RADIO, INC., 2118 E. 55th St., Cleveland, Ohio

## BUD MINIATURE UTILITY CABINETS with Attached Chassis



Filling a long wanted need for a small cabinet with a chassis attached to the front panel, these cabinets are indispensable when building electronic devices using miniature tubes. Front and rear panels are removable and fastened with self-tapping screws, permitting easy accessibility. Especially useful for HF converters, television amplifiers and power supplies. Finished in black wrinkle.

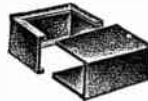
Cat. No.	Height	Width	Depth	CHASSIS SIZE			Dealer Cost
C-1793	4"	4"	2"	1"	3 1/2"	1 7/8"	\$1.05
C-1794	4"	5"	3"	1"	4 1/2"	2 7/8"	1.15
C-1795	5"	4"	3"	1 1/4"	3 3/8"	2 7/8"	1.15
C-1796	6"	5"	4"	1 3/8"	4 1/8"	3 7/8"	1.43
C-1797	5"	6"	4"	1 1/4"	5 1/8"	3 7/8"	1.43
C-1798	6"	6"	6"	1 3/4"	4 3/8"	5 3/8"	1.48



## BUD METAL UTILITY CABINETS

The large number of sizes available makes this line useful for all sorts of electronic equipment, monitors, frequency meters, etc. These cabinets have two removable sides for easy accessibility. Finished in Black Wrinkle.

Cat. No.	Depth	Width	Height	Dealer Cost
CU-883	2"	4"	4"	\$.85
CU-728	3"	5"	4"	.95
CU-729	4"	5"	6"	1.20
CU-1098	6"	6"	6"	1.30
CU-1099	5"	6"	9"	1.86
CU-879	7"	8"	10"	2.30
CU-1124	6"	7"	12"	2.46
CU-880	8"	10"	10"	2.90
CU-881	8"	11"	12"	3.60
CU-882	7"	9"	15"	4.10



## BUD HANDY BOXES

Something new in box design permits a large number of small components to be easily wired or serviced. The cover is held by 4 self-tapping screws. Black wrinkle finished steel.

Cat. No.	Height	Width	Depth	Dir. Cost
HB-1621	2 1/4"	4 1/4"	1 1/2"	\$.90
HB-1622	2"	4"	2 3/4"	1.00



## BUD MINIBOXES

There are thousands of uses in the fields of radio and electronics for these new boxes. They are made from heavy gauge aluminum. The design of the box permits installation of more components than would be possible in the conventionally designed box of the same size. It is of two piece construction, each half forming three sides. The flange type construction assures adequate shielding. Available in etched aluminum finish and gray hammeroid finish.

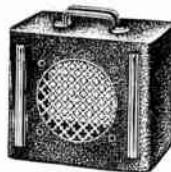
Gray	Etched	Cat. No.	Length	Width	Height	Dealer Cost
CU-2100	CU-3000		2 3/4"	2 1/4"	1 1/2"	\$.63
CU-2101	CU-3001		3 1/4"	2 1/4"	1 1/2"	.63
CU-2102	CU-3002		4"	2 1/4"	1 1/2"	.66
CU-2103	CU-3003		4"	2 1/4"	2 1/4"	.87
CU-2104	CU-3004		5"	2 1/4"	2 1/4"	.90
CU-2105	CU-3005		5"	4"	3"	.99
CU-2106	CU-3006		5 1/4"	3"	2 3/4"	.96
CU-2107	CU-3007		6"	5"	4"	1.23
CU-2108	CU-3008		7"	5"	3"	1.38
CU-2109	CU-3009		8"	6"	3 1/2"	2.01
CU-2110	CU-3010		10"	6"	3 1/2"	2.49
CU-2111	CU-3011		12"	7"	4"	2.94
CU-2112	CU-3012		17"	5"	4"	3.45
CU-2113	CU-3013		10"	2"	1 1/2"	.99
CU-2114	CU-3014		12"	2 1/2"	2 1/2"	1.35
CU-2115	CU-3015		4"	2"	2 1/2"	.84
CU-2116	CU-3016		4 1/4"	2 1/4"	1 1/2"	.87

## BUD STREAMLINED METER CASES

Designed for all applications requiring a modern meter case. All cases have a sloping front with top corner rounded. Meter cases CM-1241 and CM-1242 have insulators on top for leads to meter. CM-1965 and SM-1966 are furnished without insulators. Finished in Black Wrinkle.



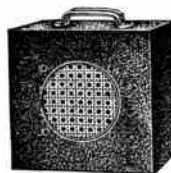
Catalog Number	Hole Diameter	Fits Meter Size	Dealer Cost
CM-1241	2-3/16"	2"	\$1.25
CM-1242	2-13/16"	3"	1.25
CM-1965	2-3/16"	2"	.95
CM-1966	2-13/16"	3"	.95



## BUD STREAMLINED SPEAKER CASES

For an attractive Speaker Housing that is portable, choose these Speaker Cases. No baffle required with these Speaker Cases. Quality of reproduction is equal to that of a good wood speaker housing. Front vertical corners are rounded and the speaker opening is covered with artistic metal grille. Two strips of chrome are mounted on front. Drilled to take size of speaker intended for case. Black or Grey Wrinkle finish.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-1935	4 3/8"	6"	8"	9"	6"	\$3.50
CS-1936	6 1/2"	8"	9 3/4"	11"	7"	4.50
CS-1937	8 1/2"	10"	11 1/4"	13"	8"	5.70
CS-1938	10 1/2"	12"	13 1/2"	15"	8"	7.00



## BUD GENERAL SPEAKER CABINETS

In making permanent or portable public address installations, this line of speaker cabinets will be found very useful. No baffle required with these speaker housings. Quality of reproduction is equal to that of fine wood speaker cases. Construction is of heavy, cold-rolled steel. A carrying handle is attached to each cabinet for portable purposes. Finished in Black Wrinkle Enamel.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-471	4 3/8"	6"	9"	9"	6"	\$3.45
CS-472	6 1/2"	8"	11"	11"	7"	4.35
CS-473	8 1/2"	10"	13"	13"	8"	5.50
CS-474	10 1/2"	12"	15"	15"	8"	7.40



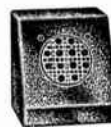
## BUD WALL OR TABLE TYPE SPEAKER CASE

A distinctive line of new metal speaker cabinets with reproduction capabilities equal to wood cabinets. All troubles with wood warping and splitting are eliminated.

Keypath holes are provided for wall mounting and four embossed feet on the bottom prevent damaging table surfaces. Finished in Brown Wrinkle only.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-1948	3 1/2"	4"	7 1/2"	6 1/2"	4 1/4"	\$2.85
CS-1939	4 3/8"	5"	7 1/2"	6 1/2"	4 1/4"	3.00
CS-1940	4 3/8"	6"	9 1/2"	8"	6 5/8"	3.40
CS-1941	6 1/2"	8"	11"	9 1/2"	7"	3.90
CS-1942	8 1/2"	10"	13 1/2"	11 1/2"	8 1/4"	4.50
CS-1943	10 1/2"	12"	15 1/2"	13 1/2"	9 3/4"	5.00

## BUD MIDGET SPEAKER CASES



A safe, convenient housing for midget 2" and 3" speakers. Size 4" wide, 4" deep, 4 1/4" high. Finished in Black Wrinkle Finish only.

Catalog Number	Hole Diameter	Speaker Size	Dealer Cost
CS-1685	2-3/16"	2"	\$1.50
CS-1686	2-13/16"	3"	1.50

## BUD IMPROVED UTILITY HANDLES



These handles are designed to provide sufficient strength and comfortable hand-grip. They are made from aluminum tubing and are given an etched aluminum finish. Made in two sizes and furnished complete with screws, washers and nuts.

Catalog Number	Overall Length	Overall Width	Mtg. Hole Center	Dealer Cost
UH-70A	5 3/8"	1 1/16"	4 3/4"	\$.33
UH-71A	3 3/4"	1/2"	3 1/4"	.27



## TRUCK CASTERS

No. RC-7756—Heavy Duty type casters for weights of 400 lbs. or less. No. RC-7757 Casters are Light Duty for lighter weights. Wheels, hard rubber composition and ball bearing.

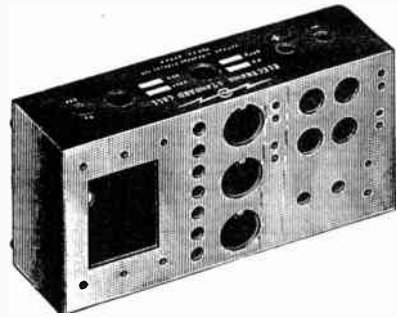
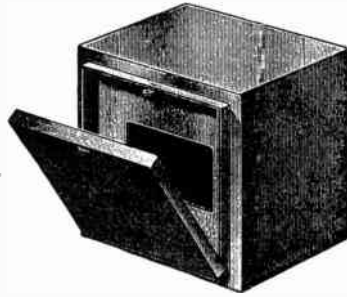
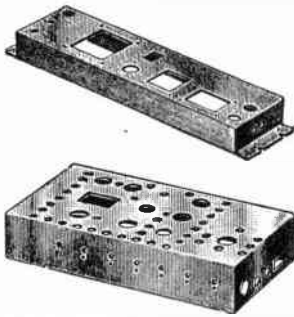
Catalog No.	Height	Type	Dealer Cost
RC-7756	2 1/2"	Heavy Duty	\$ .90
RC-7757	2"	Light Duty	.40

Where materials are specified Black Wrinkle Finish, and Gray is desired, a charge of 15% additional will be made.

**Prices on above slightly higher west of the Mississippi River**  
Only a few of many BUD Products are shown. For complete catalog, write BUD RADIO, INC., 2118 E. 55th St., Cleveland, Ohio



## Special Sheet Metal Fabrication Facilities



NOW, BUD RADIO, through its Metal Products Division, offers greatly increased facilities for the production of special sheet metal items. New machinery has been added, departments have been modernized and streamlined and new methods have been developed.

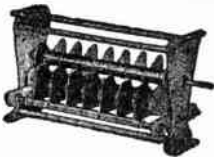
We make over 400 different sheet metal products as stock items. Often a slight change in one of our standard models will eliminate the necessity of special tools and dies, thereby reducing costs. Since we produce thousands of sheet metal products every month for ourselves and for

leading firms throughout the country we are able to effect economies in production which mean lower prices and faster delivery.

Our expanded facilities, expert workmanship, years of experience and manufacturing "know-how" assure high quality products. In addition, our engineering staff is always available for consultation and advice. Send us your blue prints for estimates.

Illustrated above are a few examples of specially fabricated sheet metal products.

### BUD GIANT TRANSMITTER CONDENSER—Single Section



BUD GIANT TRANSMITTER CONDENSERS are built with a sturdy frame consisting of 3/16" thick aluminum end plates, connected by 5/8" diameter duraluminum rods. Formed brackets at top and bottom of end plates provide for mounting these units, and permit placing of associated inductances directly on the condenser.

Rotor and stator plates are accurately stamped from .0064" thick highly polished aluminum with all edges rounded to minimize corona loss and danger of peak-voltage flash-over. The plates are separated by accurately machined duraluminum spacers that insure a constant air-gap throughout the entire length of the condenser.

The large two-finger rotor-contact spring, made from plated spring brass, assures positive contact with noise-free operation. Steatite bars insulate the stator, and are placed well outside the electrostatic field to keep dielectric losses at a minimum.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Over-All Length	Dealer Cost
GC-1800	195	24	15	.250"	8 1/2"	12 1/2"	\$26.13
GC-1801	345	32	27	.250"	12 1/2"	16 1/2"	37.02
GC-1802	530	48	41	.250"	16 1/2"	20 1/2"	49.68
GC-1803	65	19	7	.500"	7 1/2"	11 1/2"	20.85
GC-1804	95	25	15	.500"	12 1/2"	15 1/2"	29.19
GC-1805	150	33	21	.500"	15 1/2"	19 1/2"	34.98
GC-1806	255	52	35	.500"	23 1/2"	27 1/2"	49.02
GC-1807	50	22	9	.750"	10 1/2"	14 1/2"	24.21
GC-1808	75	27	13	.750"	13 1/2"	17 1/2"	29.34
GC-1809	110	40	19	.750"	18 1/2"	22 1/2"	32.67
GC-1810	160	50	29	.750"	26 1/2"	30 1/2"	46.86
GC-1811	55	30	11	1.000"	14 1/2"	18 1/2"	28.11
GC-1812	85	40	17	1.000"	21 1/2"	25 1/2"	36.03
GC-1813	105	45	23	1.000"	27 1/2"	31 1/2"	44.43

### BUD MASTER TRANSMITTING CONDENSERS—Dual Section



All tie-rods in this series are insulated by glazed Steatite pillars, thus completely eliminating all closed metallic loops in the condenser frame. A special outstanding feature, developed by BUD engineers, is that of placing the positive double

wiping rotor contact between the two sections at the center of the rotor. These features contribute to perfect circuit balance and eliminate the majority of difficulties encountered in high frequency equipment due to parasitics, circulating currents and poor neutralization. Use BUD condensers throughout and be trouble free.

Catalog Number	Cap. Per Sec. Max. Min.	No. of Plates Per Sec.	Air Gap	Mtg. Hole Spcg.	Over-All Length	Dealer Cost
BC-1635A	25 9	5	.200"	6-13/32"	8-1/32"	\$13.91
BC-1636A	35 12	7	.200"	7-13/32"	9-1/32"	14.70
BC-1637A	50 13	11	.200"	9-13/32"	11-1/32"	15.96
BC-1638A	75 16	15	.200"	11-13/32"	13-1/32"	17.28
BC-1633A	100 20	21	.300"	14-13/32"	16-1/32"	19.35
BC-1634A	50 15	13	.300"	12-13/16"	14-7/16"	17.43

Panel space to mount Master Condensers 3 3/4" wide by 4 7/8" high

### BUD MIDGET CONDENSERS



Small size, sturdy construction and high mechanical and electrical efficiency are the outstanding features. Insulation used is Steatite. Rotor and Stator plates are brass and are electro-soldered to their respective rods. All metal parts are cadmium plated. These condensers have both front and rear bearings and are furnished in either mid-line type plates (straight line wave length), or semi-circular plates (straight line capacity).

(straight line wave length), or semi-circular plates (straight line capacity).

#### SEMI-CIRCULAR TYPE — DOUBLE BEARING

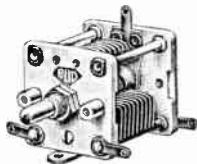
Catalog Number	Cap. in MMFD. Max. Min.	Air Gap	Number Plates	Dealer Cost
MC-1850	15 3	.024"	3	\$1.53
MC-1852	33 4	.024"	5	1.65
MC-1853	50 5	.024"	7	1.92
MC-1855	100 7	.024"	14	2.10
MC-1856	140 7	.024"	19	2.43
MC-1858	190 9	.024"	27	2.58
MC-1859	235 10	.024"	33	2.91
MC-1860	300 12	.024"	43	3.18
MC-1861	15 4	.060"	5	1.65
MC-1862	35 5	.060"	11	2.10
MC-1863	50 7	.060"	15	2.31
MC-1864	75 9	.060"	23	2.70
MC-1865	100 12	.060"	31	2.94
MC-1866	35 8	.095"	15	2.43
MC-1867	50 10	.095"	23	2.76
MC-1868	75 13	.095"	33	3.18

#### MID-LINE TYPE — DOUBLE BEARING

Catalog Number	Cap. in MMFD. Max. Min.	Air Gap	Number Plates	Dealer Cost
MC-900	25 4	.024"	4	\$1.71
MC-902	35 5	.024"	6	1.74
MC-903	50 6	.024"	8	2.01
MC-904	75 7	.024"	11	2.10
MC-905	100 7	.024"	15	2.28
MC-906	140 7	.024"	20	2.61
MC-908	190 9	.024"	27	2.73
MC-909	250 11	.024"	36	2.97
MC-910	300 13	.024"	43	3.33
MC-565	15 4	.060"	5	2.01
MC-897	35 6	.060"	11	2.10
MC-898	50 7	.060"	16	2.40
MC-899	75 8	.060"	23	2.76
MC-941	100 11	.060"	31	3.00
MC-965	35 8	.095"	15	2.49
MC-966	50 12	.095"	23	2.70
MC-967	75 14	.095"	33	3.18

Prices on above slightly higher west of the Mississippi River

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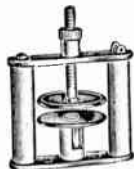
**BUD "CE" MIDGET CONDENSERS  
SINGLE SECTION DOUBLE BEARING**

These Midget Condensers were designed to meet the rigid requirements in design of efficient high frequency electronic devices and precision laboratory equipment. Brass rotor and stator plate stacks are assembled into permanent units by means of electro-soldering, which assures long life and accurate plate spacing. End-plates of Steatite insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve bearing provides for smooth rotation. Special wiper contact provides noise-free tuning. All metal parts are cadmium plated. Rotor plates are semi-circular shaped. Provision for either panel or base mounting.

Insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve bearing provides for smooth rotation. Special wiper contact provides noise-free tuning. All metal parts are cadmium plated. Rotor plates are semi-circular shaped. Provision for either panel or base mounting.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Over-all Length	Dealer Cost
CE-2000	15	4	.030"	3	2 1/2"	\$1.98
CE-2001	35	6	.030"	7	2-23/32"	2.22
CE-2002	50	7	.030"	9	2-27/32"	2.49
CE-2003	75	8	.030"	14	3-5/32"	2.76
CE-2004	100	9	.030"	18	3-11/32"	3.00
CE-2005	150	10	.030"	27	3-13/16"	3.21
CE-2006	200	11	.030"	35	4 1/4"	3.81
CE-2007	250	12	.030"	44	4 3/4"	4.05
CE-2008	300	15	.030"	52	5-3/16"	4.29
CE-2011	15	5	.060"	5	2 3/4"	2.07
CE-2012	35	7	.060"	11	3 1/4"	2.31
CE-2013	50	8	.060"	15	3-9/16"	2.70
CE-2014	75	10	.060"	23	3 1/4"	3.12
CE-2015	100	13	.060"	31	4-9/16"	3.63
CE-2016	35	9	.095"	15	4-1/16"	2.82
CE-2017	50	10	.095"	23	5-1/32"	3.12
CE-2018	75	14	.095"	33	6-7/32"	3.66

**BUD NEUTRALIZING AND HIGH FREQUENCY TUNING CONDENSERS**



This line of condensers will fill every neutralizing and high frequency tuning requirement that modern circuits pose. The two-pillar construction makes this unit unusually sturdy and eliminates any possibility of capacity variation due to vibration. The movable plate is adjusted by means of the threaded shaft to which it is attached, and it is permanently locked in any position by the lock-nut provided. Any loose thread is taken up by a special nut and locked operation. Plates have rounded edges, Steatite insulation is used.

Catalog Number	Plate Diameter	MMFD. Capacity Max. Min.	Dealer Cost
NC-1000	1-27/32"	11 1	\$2.58
NC-1001	2-13/16"	24 2	3.75
NC-1002	4 3/4"	27 6	5.25

**BUD FEED-THROUGH AND BASE MOUNTED NEUTRALIZING CONDENSERS**



In circuits utilizing tubes with the grid lead terminated in the base a feed-through type of neutralizing condenser is particularly suited. One hole is required for mounting of feed-through condensers. Neutralizing condenser illustrated is feed-through type. Plates are made of aluminum rounded at edges to cut down losses. After proper tuning is attained, movable plate can be locked with the knurled nut.

No. 890 and No. 852 are ideal neutralizers for popular low power beam tubes. No. 890 condenser is based mounted only.

Catalog Number	Plate Diameter	Size Hole for Mtg.	MMFD. Capacity Max. Min.	Dealer Cost
NC-852	1"	5/16"	6 1.5	\$1.26
NC-853	1-27/32"	13/32"	11 4	2.73
NC-890	1"		6 1.5	1.23

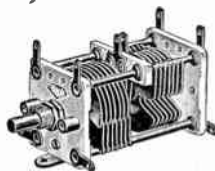
**NEW BUD THREE-GANG TINY MITE CONDENSERS**



Hams, Radio Constructors and Experimenters can find many uses for these compact, three-gang condensers. Designed particularly for high frequency use, they are adaptable for use in converters, preselectors and receivers covering the Amateur, Television and F.M. bands. Well constructed with soldered brass plates and ceramic brackets. Rotor shaft extended 1/4" at rear. Height 1-5/16". Width 1-3/16". Length behind panel 3 3/8". Mounting holes 2-3/16" apart.

Catalog Number	Cap. Per Section Max. Min.	No. of Plates Per Section	Dealer Cost
LC-1845	11 5	3	\$3.81
LC-1846	17 5	4	4.32
LC-1847	25 6	5	4.71

**BUD "CE" TYPE DUAL MIDGET CONDENSERS**



These well constructed dual condensers are similar in design to the double-bearing "CE" types. They feature a rotor wiping contact placed at center of the rotor assembly to assure maximum efficiency at high frequency. Opposed rotor construction assures perfect counterbalance and provides even torque at any position of rotation. Steatite insulation eliminates closed induction in frame.

Catalog Number	Max. Cap.	Min. Cap.	No. of Plates	Air Gap	Distance Behind Panel	Dealer Cost
CE-2032	35	6	7	.030"	3-1/32"	\$2.97
CE-2033	50	7	9	.030"	3 1/4"	3.27
CE-2034	75	8	14	.030"	3-21/32"	3.63
CE-2035	100	9	18	.030"	4-3/32"	4.14
CE-2036	150	10	27	.030"	5-3/16"	4.80
CE-2040	15	5	5	.060"	3-1/32"	3.45
CE-2041	35	7	11	.060"	4-1/32"	3.96
	50	8	15	.060"	4-23/32"	4.35

**BUD TINY MITE PADDERS**



For applications requiring a constant padder capacity under all temperature and humidity conditions, these units are ideal. They lend themselves readily to I. F. transformer applications, fixed tuned circuits for exciters, ganged condenser air trimmers, and plug-in-coil padding as they fit inside of standard 1 1/2" diameter coil forms. Rotor and stator assemblies are made up of brass plates (.015" thick) and rods electrically soldered into a solid unit and then are bright cadmium plated. Insulation is Steatite. Each unit may be adjusted in capacity by either a screw-driver or a 1/4" hex. wrench.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-2076	15	2	.017"	5	\$1.32
LC-2077	25	2.5	.017"	7	1.66
LC-2078	35	3	.017"	10	1.74
LC-2079	50	3.9	.017"	14	1.92
LC-2080	75	4.5	.017"	20	2.28
LC-2081	100	5.5	.017"	27	2.64
LC-2082	140	6.5	.017"	37	3.21

**BUD TINY MITE TUNING CONDENSER SINGLE SECTION**

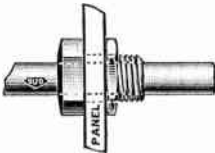


This series of condensers has been designed for applications where space or weight are limiting factors and for tuning of high frequency circuits. Rigid construction, close fitting bearing, positive rotor contact and Steatite insulation are the outstanding features. Cadmium plated, soldered, brass plates and rods insure high frequency efficiency.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-1640	8	2.5	.017"	3	\$1.35
LC-1641	15	3	.017"	5	1.47
LC-1642	25	4	.017"	9	1.53
LC-1643	35	5	.017"	13	1.77
LC-1644	50	6	.017"	19	1.86
LC-1645	75	7	.017"	29	2.01
LC-1646	100	9	.017"	37	2.19
LC-1648	10	4	.037"	7	1.50
LC-1649	15	5	.037"	11	1.62
LC-1650	25	5.5	.037"	17	1.92
LC-1651	35	6	.037"	21	2.10
LC-1652*	50	8	.037"	35	2.64
LC-1653	6	3.5	.073"	5	1.59
LC-1654	15	5.5	.073"	15	1.92
LC-1655*	25	9	.073"	27	2.61

\*Denotes double bearing.

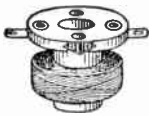
**PANEL BEARING ASSEMBLIES**



Nos. PB-530 and PB-531 consist of a regular 1/4" shaft bearing with 6" and 3" length of 1/4" brass rod inserted and held in place by washers to prevent shaft from shifting. These two assemblies will facilitate the panel control of condensers, potentiometers, etc., which must be mounted a distance from the panel. Bearing fits in 13/32" hole and on panels up to 5/16" thick. No. PB-532 is bearing only without shaft.

Catalog Number	Overall Length	Distance in front of panels	Dealer Cost
PB-530	6"	4 3/4"	\$ .36
PB-531	3"	1 3/4"	.31
PB-532	Bearing Only	....	.12

Prices on above slightly higher west of the Mississippi River  
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### LATTICE WOUND R. F. CHOKES

For all general purpose applications requiring a high quality choke at a reasonable price, this line finds wide acceptance. Each choke is wound from silk-covered enameled copper wire on a white ceramic bobbin. Leads are terminated with two convenient soldering lugs. Chokes can be mounted with a 6-32 screw the center of the form, and each winding is thoroughly impregnated against moisture. The wide range of sizes fills practically every choke requirement in standard radio circuits. Choke base diam. 1-1/16", distance between ends of leads 1"

Catalog Number	Inductance mh.	D.C. Res. Ohms	Current M.A.	Height 11/16"	Dealer Cost
CH-1212	2.5	28	125	11/16"	\$.44
CH-1213	3.4	36	125	11/16"	.55
CH-1214	5.5	46	125	11/16"	.66
CH-1215	8	60	125	11/16"	.72
CH-1216	10	65	125	11/16"	.75
CH-1217	16	84	125	11/16"	.85
CH-1218	30	190	100	15/16"	.96
CH-1219	60	279	90	15/16"	1.00
CH-1220	80	332	80	15/16"	



### TRANSMITTING CHOKES

Here are two heavy duty R. F. Chokes that can really take it in high powered transmitter plate circuits. Each choke is wound on 9/16" dia. Steatite rod, has connection lugs and a mounting foot. All chokes have a heavy ceramic coating which prevents moisture absorption and enables them to withstand momentary overloads without collapsing the individual pies.

Consists of five graduated pies wound in continuous winding. Care has been taken to prevent any of the pies from being resonant on an amateur band and to keep the distributed capacity at a minimum. Overall height 3 3/4".

Catalog Number	Inductance	Current Capacity	D. C. Resistance	Dealer Cost
CH-568	2.2 mh.	1 amp.	5 ohms	\$1.98
CH-569	4.3 mh.	.6 amp.	12 ohms	1.80

### ULTRA HIGH FREQUENCY R. F. CHOKES



These chokes were designed to meet the requirements of builders of high frequency receivers and transmitters. Consists of ceramic rod with a single layer winding terminated with strap leads at each end. Particularly suitable for use on 2 or 6 meters. CH-570 is supplied with a mounting foot and is sometimes used as a filament choke in certain types of high frequency oscillator and amplifier circuits.

Catalog Number	Inductance mh.	Max. Current	D. C. Resistance	Lengths	Dealer Cost
CH-925	5.7 uh.	750 ma	1.4 ohms	1 1/2"	\$.30
CH-570	1.5 uh.	1.7 a	0.2 ohms	2 3/4"	1.20

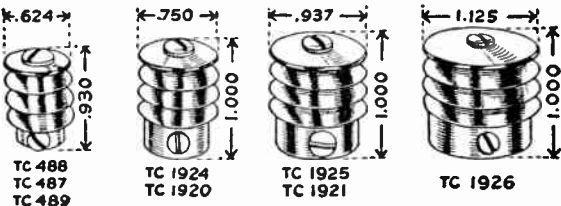
### BUD SMALL JACKS



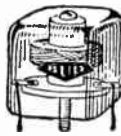
These panel mounting jacks are desirable for control panels and similar applications where space is at a premium. Parts are accurately machined, with cadmium plated finish and contacts are formed from spring brass. Each jack comes complete with insulating washers and will accommodate standard plugs. Overall length 1 1/2".

Catalog No.	Contacts	Distance Behind Panel	Dealer Cost
J-1038	2	15/16"	\$.35
J-1058	3	15/16"	.55

### HEAT RADIATING PLATE AND GRID TUBE CONNECTORS



Bud heat radiating connectors fit all sizes of industrial and transmitting vacuum tubes. These connectors serve a dual purpose, not only are they useful to make connections to plate or grid terminals, but they provide a large heat radiating surface that will dissipate heat from the glass seal and tube element. Eight sizes fit all grid and plate leads and also provide sufficient heat radiation for any tube operating in the range of 50 to 2000 watts. All radiators are machined from special aluminum rod. Edges are rounded to minimize corona loss.



### IRON CORE R. F. CHOKES

The efficiency of any circuit requiring an R. F. choke will be definitely improved by utilizing one of these chokes with a finely divided molded metallic core. The improved "Q" possible with this construction results from the D. C. resistance of these chokes being from 40 to 50% less for a given inductance than for regular air-core types. Thus, the D. C. voltage drop through the choke is considerably less, yet the choking action is equally as good. Windings are made with silk-covered enameled wire terminated on convenient soldering lugs, and the chokes are mounted in small square shield cans measuring 1 1/2" x 1 1/2" x 1-7/16".

Catalog Number	Inductance mh.	D. C. Res. Ohms	Current ma.	Dealer Cost
CH-1277	1.5	11.5	125	\$.93
CH-1278	2.5	16.	125	.96
CH-1279	3.4	19.5	125	1.05
CH-1280	5.5	27.5	125	1.05
CH-1281	8.	36.	125	1.11
CH-1282	10.	42.5	125	1.11
CH-1283	16.	53.	125	1.23
CH-1284	30.	82.	100	1.29
CH-1285	60.	131.	100	1.44
CH-1286	80.	163.	90	1.53
CH-1287	125.	221.	90	1.80
CH-294	Shield Can Only			.21



### BUD ALL PURPOSE JACKS

Although small in size, this is one of the finest lines of jacks available. The careful design and high quality materials used in these components assure long, dependable service. Circuit opening contacts are made of pure silver and the laminated bakelite insulation prevents breakdown between springs at all ordinary voltages. Supplied with panel insulating washers. Height 1 1/2", distance behind panel 3/4".

Catalog Number	Circuit Design	Contact Arrangement	Dealer Cost
J-1324		Open Circuit	\$.33
J-1325		Closed circuit	.39
J-1326		3-Contact open circuit	.42
J-1327		Break contact on tip and ring spring	.54
J-1328		Separate make-contact springs	.54
J-1329		Break contact on tip spring—separate make-contact spring	.57
J-1330		Break-make contact on tip spring	.54



### BUD MIDGET JACK

The construction of this jack allows its use in applications having limited space behind the panel. The spring brass contact assures a good connection. These jacks come with insulating washers and accommodate standard phone plugs.

Catalog No.	Type	Distance Behind Panel	Dealer Cost
J-232A	Open Circuit	13/16"	\$.35
J-233A	Closed Circuit	13/16"	.40

### Table below lists Connectors to fit various Tubes

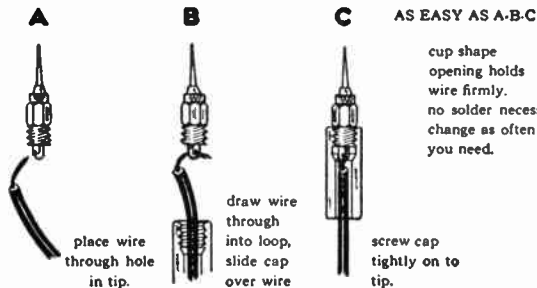
Cat. No.	Hole Size for Lead	Head Radiating Connectors to Fit the Following Tubes	Dealer Cost
TC-488	.052	3C24, 24, 24G, 25T, 27	\$.36
TC-487	.062	UH50, HK24, 304B, 829B, 832A, 834	.36
TC-489	.072	35T, 35TG, 75TH, HK254, HK257B, 484, 8001	.36
TC-1924	.125	HK57, 152TH	.50
TC-1920	.375	4-125A, 150TH, 2-150D, 250R, 250TH, 250TL, 420A, 802, 803, 804, 807, 808 Grid, 814, 815, 828	.50
TC-1925	.125	304TH, 304TL	.60
TC-1921	.570	Z1860, HF60, HF100, 111H, 211H, 203H, HF175, HF300 Grid, 100R, HK357C, 450TH, 454, 750TH, 805, 806, 808, 809, 810, 811, 812, 813, 828, 833, 866, 854, 1500T, 2000T, 1054, 5331, 5332, 8000, 8003, 8005	.80
TC-1926	.810	WL468, WL463, WL460, HF200, HF201, HF300	

NOTE: TC-1923 Heat Radiating Connector with hole size of .110" is still in our line and can be furnished. Dir. Cost \$ .50

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**AS EASY AS A-B-C**





cup shape opening holds wire firmly. no solder necessary—change as often as you need.

**NEW SENSATIONAL!**





**BUD "VISE-GRIP" TEST PRODS**  
(Pat. applied for)

No longer is it necessary to use a soldering iron or screw-driver to replace a broken or worn lead on a test prod or plug. To install a wire in this unique, patented prod, merely insert end of wire in hole, screw down handle to finger tightness and a positive contact is assured. By far the fastest, most efficient way of doing this job.

**BUD VISE-GRIP TEST PRODS WITH 1" PLASTIC HANDLE**

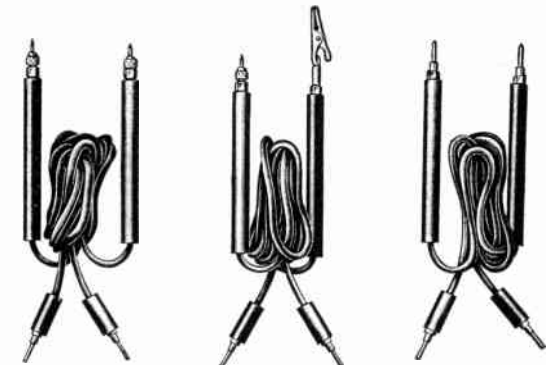
-  Prod is made of brass rod, and is nickel plated. 1" plastic handle is threaded at one end and prod screws into same.  
Cat. No. 93
-  Needle Chuck—Black or Red.  
Cat. No. TP-93.....Dealer Cost \$ .21
-  Phone Tip—Black or Red.  
Cat. No. TP-94.....Dealer Cost \$ .30
-  Banana Plug—Black or Red.  
Cat. No. TP-477.....Dealer Cost \$ .18

**BUD VISE-GRIP TEST PRODS WITH 4" PLASTIC HANDLE**

-  Prods are identical to those described on the left. Plastic handle is 4" long and made of the best material obtainable.  
Cat. No. 95
-  Needle Chuck—Black or Red.  
Cat. No. TP-95.....Dealer Cost \$ .30
-  Phone Tip—Black or Red.  
Cat. No. TP-96.....Dealer Cost \$ .27
-  Banana Plug—Black or Red.  
Cat. No. TP-97.....Dealer Cost \$ .30

**BUD SUPER TEST LEADS**

All BUD Super Test Leads use BUD "Vise-Grip" Prods that screw into the highly polished 4" or 1" plastic handles on each end of the leads. The finest, flexible, kinkless, rubber covered wire obtainable is used on all BUD Test Leads.



- No. TL-178 is supplied with 4" handles at one end of the wires with removable needle points and on other end 1" handle with phone tips.  
Cat. No. TL-178.....Dealer Cost \$1.35
- No. TL-179—4" handles, one with removable needle point and the other with phone tip and removable alligator clip. 1" handles with phone tips.  
Cat. No. TL-179.....Dealer Cost \$1.65
- No. TL-180 have 4" plastic handles with phone tips on one end. Other end, 1" handles with phone tips as illustrated above.  
Cat. No. TL-180.....Dealer Cost \$1.29

**BUD INSULATED FLEXIBLE COUPLINGS**

Tandem operation of two or more units is readily accomplished through the use of these couplers. Direct shaft alignment is not essential, and all couplers are made to fit 1/4" shafts.

Cat. No.	Diameter	Height	Insulation	Dir. Cost
FC-795	1-1/16"	11/16"	Ceramic	.48
FC-845	1-1/16"	5/8"	Bakelite	.33
FC-855	1 1/2"	11/16"	Bakelite	.39

**BUD HIGH VOLTAGE FLEXIBLE COUPLINGS**

A new type spring construction in these couplings permits a wide gap between shaft connections, freedom from back-lash, and unusual flexibility. The springs are attached to glazed Steatite discs 1 1/2" in diameter and 3/16" thick, and the overall diameter of the finished coupling is 1-15/16". Coupling accommodates standard 1/4" shaft. Springs are also attached to Bakelite discs 1 1/2" in diam.

Catalog No.	Insulation	Dealer Cost
FC-614	Steatite	\$.65
FC-619	Bakelite	.50

**BANANA PLUGS AND JACKS**  
(Brass Nickel Plated)

- Banana plug jack, threaded 1/4" - 28, supplied with nut and solder lug.  
Cat. No. PJ-949.....Dealer Cost \$ .10
- Banana plug Overall Length 1 1/4" Shank threaded 6-32, supplied with 6-32 nut.  
Cat. No. PL-470.....Dealer Cost \$ .15



- Insulated banana plug jack, complete with insulating washers, solder lug and nut.  
Cat. No. PJ-478.....Dealer Cost \$ .17
- Banana plug. Shank tapped for 6-32 screws. Nickel plated.  
Cat. No. PL-469.....Dealer Cost \$ .10

**GIANT BANANA PLUGS AND JACKS FOR HEAVY DUTY APPLICATIONS**

- Giant banana jack, complete with nut and solder lug. For mounting, drill 3/8" hole.  
Cat. No. PJ-963.....Dealer Cost \$ .17
- Giant plug, tapped 10-32. Positive spring action assures firm contact.  
Cat. No. PL-962.....Dealer Cost \$ .20



- Giant insulated banana plug jack, complete with insulating washers, solder lug and nut. To mount, drill 1/2" hole.  
Cat. No. PJ-476A.....Dealer Cost \$ .33
- High voltage insulated banana plug. Over all length 2 7/8". Excellent for heavy duty applications.  
Cat. No. PL-475A.....Dealer Cost \$ .45

**BUD PHONE PLUGS**

All metal parts on these excellent phone plugs are machined from brass, and are nickel plated. Unshielded plugs have handles of black bakelite; shielded types have attractive brass knurled handles bright nickel plated. No. FP-1946 is supplied without a handle, and is used as an adapter between a female microphone cable connector and a regular plug jack.

Catalog Number	Contacts	Handle	Overall Length	Bushing Diam.	Dealer Cost
FP-230	2	Bakelite	2 3/8"	3/4"	\$.35
FP-282	2	Shielded	2 3/8"	3/4"	.75
FP-1057	3	Bakelite	2 3/8"	3/4"	.84
FP-284	3	Shielded	2 3/8"	3/4"	1.10
FP-1946	2	None	1-7/16"	11/16"	.24

Prices on above slightly higher west of the Mississippi River

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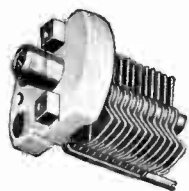


# HAMMARLUND

SINCE 1910



## “APC” MICRO CAPACITORS



The “APC” originated in the Laboratories of the Hammarlund Mfg. Co over twenty years ago and because it is the most widely copied Air Trimmer today, it speaks eloquently for the soundness of its engineering design.

These units feature all brass soldered construction, nickel plating, silicone treated steatite panels, and precision formed rotor contact springs, combined with Hammarlund quality, make this capacitor a necessity for peak performance in today's rigid requirements.

Available in stock sizes as listed with a standard nominal air gap of .015" with a test voltage of 600 V. RMS, 60 cycles. Other air gaps available are .0195", .025", .030", .045". Modifications such as insulated adjustment head, extension shaft, lock type bearing, flats on shaft, etc., are obtainable.

Code	Capacity
APC-25	25 mmf.
APC-50	50 mmf.
APC-75	75 mmf.
APC-100	100 mmf.
APC-140	140 mmf.

## “MAPC” CAPACITORS

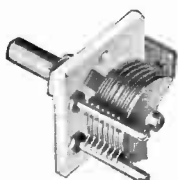


The Midget “APC” capacitor or “MAPC” is a worthy mate for the “APC”. It is about one-half the size and weight of the “APC” but retains the same constructional features and quality. The “MAPC” has two isolated mounting studs 17/32" apart, shaft slotted for screw driver adjustment. Steatite base size 25/32" x 15/16". Army, Navy, and commercial engineers find this new unit ideal for today's trend towards minaturization.

Standard units as listed have nominal spacing of .0135". Other spacing available are .018" and .027". Modifications such as shaft extension, insulated adjustment head, extension shaft, and locking type bearing are also available.

Code	Capacity
MAPC-15	15 mmf.
MAPC-25	25 mmf.
MAPC-35	36 mmf.
MAPC-50	49 mmf.
MAPC-75	75 mmf.
MAPC-100	99 mmf.

## “HF” MICRO CAPACITORS



The “HF” employs “APC” construction featuring a special panel permitting either single hole or bracket mounting.

Silicone treated steatite panel 1-5/16" x 1-3/16" coupled with all brass, soldered, nickel plated construction, long sleeve bearing, and positive contact spring give this unit a stable and noiseless quality which accounts for its popularity.

The “HF” is supplied with a standard nominal .015" air gap with a test voltage of 600 V. RMS 60 cycles and the “HF-X” with nominal .045" air gap with a test voltage of 1400 V. RMS 60 cycles. Standard units have 1/2" long, 1/4" shaft. Special spacing and modifications are available.

Code	Capacity
HF-15	17.5 mmf.
HF-35	36 mmf.
HF-50	52 mmf.
HF-100	102 mmf.
HF-140	142 mmf.
*HF-15-X	15 mmf.
*HF-30-X	30 mmf.

\* .045 spacing.

## “HFD” MICRO DUAL CAPACITORS



The “HFD” while available as listed and having the same electrical characteristics per section as the “HF” is also one of the most flexible designs to stem from the Hammarlund Laboratories.

This unit has two heavy aluminum end brackets mounted on silicone treated steatite base for strength and stability, long sleeve front bearing and rear bearing, individual silver plated beryllium contact springs on each section for noiseless operation. An electrical shield is provided between sections. This capacitor is 1-1/2" high x 1" wide, with 1/2" long 1/4" shaft.

Modifications of basic design to include up to five sections of varying capacities are obtainable. This is truly a unit which can be tailored to the engineers individual requirements. Either single hole or base mounting are standard with all versions of this capacitor.

Code	Capacity
HFD-50	52 mmf. per sect.
HFD-100	102 mmf. per sect.
HFD-140	142 mmf. per sect.
*MFD-15-X	16 mmf. per sect.
*MFD-30-X	28.5 mmf. per sect.

\* .045 spacing.



# HAMMARLUND

SINCE 1910



## "MC" AND "MCX" CAPACITORS

The "MC" and "MC-X" capacitors available with SLC or midline plates are widely used in all applications for frequencies up to 60 megacycles, and are designed to satisfy the most critical and exacting requirements. Vibration proof for Aircraft, Marine and mobile use. These units are of brass soldered nickel plated construction with silicone treated steatite insulation outside of the electrostatic field to reduce dielectric losses and to insure maximum efficiency under various conditions of humidity and temperature. A beryllium copper silver plated rotor contact spring and precision sleeve bearings give noise free operation. "MC" types have a nominal .0245" air gap tested at 1000 V. RMS 60 cycles. "MC-X" types have a nominal .0715" air gap tested at 1750 V. RMS 60 cycles. The "MC" family have 1/4" shaft with rear extension for gang operation. The whole series have rotational stops which nominally permit increasing capacity with clockwise rotation of shaft. "S" types are 1-11/16" wide and 2-3/4" high. "M" types are 2-3/32" wide and 2-7/8" high. These dimensions include swing of rotor plates.

Code	Capacity
MC-20-S	20 mmf.
MC-35-S	35 mmf.
MC-50-S	50 mmf.
MC-50-M	50 mmf.
MC-75-S	80 mmf.
MC-75-M	80 mmf.
MC-100-S	100 mmf.
MC-100-M	100 mmf.
MC-140-S	110 mmf.
MC-140-M	110 mmf.
MC-200-M	200 mmf.
MC-250-M	260 mmf.
MC-325-C	320 mmf.
MC-20-SX	20 mmf.
MC-20-MX	20 mmf.
MC-35-SX	32 mmf.
MC-35-MX	32 mmf.
MC-50-SX	53 mmf.
MC-50-MX	53 mmf.
MC-100-SX	100 mmf.



M—Midline Capacity Plates  
S—Straight-Line Capacity Plates  
X—.0715 Spacing

## "MCD" AND "MCD-X" CAPACITORS

"MCD" and "MCD-X" capacitors are dual section units having the same constructional feature of the "MC". The "MCD" and "MCD-X" are mounted on a sturdy channel silicone treated steatite base. Same spacings as the "MC" types available.

Code	Capacity per sect.
MCD-50-M	50 mmf.
MCD-100-S	100 mmf.
MCD-100-M	100 mmf.
MCD-140-M	140 mmf.
MCD-35-MX	31 mmf.
MCD-35-SX	31 mmf.



M—Midline Cap. Plates. S—Straight-Line Cap. Plates.  
X—.0715 Spacing.

## "RMC" CAPACITORS

The "RMC" was born out of the electronic industries demand for the extreme rigidity this capacitor affords. It utilizes the "MC-S" type soldered brass plate assemblies incorporated in a ruggedized frame consisting of aluminum end plates and three tie rods. A front sleeve bearing and single ball thrust rear bearing are used together with a positive rotor contact spring. The resulting unit has many applications where ruggedness is required.

Code	Capacity
RMC-50-S	50. mmf.
RMC-100-S	105. mmf.
RMC-140-S	143.5 mmf.
RMC-325-S	327. mmf.



Two removable brackets at the top of panels make for easy mounting of components or with the two tapped holes at the bottom and tapped holes in the panel permit three mounting possibilities. The same air-gaps as the "MC" are available. Dimensions are 1-13/16" wide x 1-11/16" high with 1/4" shaft.

## FLEXIBLE COUPLINGS

These flexible couplings come both insulated and non insulated. The insulated "FC-46-S" employs a silicone treated steatite body and provides maximum insulation. It is 13/16" in width and 1-1/4" in diameter. The metal body of the non insulated "FNC-46-S" is 23/32" wide with a diameter of 1-1/4". Both take 1/4" shafts and will compensate for considerable misalignment.

Code	
FC-46-S	—Insulated
FNC-46-S	—Non-insulated



## "NZ-10" NEUTRALIZING CAPACITOR

The "NZ-10" has rounded edge formed aluminum plates mounted on glazed isolantite pillars. This unit is rugged and features a fine-threaded horizontal adjusting screw with positive lock. Stands 2-15/16" high and 1-13/16" wide x 2-7/8" in fully open position.

Code	
NZ-10	—(2.3—10 mmf.)



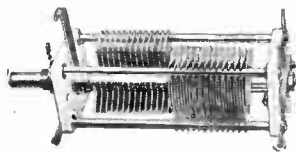


# HAMMARLUND

SINCE 1910



## "HFA" AND "HFAD" CAPACITORS



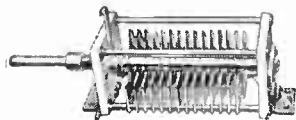
The "HFA" is a high efficiency, high frequency transmitting type capacitor of unusual design. All parts are brass, soldered and nickel plated mounted on treated steatite end panel  $1\frac{3}{8}$ " x  $1\frac{1}{2}$ " with  $\frac{1}{4}$ " shaft.



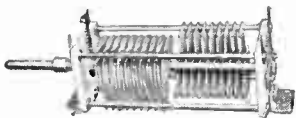
The "HFAD" is a dual unit with balanced opposed sections of the same type construction with two end panels  $1\frac{3}{8}$ " square and  $\frac{1}{4}$ " shaft. Both these units are ideal for low power portable transmitters and are available in 3 stock spacings: "A" .020", "B" .030", and "E" .070". The "E" type also has round edge plates. Both of these units may be single hole panel or base mounted.

Code	Capacity	Type
HFAD-25-B	25 mmf.	Dual
HFA-100-A	102 mmf.	Single
HFA-140-A	145 mmf.	Single
HFA-10-B	9 mmf.	Single
HFA-15-B	16 mmf.	Single
HFA-25-B	25 mmf.	Single
HFA-50-B	50 mmf.	Single
HFA-100-B	100 mmf.	Single
HFA-15-E	16 mmf.	Single

## "HFB" TRANSMITTING CAPACITORS "HFB D"



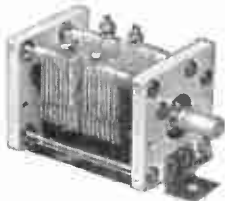
The "HFB" while similar in most respects to the "HFA" types have insulated  $\frac{1}{4}$ " shaft extensions which permit high voltage to be applied to the rotor without danger to the operator. This allows a higher tube voltage for a given plate spacing and results in a less expensive, more compact unit.



The "HFB D" is the dual version with the same features with each section in balanced opposition. Both use  $1\frac{3}{8}$ " square steatite panels and are base mounted.

Code	Capacity
HFB D-50-C	50 mmf.
HFB D-100-C	105 mmf.
HFB D-35-E	37 mmf.
HFB D-65-E	63 mmf.
HFB-50-C	48 mmf.

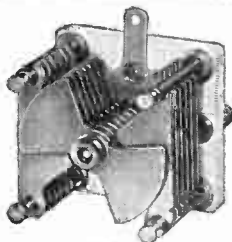
## "VU" UHF CAPACITOR



The "VU" Capacitors offer completely silent electrical operation made possible through the use of pyrex glass ball bearings making them adaptable in circuits up to 300 mc. These new bearings completely eliminate wiping contacts and metal sleeves. Elimination of rotor contacts by use of series stators permits a more symmetrical design of the capacitor itself and consequently allows better circuit layout. Two sets of threaded studs are provided, so that a vacuum tube may be mounted on one side and inductor on the other side of the capacitor to minimize lead inductance. The stator sections provide a low inductance path between the two sets of stud contacts. Panel size is  $1\frac{7}{8}$ " x  $1\frac{7}{8}$ ". Shaft size  $\frac{1}{4}$ ". These units are supplied in standard sizes as listed in all brass soldered silver plated construction and may be obtained as specially calibrated precision units. Calibration table and complete description furnished on request.

Code	Series Min. Cap.	Series Eff. Capacity
VU-20	3.35	22.5 mmf.
VU-30	3.5	31.5 mmf.
VU-45	3.8	45.0 mmf.

## BUTTERFLY CAPACITOR



The "BFC" Butterfly type of capacitor is designed to meet the demand for an opposed rotor and stator (90 degree rotation) capacitor for use in commercial VHF equipment. The rugged design of this unit lends itself to mobile use and its brass soldered construction with symmetrical design provides easy association with other components for electrical circuit symmetry. Furnished in standard sizes as listed mounted on silicone treated steatite panel  $1\frac{3}{8}$ " square. Two studs on  $1\frac{3}{8}$ " centers are provided for panel mounting. Shaft size is  $\frac{1}{4}$ ".

Code	MMF Cap. per Sec.		Series Cap.	
	Max.	Min.	Max.	Min.
BFC-12	14.5	3.5	7.9	2.2
BFC-25	27.5	5.0	14.5	3.0
BFC-38	40.5	6.3	21.0	3.7

Modifications may be obtained and by the addition of a rear panel with special ball bearing both front and rear a unit may be obtained for continuous rotation at speeds up to 2400 R.P.M. The "BFC" is also obtainable in different plate spacings and capacities on special order.

Write for a copy of the 1952 HAMMARLUND catalog.

# Miller

## UNSHIELDED CHOKES



These single section R.F. Chokes are ideally suited for general purpose applications in receiver and filter circuit. Solder lug terminals and single hole mounting.

### AIR CORE TYPE

Dimensions: 1-1/8" dia. x 3/8" high.

Cat. No.	MH	Ohms	MA	List Price
610	.25	8	125	\$.50
620	.75	17	125	.50
630	1.50	21	125	.50
640	2.50	28	125	.60
650	5.0	41	125	.60
660	7.5	53	125	.60
670	10.0	64	125	.70
680	12.5	74	125	.70
690	15.0	83	125	.70
691	20.0	97	125	.90
692	30.0	120	100	.90
693	60.0	175	100	1.15
694	80.0	230	100	1.45

### IRON CORE TYPE

These chokes are similar in construction to the No. 600 series except that they are wound on powdered iron cores.

Cat. No.	MH	Ohms	MA	List Price
951	.5	6.8	125	\$1.00
952	1.0	10.9	125	1.10
953	2.5	19.5	125	1.15
954	5.0	23.0	125	1.30
955	7.5	37.0	125	1.40
956	10.0	45.0	125	1.45
957	25.0	78.0	100	1.75
958	50.0	130.0	100	1.95
959	75.0	200.0	100	2.20
960	100.0	210.0	100	2.50
961	150.0	268.0	100	2.75



## SHIELDED CHOKES

Single section wound R.F. R.F. Chokes assembled in round aluminum shield with two spade bolts for mounting. Solder lug terminals.

Dimensions: 1-1/4" dia. x 1" high (No. 758 is 1-3/8" dia.)

Cat. No.	MH	Ohms	MA	List Price
751	.5	10	125	\$.90
752	1.0	17	125	.90
753	2.5	30	125	1.00
754	5.0	49	125	1.00
755	7.5	61	125	1.00
756	10.0	75	125	1.10
757	25.0	125	125	1.25
758	50.0	186	100	1.60

### IRON CORE TYPE

Similar to the No. 700 series except wound on powdered iron cores for lower circuit loss.

Dimensions: 1-1/4" dia. x 1" high.

Cat. No.	MH	Ohms	MA	List Price
851	.5	8.6	125	\$1.40
852	1.0	11.5	125	1.50
853	2.5	22.0	125	1.55
854	5.0	31.0	125	1.70
855	7.5	42.0	125	1.75
856	10.0	47.0	125	1.80
857	25.0	100.0	125	2.15

Dimensions: 1-5/8" dia. x 1" high.

858	50.0	160.0	100	2.30
859	75.0	222.0	100	2.60
860	100.0	348.0	100	2.85
861	150.0	520.0	100	3.15

## LOW POWER AND RECEIVER CHOKES



These chokes are wound on 1/4" dia. forms and feature the exclusive Miller 'Sta-on' terminal clips. Low distributed capacity and accurate inductance values.

Dimensions: (form) 1/4" dia. x 1-1/2" long.

Cat. No.	MH	Ohms	MA	List Price
4531	.5	11	200	\$.90
4532	1.5	21	200	.90
4537	2.5	26	200	.90
4538	5.0	40	125	1.10
4539	7.5	79	125	1.40
4540	10.0	95	125	1.65
4541	25.0	160	125	1.95

## TV POWER TRANSFORMER (R.F.)



These R.F. power supply transformers for use with television receivers and cathode ray oscilloscope make it possible to construct an inexpensive source of high voltage D.C. Two types are available, the #4525 for voltages to 4000 DC and the #4526 for voltages to 10,000 DC (or 30,000 DC in a voltage rectifier tripler circuit).

Type 1B3-GT tubes are used as rectifiers and the R.F. oscillator circuit uses one or more type 6V6 or 6Y6 tubes connected in parallel. The high frequency AC source permits use of simple and inexpensive resistive capacitive filters with low ripple content in the output. Typical circuit diagrams are supplied with each coil.

Cat. No.	Item	List Price
4525	H.V. R.F. Trans. (to 4KV) Dimensions—1 1/4" Dia. x 3 1/4" high (Illustrated)	\$8.25

4526	H.V. R.F. Trans. (to 30 KV) Dimensions—2 1/4" Dia. x 6" high (not illustrated)	\$13.75
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## HEAVY DUTY TRANSMITTER CHOKES



These heavy duty Navy Type R.F. chokes are sectional wound on Alsimag forms and are provided with removable mounting brackets. Ends of form are tapped for #6-32 machine screw. For general use in amateur and commercial transmitters.

Dimensions: (form) 1/2" dia. x 3-1/2" long.

Cat. No.	MH	Ohms	MA	Meters	List Pr.
4534	1.0	2.5	1000	20	\$2.20
4535	1.5	3.6	1000	40	2.50
4533	2.5	4.5	750	80	2.75
4536	4.0	5.5	750	160	3.05

## TV APPLIANCE FILTER



These filters are designed to eliminate radio interference caused by horizontal oscillators in T.V. receivers and small electrical appliances such as sewing machines, vacuum cleaners, food mixers, etc., and other similar devices requiring less than 550 watts. Inductive capacitive circuit assures maximum attenuation of interference.

Dimensions: 2 1/4" square x 4" long.

Cat. No.	Volts	Watts	List Price
7815	115	550	\$7.70

## GENERAL PURPOSE FILTER

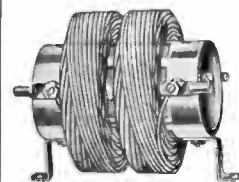


This filter is recommended for use with marine and D.C. appliances and radios. It is also for use with extremely noisy A.C. appliances. A good, permanent connection to ground should be used with this filter.

Dimensions: 2 1/2" square x 5" long.

Cat. No.	Volts	Watts	List Price
7813	115	200	\$8.25

## LINE FILTER CHOKES



All Miller line filter chokes are duo-lateral wound on ceramic forms (except #7825 & D-7825 are on bakelite). They are for installation in noise producing equipment such as

flasher signs, farm lighting plants, motor generators, etc. Also used with radio transmitters to prevent r.f. energy feed-back into the power circuits. Typical circuit diagrams are supplied with each choke. Always select chokes having a current rating at least as high as the maximum current load of the circuit to be filtered.

### SINGLE LINE FILTER CHOKES

For use in filtering individual and branch circuits.

Dimensions: #7825 1-7/8" x 1-3/4"

Others: 2-1/2" x 4"

Cat. No.	Amps.	Ohms.	MH	List Price
7825	2	.75	.60	\$1.65
7826	5	.28	.57	4.40
7827	10	.15	.37	4.95
7828	20	.08	.20	5.50
7829	30	.05	.13	6.05

### DUAL LINE FILTER CHOKES

For use in filtering both sides of single phase circuits.

Dimensions: #D-7825 3-1/4" x 2-1/8"

Others: 4-1/2" x 4"

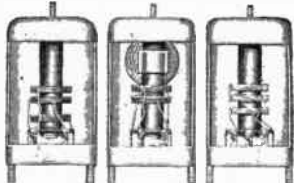
Cat. No.	Amps.	Ohms.	MH	List Price
D-7825	2	.75	.60	\$3.30
D-7826	5	.28	.57	6.60
D-7827	10	.15	.37	7.70
D-7828	20	.08	.20	8.80
D-7829	30	.05	.13	9.90

Specifications are for each winding.

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

# Miller

## UNIVERSAL REPLACEMENT COILS (Permeability Tuned)



This series of variable inductance iron core coils are well suited for general replacement use and new designs. The inductance may be adjusted to cover the standard broadcast band with tuning condensers having a maximum capacity of between 250 and 450 mmfd. The oscillator coils may be used with any I.F. amplifier operating in the 100 to 550 KC range. Complete instructions are supplied.

### UNSHIELDED

Dimensions: 7/8" dia. x 2" high. "L" mtg. Bracket.

Cat. No.	Use	Freq. Range	List Price
72-A	Antenna Stage	500-1800 KC	\$2.20
72-RF	R.F. Stage	500-1800 KC	2.20
72-Osc.	Osc. Coil	100-550 KC I.F.	2.20

### SHIELDED

Dimensions: 1-3/8" square x 2-1/2" high

Cat. No.	Use	Freq. Range	List Price
73-A	Antenna Stage	500-1800	\$2.75
73-RF	R.F. Stage	500-1800	2.75
73-Osc.	Osc. Coil	100-500 KC I.F.	2.75

## DE-LUXE BROADCAST COILS



These coils are used in the finest quality receivers for lasting performance and stability. All coils are wound on XXX grade bakelite tubing and the secondaries are Litz wire wound (except oscillator coils) for maximum "Q". The antenna and R.F. coils are inductive-capacitive coupled for uniform gain. For use with standard 365 mmfd. tuning condensers.

### SHIELDED COILS

Dimensions: 1-7/8" dia. x 3" high.

Cat. No.	Use	Freq. Range	List Pr.
242-A	Antenna	540-1750	\$1.75
242-RF	Interstage	540-1750	1.75
242-BP	Band-pass	540-1750	1.50
277-C	2-coil Osc.	540-1750*	1.50
279-C	Tapped Osc.	540-1750*	1.35

NOTE: \*Oscillator coils are for use with 455KC intermediate frequency and require a 400 mmfd. series pad condenser.

## TV ANTENNA COUPLING TRANSFORMERS

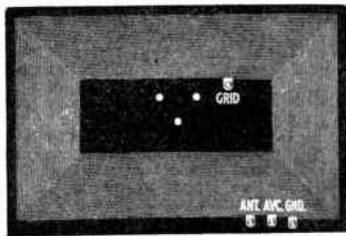


Clearer, brighter pictures when these transformers match antenna impedance to line, or line to TV receiver. Signal input may be improved as much as four times! Designed to couple low-impedance antenna to standard 300-ohm line; or 300-ohm antenna to 72-ohm twin-lead or low-loss 52-ohm coaxial cable. At receiver, low-impedance line matched to standard 300-ohm input. Housed in impregnated, weather-tight aluminum shield.

Dimension: 3/4" by 3/4" by 1-3/8".

Cat. No.	Impedance Ratio	List Price
6161	52/300 or 300/52	2.75
6162	72/300 or 300/72	2.75

## LOOP ANTENNA



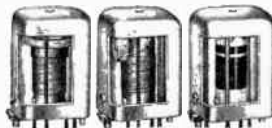
Using the patented "Air Loop"\* construction, the No. 703-A Loop Antenna provides high "Q" and mechanical rigidity. The loop as supplied has a secondary inductance of 253 microhenries, which may be reduced as needed. Instructions are supplied. May be used in older sets to replace the antenna coil for local reception without an antenna.

Dimensions: 8-1/8" 5-3/8" x 1/8" thick.

\*Mfg. under Franklin Airloop Co. Pat. #2,401,472

Cat. No.	Use	Frequency	List Price
703-A	Loop Antenna	540-1700 KC	\$2.65

## STANDARD BROADCAST COILS



High gain general purpose coils featuring high impedance coupled antenna and R.F. units with progressive wound Litz wire secondaries (except oscillator coils). For use with standard 365 mmfd. tuning condenser. All windings are thoroughly impregnated with tropicalized R.F. lacquer.

### SHIELDED COILS

Dimensions: 1-3/8" square x 2-1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
44-A	Antenna	540-1700	\$1.35
44-RF	Interstage	540-1700	1.35
44-BP	Band-Pass	540-1700	1.35
44-C	2-coil Osc.	540-1700*	1.35
41-C	Tapped Osc.	540-1700*	1.35

NOTE: \*Oscillator coils are for use with 455 KC intermediate frequency amplifier and a 400 mmfd. series pad condenser.

### UNSHIELDED COILS

Dimensions: 5/8" dia. (form) x 2-1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
43-A	Antenna	540-1700	\$1.10
43-RF	Interstage	540-1700	1.10
43-BP	Band-Pass	540-1700	1.10
43-C	2-coil Osc.	540-1700*	1.10
45-C	Tapped Osc.	540-1700*	1.10

NOTE: \*Oscillator coils are for use with 455 KC intermediate frequency amplifier and a 400 mmfd. series pad condenser.

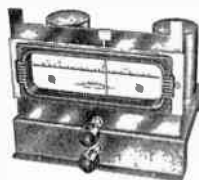
## TV HIGH-PASS FILTER



Improves picture clarity by rejecting interference from short wave stations, amateur transmitters, X-ray and diathermy equipment, electric appliances, etc. Attenuates all signals from zero to 40 megacycles. Passes all television channels with minimum loss. Installed easily in antenna lead-in at receiver. No tuning required. In aluminum can: 1-7/16" by 1-7/8" by 3-1/2".

Cat. No. 6168 300-ohm line — List \$5.50

## GERMANIUM CRYSTAL DIODE BAND-PASS TRF TUNER KIT



High fidelity! Uses germanium diode detector! No tubes! No power supply! No hum! A simple 2-tuned circuit negative mutual coupled band-pass tuner. Easy to assemble and wire. Full 22 kc. pass-band assures all brilliance

of treble tones. Yet selective enough to separate local stations. With good antenna, AM stations in 20-25 mile range give audio output .05V to .5V. Use with your amplifier and speaker system for extra high quality reception. The Miller #585 TRF Tuner Kit contains coupling and TRF coils, 2-gang condenser, slide rule dial, chassis and hardware. Resistors, condensers, germanium crystal and volume control not included.

#585 TRF Tuner Kit List \$19.50

## MIDGET I.F. TRANSFORMERS



These mica compression tuned intermediate frequency transformers are well suited for use in small receivers of all types. They measure only 1-1/8" square and 2" high. In spite of their small size, only the highest quality of parts and workmanship has been used in the construction of the Miller Midget transformers.

Dimensions: 1-1/8" square x 2" high.

Cat. No. Use Freq. KC Range List Price

### AIR CORE TYPES

112-C1	Input	455	450-475	\$2.10
112-C2	Interstage	455	450-475	2.10
112-C3	Full Wave	455	450-475	2.10
112-C4	Half Wave	455	450-475	2.10

112-W1		1500	1400-1600	2.10
112-W2		1500	1400-1600	2.10
112-W3		1500	1400-1600	2.10
112-W4		1500	1400-1600	2.10

### IRON CORE TYPES

012-H1	262	250-275	\$2.40
012-H2	262	250-275	2.40
012-H3	262	250-275	2.40
012-H4	262	250-275	2.40

012-C1	455	450-475	2.40
012-C2	455	450-475	2.40
012-C3	455	450-475	2.40
012-C4	455	450-475	2.40

012-W1	1500	1400-1600	2.40
012-W2	1500	1400-1600	2.40
012-W3	1500	1400-1600	2.40
012-W4	1500	1400-1600	2.40

## TV AND FM WAVE TRAPS

These new high-Q series-resonant traps may completely eliminate interference and undesirable images in television and FM receivers. Assembled in aluminum shields designed for connection direct to antenna twin-lead. Convenient screwdriver tuning adjustment at top. Four traps will cover frequency ranges from 20 to 250 megacycles.

Dimensions: 1-7/16" by 1-7/8" by 3-1/2" high. 1-7/16" mounting centers.

Cat. No.	Frequency Range	List Price
6163	150-250 mc	\$4.40
6164	75-150 mc	4.40
6165	40- 80 mc	4.40
6166	20- 40 mc	4.40

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

# Miller

## MINIATURE I.F. TRANSFORMERS\*



Designed for experimental and custom receivers as well as replacements for personal radios, these transformers are permeability tuned and comparable in performance to standard size components. Expressly designed for use with the new miniature tubes. Plastic insulation throughout. Screw driver adjustment of primary and secondary from top and bottom of shield. Supplied with spring clip for mounting to the chassis.

Dimensions:  $\frac{3}{4}$ " square x 2" high.  
\*Mfg. under K-Trans. Pats. and Pats. Pend.

Cat. No.	Use	Freq.	KC Range	List Price
12-H1	Input	262	250-275 KC	\$2.50
12-H2	Output	262	250-275 KC	2.50
12-C1		455	440-480 KC	2.20
12-C2		455	440-480 KC	2.20
12-W1		1500	1400-1600 KC	2.50
12-W2		1500	1400-1600 KC	2.50

## UNIVERSAL I.F. TRANSFORMERS



This new series of Miller transformers is used for general replacement purposes and in new designs. High gain and excellent stability are combined in a small transformer designed for use in both home and auto radio receivers. The ceramic mica compression trimmers have been heat cycled for temperature stability. All transformers are assembled in aluminum shields with screw-driver adjustment accessible at the top of the shield.

Dimensions:  $1\frac{1}{4}$ " square x  $2\frac{1}{2}$ " high.

Cat. No.	Use	Freq.	KC Range	List Price
<b>AIR CORE TYPES</b>				
312-H2	Input	262	250-275	\$1.75
312-H4	Output	262	250-275	1.75
312-C2		455	440-475	1.75
312-C4		455	440-475	1.75
<b>IRON CORE TYPES</b>				
412-H2	Input	262	250-275	\$2.40
412-H4	Output	262	250-275	2.40
412-C2		455	440-470	2.40
412-C4		455	440-470	2.40

## MEDIUM DUTY TRANSMITTER CHOKES



For use in medium power transmitters, these chokes are similar in construction to our Heavy Duty types. Low distributed capacity and accurate inductance values are features.

Dimensions: (form)  $\frac{1}{2}$ " dia. x  $2\frac{1}{2}$ " long.

Cat. No.	MH	Ohms	MA	List Price
4550	2.0	6.5	400	\$1.75
4551	4.0	10.0	400	2.00

## FILAMENT CHOKE



Enclosed solenoid wound chokes for use in the filament and vibrator circuits of battery operated receivers, transmitters, etc.

Dimensions:  $\frac{3}{4}$ " Dia. x  $1\frac{1}{8}$ " long, plus 3" leads.

Cat. No.	uH	Ohms	Amps.	List Price
5221	10	.02	8	\$.75

## IRON CORE TRANSFORMERS



These iron core transformers provide higher gain and selectivity than the conventional air core transformers of similar size. The mica compression trimmers, adjustable from the top of the shield, have been heat cycled for capacity stability. Gain and selectivity of a single stage using iron core transformers is often equal to two stages of air core transformers.

Dimensions:  $1\frac{3}{8}$ " square x  $3\frac{1}{4}$ " high.

Cat. No.	Use	Freq.	KC Range	List Price
612-H1	Input	262	250-275	\$2.90
612-H2	Interstage	262	250-275	2.90
612-H3	Full Wave	262	250-275	2.90
612-H4	Half Wave	262	250-275	2.90
612-C1		455	450-475	2.90
612-C2		455	450-475	2.90
612-C3		455	450-475	2.90
612-C4		455	450-475	2.90
612-W1		1500	1400-1600	2.90
612-W2		1500	1400-1600	2.90
612-W3		1500	1400-1600	2.90
612-W4		1500	1400-1600	2.90



## DOWELL TYPE COILS

Single section Litz wound secondary coils wound on  $\frac{1}{2}$ " Dia. lo-loss ceramic dowels, these coils are provided with solder lugs on a bakelite terminal plate and with a #6-32 threaded stud for single hole chassis mounting. For use with standard 365 mmfd. tuning condenser.

Dimensions:  $\frac{3}{4}$ " square base x 1" high. (ABP & RF types  $2\frac{1}{8}$ " high)

Cat. No.	Use	List Price
5480-A	Antenna	\$1.25
5480-RF	Interstage	1.50
5480-BP	Band-Pass	1.75
5480-K	2-coil Osc.	1.15
5480-H	2-coil Osc.	1.15
5480-C	2-coil Osc.	1.15
5481-K	Tapped Osc.	1.15
5481-H	Tapped Osc.	1.15
5481-C	Tapped Osc.	1.15

**NOTE:**  
K for 175 KC I.F. with 1000 mmfd Pad  
H for 262 KC I.F. with 600 mmfd. pad  
C for 455 KC I.F. with 400 mmfd. pad

## PERMEABILITY TUNED TRANSFORMERS



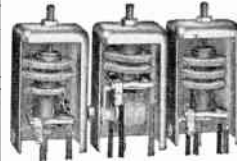
Miller permeability tuned intermediate frequency transformers are recommended for all applications where a high degree of frequency stability and operation under humid conditions are used. The two iron core adjusting screws are accessible from the side of the aluminum shield. These transformers have excellent gain and selectivity characteristics. An internal spring clip prevents vibration from affecting the adjustment.

Dimensions:  $1\frac{3}{8}$ " square x  $3\frac{1}{4}$ " high.

Cat. No.	Use	Freq.	KC Range	List Price
912-C1	Input	455	450-475	\$4.00
912-C2	Interstage	455	450-475	4.00
912-C3	Full Wave	455	450-475	4.00
912-C4	Half Wave	455	450-475	4.00
912-W1		1500	1400-1600	4.00
912-W2		1500	1400-1600	4.00
912-W3		1500	1400-1600	4.00
912-W4		1500	1400-1600	4.00
912-X1		3000	2900-3100	4.00
912-X2		3000	2900-3100	4.00
912-X3		3000	2900-3100	4.00
912-X4		3000	2900-3100	4.00

## MIDGET R.F. COILS

(Adjustable Inductance)



This series of compact shielded coils is provided with an adjustable powdered iron core permitting approximately plus or minus 30% secondary inductance deviation from nominal values. Particularly recommended for aircraft, marine and mobile equipment and general custom receiver construction. Core is adjustable from top of aluminum shield. Coils are designed for use with standard 365 mmfd. tuning condenser.

Dimensions:  $1\frac{1}{8}$ " square x 2" high. (All Types)

Cat. No.	Use	I.F. Freq.	List Price
X-320-A	Antenna		\$2.75
X-320-RF	Interstage		2.75
X-320-M	2-coil Osc.	132 KC	2.20
X-320-C	2-coil Osc.	455 KC	2.20
X-321-M	Tapped Osc.	132 KC	2.20
X-321-C	Tapped Osc.	455 KC	2.20

**BROADCAST BAND 540-1700 KC**

Cat. No.	Use	I.F. Freq.	List Price
A-320-A	Antenna		\$1.95
A-320-RF	Interstage		1.95
A-320-M	2-coil Osc.	132 KC	1.95
A-320-C	2-coil Osc.	455 KC	1.95
A-321-M	Tapped Osc.	132 KC	1.95
A-321-C	Tapped Osc.	455 KC	1.95

**MARINE & AIRCRAFT BAND 2100-6300 KC**

Cat. No.	Use	I.F. Freq.	List Price
B-320-A	Antenna		\$1.95
B-320-RF	Interstage		1.95
B-320-M	2-coil Osc.	132 KC	1.95
B-320-C	2-coil Osc.	455 KC	1.95
B-321-M	Tapped Osc.	132 KC	1.95
B-321-C	Tapped Osc.	455 KC	1.95

**SHORT WAVE BAND 6.0-18 MC**

Cat. No.	Use	I.F. Freq.	List Price
C-320-A	Antenna		\$1.95
C-320-RF	Interstage		1.95
C-320-C	2-coil Osc.	455 KC	1.95
C-321-C	Tapped Osc.	455 KC	1.95

## REPLACEMENT I. F. TRANSFORMERS

(Double Tuned)

These transformers are an essential part of the stock of every serviceman and dealer. In many cases they will give better performance than the original transformer. All have been pretuned and should require only slight adjustment after installation. Leads are color coded, and the transformers are assembled in aluminum shields. These transformers may be used as replacements in most makes of receivers using transformers of the same physical size. Be sure to order a transformer of the correct frequency.

Dimensions:  $1\frac{3}{8}$ " square x  $2\frac{5}{8}$ " high.

Cat. No.	Freq.	KC Range	Use	List Price
512-K1	175	160-190	Input	\$2.65
512-K2	175	160-190	Interstage	2.65
512-K3	175	160-190	Full-Wave	2.65
512-K4	175	160-190	Half-Wave	2.65
512-H1	262	240-280	Input	2.40
512-H2	262	240-280	Interstage	2.40
512-H3	262	240-280	Full Wave	2.40
512-H4	262	240-280	Half Wave	2.40
512-C1	455	425-500	Input	2.40
512-C2	455	425-500	Interstage	2.40
512-C3	455	425-500	Full Wave	2.40
512-C4	455	425-500	Half Wave	2.40

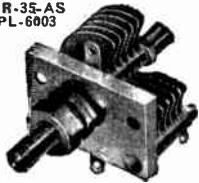
For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

# STANDARDS OF COMPARISON

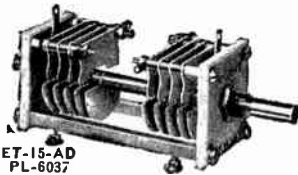
## TRIM-AIR MIDGET CAPACITORS

Combine essential sturdiness with the flexibility obtained only in a spacer-built rotor and stator type of assembly.

ZR-35-AS  
PL-6003



ET-15-AD  
PL-6037



### GENERAL SPECIFICATIONS:

#### CAPACITY CHARACTERISTIC: S.L.C.

**FRAME:** End Plates of 5/32" thick Isolantite.

**SHAFT:** 1/4" diameter, nickel plated brass.

**PLATES:** .020" thick aluminum, specially treated to remove burrs.

**FINISH:** Spacers, bushing nuts and screws nickel plated brass.

**MOUNTING:** Singles require one 3/8" hole in panel; Duals provided with four No. 4-36 screws in square brass tie rods. Trim-Air mounting posts or brackets fit both single and dual types. Singles are fitted with tapered nuts acting on split bushing for locking rotor shaft for fixed tune. Duals have rear shaft extension for coupling to other units and have a removable inter-section shield, on airgaps of .020 and .030.

**Note:** Single section Trim-Airs normally stocked with full length shaft for knob or dial. Stub shaft equivalents with slot for screw driver adjustment only, available to order. "ZS" type singles have .040" thick plates with rounded buffed edges.

#### SINGLE TRIM-AIR CONDENSERS (Long Shaft Construction)

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
PL 6016	ZU-75-AS	75	2.7	15	.020	1 3/8	\$2.75
PL 6017	ZU-100-AS	100	3	19	.020	1 1/2	2.81
PL 6018	ZU-140-AS	140	5	27	.020	1 23/32	5.06
PL 6000	ZR-10-AS	10	1.2	3	.030	3/8	2.04
PL 6001	ZR-15-AS	15	1.5	5	.030	3 1/32	2.09
PL 6002	ZR-25-AS	25	2	7	.030	1 1/16	2.31
PL 6003	ZR-35-AS	35	2.5	11	.030	1 9/32	2.42
PL-6004	ZR-50-AS	50	2.8	13	.030	1 3/8	2.53
PL 6055	ZR-100-AS	108	6.6	29	.030	2 3/4	3.63
PL 6024	ZV-5-TS*	5	1.5	3	.060	3/8	2.04
PL 6044	ZT-5-AS	5	2	3	.070	3 1/32	2.31
PL 6010	ZT-10-AS	11	3.6	6	.070	1 1/16	2.37
PL 6011	ZT-15-AS	15	3	9	.070	1 1/2	2.48
PL 6012	ZT-30-AS	30	4	17	.070	2 13/64	3.03
PL 6022	ZS-4-SS	4	1.5	5	.140	1 1/2	3.03
PL 6023	ZS-7-SS	7	4	7	.140	1 27/32	3.36

\* Supplied with 2 segment stator for UHF circuits. Extra plate also supplied, making 3 plates as listed.

#### DUAL TRIM-AIR CONDENSERS

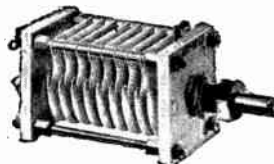
Per Section

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
6041	EU-75-AD	75	2.7	15	.020	3 1/32	\$5.28
6042	EU-100-AD	100	3	19	.020	3 1/32	5.50
6043	EU-140-AD	140	5	27	.020	3 11/16	9.74
6028	ER-10-AD	10	1.2	3	.030	2 3/16	4.24
6029	ER-15-AD	15	1.5	5	.030	2 3/16	4.24
6030	ER-25-AD	25	2	7	.030	2 3/16	4.35
6031	ER-35-AD	35	2.5	11	.030	3 1/32	4.73
6032	ER-50-AD	50	2.8	13	.030	3 1/32	5.01
6065	ER-100-AD	100	6.9	25	.030	3 11/16	8.97
6037	ET-15-AD	15	3	9	.070	3 1/32	4.84
6039	ET-30-AD	30	4	17	.070	4 13/32	5.83
6033	ES-4-SD	4	1.5	5	.140	3 1/32	5.83
6035	ES-7-SD	7	4	7	.140	3 11/16	6.49
6293	ER-25-ADI*	25	2	7	.030	2 3/16	6.38

\* Insulated coupling between rotor sections.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

## TRIM-AIR HEAVY DUTY SPECIALS



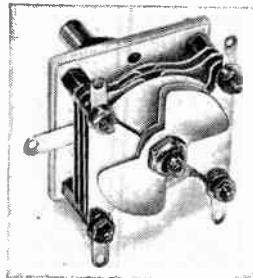
ET-30-ASP  
PL-6058

Four-tie-rod frame, ball and strap rear bearing construction, augmenting the simplified Trim-Air construction, to give even greater strength and rigidity. General characteristics otherwise same as standard Trim-Airs.

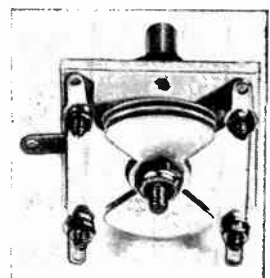
Dual section units have balanced rotor and stator sections and both single and dual section types may be single hole mounted or used with standard Trim-Air mounting accessories. Standard Trim-Air shaft locking nut may be used for fixed tune. PL-6069 and PL-6068 are duals with rear shaft extended; all others have ball and strap type rear bearing.

SINGLES		LIST	DUALS		LIST
PL 6056	ER-50-ASP	\$4.79	PL 6057	ER-50-ADP	\$5.28
PL 6059	EU-75-ASP	4.35	PL 6669	ER-50-ADP (rear sh. ext.)	9.57
PL 6058	ET-30-ASP	4.46	PL 6068	EU-140-ADP (rear sh. ext.)	12.76

## A NEW LINE OF CARDWELL MIDGET CONDENSERS FOR V.H.F.



PL-6113



PL-6076

Cardwell offers a new line of 90 degree condensers with butterfly rotor plates, fulfilling a demand created by engineers and amateurs since the publication of an article "Stabilizing The 144 Megacycle Transmitter" in April, 1946 "QST." Also see pages 351 to 353 inclusive in the 1946 ARRL Radio Amateurs Handbook. PL-6113 and PL-6076 are specified in these articles. Features of these 90 degree midget condensers are as follows:

Electrical Symmetry  
Low Distributed Inductance.

No Moving Contacts.

Plates easily removable to change capacity range.

Isolantite Insulation.

Single Hole Mounting.

Small Size; 1 7/16" x 1 13/32" per general outline dimensions for differential "Trim-Airs" as shown on Page 6 of Catalog No. 46.

These condensers are made to fit all standard Cardwell "Trim-Air" hardware.

Note maximum and minimum capacity values shown are measured from stator-to-stator and are effective values as used when a coil is connected stator-to-stator, with rotor floating.

#### CARDWELL V.H.F. 90 DEGREE TRIM-AIR MIDGETS

Part List No.	Type	Max. Cap.	Min. Cap.	No. Plates Rotor	No. Plates Stator	Air Gap	Length Overall	List Price
6075	ER-3-BF/S	3	1.5	2	1	.030"	1 23/32"	\$2.86
6076	ER-6-BF/S	5	1.5	3	2	.030"	1 21/32"	2.97
6077	ER-8-BF/S	7	2.0	4	3	.030"	1 31/32"	3.08
6078	ER-15-BF/S	13	3.0	7	6	.030"	2 3/8"	3.74
6079	EU-25-BF/S	20.4	3.4	8	7	.020"	2 5/8"	4.02
6080	EU-35-BF/S	27	4.0	10	9	.020"	2 3/4"	4.18
**6081	EU-50-BF/S	38	6.0	14	13	.020"	2 31/32"	8.42
*6113	ER-14-BF/SL	13	10.4	(3) Disc (2) 90°	(2) 180° (2) 90°	.030"	2 1/8"	4.40

\* Minimum capacity loaded by circular rotor plates.

\*\* Iso. rear end plate—ball and strap rear bearing.

# CARDWELL CONDENSERS

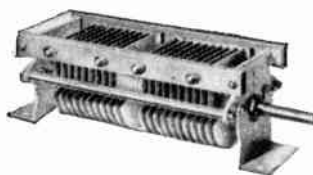
THE ALLEN D. CARDWELL MANUFACTURING CORPORATION



# STANDARDS OF COMPARISON

## MIDWAY TRANSMITTING CAPACITORS

The Midway is ideal for low and medium power transmitters for portable Mobile and aircraft equipment, due to its light weight, compact size and extremely sturdy construction. Incorporates original patented features of the larger "X" type standard transmitting condenser.



MT-100-GD PL-7030  
with PL-5051 Mtg. Brackets

### GENERAL SPECIFICATIONS:

**CAPACITY CHARACTERISTIC:** S.L.C.

**FRAME:** All aluminum end plates and tie rods.

**SHAFT:** 1/4" C.R. steel, cadmium plated.

**PLATES:** .025" aluminum. On sizes having airgap of .070" or over, plates have rounded edges, buffed to minimize corona loss.

**BEARINGS:** Brass, nickel plated shoulder type front bearing with ball thrust rear bearing.

**INSULATION:** Mycalex.

**MOUNTING:** 3 point front panel mounting by means of 3 screws and hex. posts. Two aluminum mounting feet with screws, Cardwell Part List No. 5052 for regular chassis mounting, provided instead, if so ordered. Type "M" special brackets (Part List No. 5051) permit inverted mounting.

### MIDWAY SINGLE CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL7000	MR-25-BS	25	6	3	.030	1 3/4	\$4.35
PL7001	MR-50-BS	50	6	5	.030	1 3/4	5.50
PL7002	MR-70-BS	70	7	7	.030	1 3/4	5.67
PL7003	MR-105-BS	112	9	11	.030	1 3/4	5.89
PL7004	MR-150-BS	150	10	15	.030	1 3/4	6.38
PL7005	MR-260-BS	260	13	25	.030	2 3/4	7.04
PL7006	MR-365-BS	365	16	35	.030	2 3/4	7.70
PL7015	MT-20-GS	25	8	5	.070	1 3/4	5.28
PL7016	MT-35-GS	35	6	7	.070	1 3/4	5.67
PL7017	MT-50-GS	50	10	11	.070	1 3/4	6.33
PL7018	MT-70-GS	70	10	15	.070	2 3/4	7.21
PL7019	MT-100-GS	100	14	21	.070	2 3/4	7.92
PL7020	MT-150-GS	150	18	31	.070	3 1/4	9.74
PL7021	MG-35-NS	35	14	15	.171	3 1/4	9.74
PL7024	MO-165-BS	165	15	25	.050	2 3/4	5.39

### MIDWAY DUAL CONDENSERS

Parts List No.	Type	Per Section			Air Gap	Length Over End Plates	List Price
		Max. Cap.	Min. Cap.	No. Plates			
PL7007	MR-25-BD	25	5	3	.030	1 3/4	\$7.04
PL7008	MR-50-BD	47	7	5	.030	2 3/4	7.54
PL7009	MR-70-BD	70	8	7	.030	2 3/4	7.92
PL7010	MR-100-BD	112	9	11	.030	2 3/4	8.25
PL7011	MR-150-BD	150	10	15	.030	2 3/4	8.53
PL7013	MR-260-BD	260	13	25	.030	3 1/4	9.63
PL7026	MT-20-GD	20	6	5	.070	2 3/4	8.97
PL7027	MT-35-GD	35	8	7	.070	2 3/4	9.74
PL7028	MT-50-GD	50	9	11	.070	2 3/4	10.29
PL7029	MT-70-GD	70	11	15	.070	3 1/4	11.33
PL7030	MT-100-GD	100	13	21	.070	5 1/4	12.93
PL7031	MO-180-BD	190	15	29	.050	5 1/4	12.93

## "N" TYPE TRANSMITTING CAPACITORS

Designed for medium power high frequency transmitters and short wave therapy apparatus, the Cardwell "N" series maintains the customary high standard of Cardwell construction, yet eliminates closed circuit loops completely.



NP-35-DD  
PL-7107

### GENERAL SPECIFICATIONS:

**CAPACITY CHARACTERISTIC:**

S.L.C.

**FRAME:** Improved aluminum end plates support heavy lateral ceramic insulating bars which carry the stators.

**SHAFT:** 1/4" diameter cadmium plated steel.

**PLATES:** Aluminum, .040" thick, with rounded edges. PL-7106 and 7116 have buffed and polished edges. PL-7105 has .025" thick plates, buffed and polished edges.

**BEARINGS:** Cardwell shoulder type front bearing, with ball thrust rear bearing.

**MOUNTING:** Can be single hole mounted, or by three mounting posts and screws, to front panel. Chassis mounting on feet which form part of end plates, or use Cardwell "M" brackets, Cardwell part No. 301, for inverted mounting, for lowest stator-to-ground capacity.

### ULTRA-HIGH FREQUENCY SINGLE CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7100	NP-50-DS	50	9	13	.084	3 3/4	\$5.67
PL7101	NP-75-DS	75	11	19	.084	4 3/4	6.66
PL7102	NP-100-DS	100	13	25	.084	5 3/4	7.54
PL7103	NP-150-DS	150	19	39	.084	6 1/4	9.85
PL7104	NG-35-DS	35	11	15	.171	5 3/4	7.43

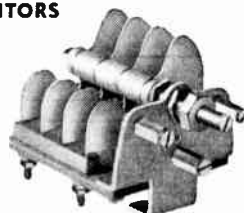
### ULTRA-HIGH FREQUENCY DUAL CONDENSERS

Parts List No.	Type	Per Section			Air Gap	Length Back of Panel	List Price
		Max. Cap.	Min. Cap.	No. Plates			
PL7105	NT-50-GD	50	7	11	.070	4 3/4	\$9.74
PL7116	NP-15-ND	17	4	5	.084	4 3/4	9.24
PL7106	NP-35-ND	35	5	9	.084	4 3/4	9.74
PL7110	NP-15-DD	17	4	5	.084	4 3/4	8.25
PL7107	NP-35-DD	35	5	9	.084	4 3/4	8.69
PL7108	NP-50-DD	50	9	13	.084	5 3/4	9.74
PL7109	NP-75-DD	75	11	19	.084	6 1/4	11.66
PL7115	NA-12-NDI	13	6	7	.218	5 1/4	24.31

Note: NA-12-NDI is dual neutralizer, rotor sections insulated from each other. Capacity and nr. plates shown, is PER SECTION.

## "NA" NEUTRALIZING CAPACITORS

The "NA" group offers 180° neutralizing capacitors of restricted range, for dial or screw driver adjustment. Shaft lock for permanent setting. Adjustable airgap on NA-4-NS only by adjusting threaded bushing in aluminum end plate. Single rotor bearing with beryllium tension washer and special bushing for rigidity. Plates are .040" thick aluminum, rounded and buffed edges. Three point panel mounting or foot mounting.



NA-16-NS  
PL-7114

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7111	NA-4-NS	4	3.25	2	.218	1 1/4	\$5.83
PL7112	NA-6-NS	6	4	3	.218	1 1/4	5.83
PL7113	NA-10-NS	12	6	6	.218	2 1/4	7.32
PL7114	NA-16-NS	16	7	8	.218	3 3/4	8.14

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

# CARDWELL CONDENSERS



THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

# STANDARDS OF COMPARISON

## "X" TYRE STANDARD TRANSMITTING CAPACITOR

The original grounded rotor, metal frame variable air capacitor.

Rounded edges, polished aluminum plates, .040" thick on all but "XT" and "XR" types.

Frames, tie rods, bearing bushings, spacers and stator blocks, nicked brass. Cadmium plated 1/4" steel shaft supports securely locked rotor assembly. Mycalex insulation. Panel spaces 4/8" x 3/8". Panel mounting. N.P. brass mounting feet provided on special order, for chassis mounting. See Accessories.



XC-100-XS  
PL-8023

## "X" TYPE STANDARD SINGLES

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL8000	XR-50-PS	50	11	3	.030	1 1/2	\$5.56
PL8001	XR-100-PS	100	12	5	.030	1 1/2	5.67
PL8002	XR-150-PS	150	12.5	7	.030	1 1/2	5.83
PL8003	XR-250-PS	250	13	11	.030	1 1/2	5.94
PL8004	XR-375-PS	375	16	17	.030	2 1/8	6.77
PL8005	XR-500-PS	475	18	21	.030	2 1/8	8.31
PL8007	XR-1000-PS	950	30	41	.030	3 1/8	15.95
PL8013	XR-1500-PS	1500	50	65	.030	5	17.60
PL8048	XT-220-PS	220	20	21	.070	3 1/8	8.09
PL8050	XT-440-PS	440	40	43	.070	5	12.43
PL8040	XP-90-KS	90	16	11	.084	2 1/8	7.32
PL8041	XP-165-KS	165	22	19	.084	3 1/8	10.51
PL8043	XP-290-KS	290	35	33	.084	5	15.40
PL8044	XP-330-KS	330	37	37	.084	5 5/8	17.60
PL8029	XE-120-XS	120	19	17	.100	3 1/8	9.74
PL8031	XE-240-XS	240	30	33	.100	5 5/8	17.60
PL8025	XD-160-XS	160	28	27	.125	5 5/8	14.63
PL8032	XG-25-XS	25	8	5	.171	2 1/8	5.67
PL8033	XG-50-XS	50	15	11	.171	3 1/8	10.51
PL8034	XG-110-XS	110	26	23	.171	5 5/8	15.68
PL8020	XC-18-XS	19	8	5	.200	2 1/8	7.32
PL8021	XC-40-XS	40	15	11	.200	3 1/8	10.51
PL8022	XC-65-XS	65	20	17	.200	5	13.75
PL8023	XC-100-XS	100	28	25	.200	6 5/8	17.05
PL8037	NK-65-XS	55	20	15	.230	5	16.23

## "X" TYPE STANDARD DOUBLES

Parts List No.	Type	Per Section			Air Gap	Length Over End Plates	List Price
		Max. Cap.	Min. Cap.	No. Plates			
PL8018	XR-500-PD	500	18	21	.030	3 1/8	\$15.40
PL8068	XT-80-PD	80	11	9	.070	3 1/8	10.23
PL8070	XT-210-PD	210	22	21	.070	5	14.08
PL8065	XP-90-KD	95	15	11	.084	3 1/8	12.16
PL8066	XP-165-KD	165	23	19	.084	5 5/8	17.82
PL8067	XP-325-KD	325	38	37	.084	10 1/8	35.70
PL8061	XE-120-XD	120	19	17	.100	5 5/8	16.23
PL8062	XE-240-XD	240	32	33	.100	10 1/8	33.94
PL8060	XD-160-XD	160	28	27	.125	10 1/8	30.86
PL8063	XG-50-XD	50	14	11	.171	5 5/8	17.33
PL8064	XG-110-XD	110	27	21	.171	10 1/8	29.15
PL8056	XC-40-XD	40	14	11	.200	6 5/8	18.65
PL8057	XC-75-XD	75	21	19	.200	10 1/8	24.31
PL8081	XE-160-70-XQ	Multi-Band	.100	10 1/8			44.66

## "T" TYPE HEAVY DUTY TRANSMITTING CAPACITORS

6/8" wide, 5/8" high, plates unmeshed. Corona shields on stators for wider airgap types. End plates 1/8" thick, heavy nickel plated. Massive bearings, 3/8" stainless steel shafts; heavy, two finger phosphor bronze rotor contactor bears on sturdy contact ring built to carry very heavy current without power loss. Rotor plates 4/2" diameter, .050" thick aluminum. Heavy mounting feet formed as part of end plates. Ball thrust rear bearing. Mycalex insulation.



TK-300-US  
PL-9110

## SINGLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Inside End Plates	List Price
PL9009	TJ-315-US	315	36	31	.168	8 3/8	\$44.55
PL9001	TC-200-US	200	35	23	.200	7	38.94
PL9002	TC-300-US	300	42	35	.200	10	44.55
PL9036	TK-300-US	312	53	39	.230	12 1/8	51.70
PL9011	TL-50-US	45	15	7	.294	3 1/8	22.99
PL9013	TL-80-US	85	24	18	.294	5 5/8	29.21
PL9014	TL-100-US	98	26	15	.294	6 3/8	30.64
PL9016	TL-160-US	160	40	25	.294	9 3/8	41.75
PL9019	TZ-40-RS	43	18	11	.500	7	33.39
PL9020	TZ-80-RS	83	32	21	.500	12 1/8	44.55

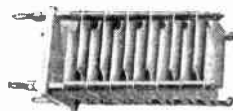
## DOUBLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Per Section			Air Gap	Length Inside End Plates	List Price
		Max. Cap.	Min. Cap.	No. Plates			
PL9026	TJ-150-UD	150	21	15	.168	8 3/8	\$44.55
PL9027	TJ-200-UD	211	30	21	.168	10 3/8	50.11
PL9021	TC-100-UD	112	20	13	.200	8 3/8	43.12
PL9022	TC-160-UD	160	30	19	.200	11	47.30
PL9023	TC-200-UD	200	35	23	.200	13	52.86
PL9024	TC-250-UD	255	40	29	.200	16	58.47
PL9030	TL-50-UD	45	15	7	.294	6 3/8	34.82
PL9031	TL-70-UD	70	19	11	.294	9	40.37
PL9033	TL-100-UD	98	26	15	.294	11 1/8	48.02
PL9034	TL-160-UD	160	40	25	.294	18 3/8	61.22
PL9029	TKD-100-UD	110	30	21	.350	18 3/8	61.22
PL9035	TZ-40-RD	43	18	11	.500	13 3/8	50.11

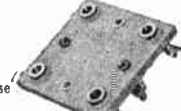
## TYPE "J" PLUG-IN FIXED AIR CONDENSERS

For fixed capacity loading.

Plates easily removed. All "J" types have 2/4" square x 1/4" Alsimag No. 196 ceramic end plates. Supplied with banana plugs to fit "JB" Jack Base. On special order provided with hexagonal brass mounting pillars and mounting screws for permanent installation.



JCO-50-0S  
PL-9705



"JB" Jack Base  
PL-5102

## TYPE "J" PLUG-IN FIXED AIR CONDENSERS

Parts List No.	Type	Capacity	No. Plates	Air Gap	Length Overall	List Price
PL9705	JCO-50-0S	50 mmf.	13	.250	5 5/8	\$8.91
PL9704	JCO-25-0S	25 mmf.	7	.250	3 3/8	6.44
PL9703	JD-100-0S	100 mmf.	17	.125	4 3/8	10.51
PL9702	JD-80-0S	80 mmf.	13	.125	4	8.91
PL9701	JD-50-0S	50 mmf.	8	.125	3 1/8	6.44
PL9700	JD-25-0S	25 mmf.	4	.125	2 1/2	4.51
PL9706	JR-750-0S	750 mmf.	33	.030	4 5/8	14.30
PL9707	JKD-50-0S	50 mmf.	18	.350	8 1/8	10.67

## JACK BASE FOR "J" FIXED AIR CONDENSERS

Size: 2 1/2" x 3 1/2" x 1/4".

Material: Alsimag No. 196.

Complete with mounting posts, screws and nuts.

Type "JB" (PL-5102)

List Price \$1.38

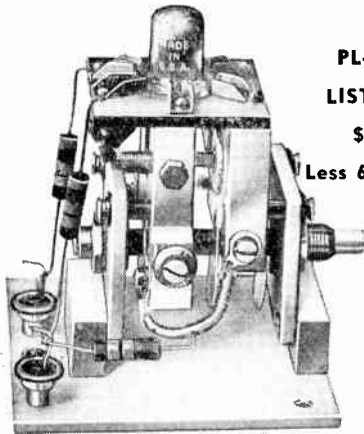
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

# CARDWELL CONDENSERS

## THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

# STANDARDS OF COMPARISON

## V.H.F. OSCILLATOR KIT



PL-20,024

LIST PRICE

\$19.80

Less 6-F-4 Tube



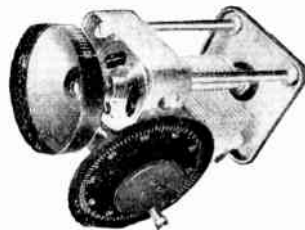
This kit includes 3 sets of coils covering 144-148 mc, 220-225 mc, 420-450 mc bands. (The 6F4 tube is not included.) Ideally suited for local oscillator, for super-heterodyne receiver,

as plate modulated oscillator for low power transmitter or transceiver, driver unit for amplifier tube in higher powered transmitter, V.H.F. signal generator, etc., etc.

### CARDWELL PRECISION CAPACITOR

Type PL-24,050

Designed for frequency meters requiring maximum mechanical and electrical precision. Type No. 4.080 gear and worm driven capacitor incorporates special design features representing years of research and usage of this component in special measurement equipment which has successfully withstood most rigorous usage our armed forces could give it.

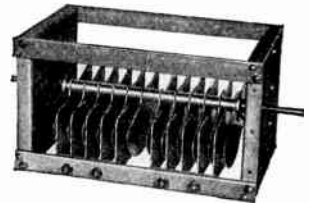


Frequency Meter Condenser  
PL-24,050

**CAP. RANGE:** Max. Cap. 220 mmfd., Min. Cap. 21 mmfd.  
**PLATE SHAPE:** S.L.F.  
**DI-ELECTRIC SUPPORTS:** Steatite.  
**BACKLASH:** Negligible.  
**RESETTABILITY:** To 10 parts in one million.  
**GEAR DRIVE:** Precision split worm gear, equipped with precision ball bearings. Ratio—100 : 1 over 360 degrees.  
**DIALS:** 3" DRUM: 50 divisions over 180° condenser rotation. 3" FAST RUNNING DIAL: Graduated 100 divisions, makes 1 revolution for each drum division. VERNIER RING: Divides each division on fast running dial into 10 parts.  
**DIMENSIONS:** 5 7/8" lg. (over drum dial) x 3 1/8" deep x 3 1/8" high.  
**WEIGHT:** 1 3/4 lbs. (with cast aluminum frame).  
**ROTOR CONTACT:** Silver plated phosphor bronze spring, with 2 silver contacts bearing on silver plated disc.  
**MOUNTING:** 3 point, to bottom of main casting.  
**PRICE:** Capacitor, PL-24,050, Type 4.080, only.....List \$105.20  
Drum Dial .....List 6.25  
Fast Running Dial .....List 14.20  
Vernier Ring .....List 2.75

## TYPE "P" LIGHT HEAVY TRANSMITTING CAPACITORS

Designed to accommodate capacitance values up to 150 mmfd. per section in a dual section type having an airgap of .500", the "P" type construction permits higher capacity for a given airgap, and therefore a shorter frame than the "T" type construction. Typical Cardwell sturdiness is built-in, and the "P" type is probably the lightest transmitting condenser built for its size, yet completely satisfactory for heavyweight use. No single section types are catalogued; parallel or series connect for double or half single section capacity listed in table.



PK-125-QD  
Special

### GENERAL SPECIFICATIONS:

**FRAME:** End plates are 1/8" thick formed aluminum, satin finish.  
**SHAFT:** 3/8" diameter, non-magnetic stainless steel, extended both front and rear end.  
**PLATES:** .064" thick, rounded and buffed edges. Rotor plates are 6 3/4" in diameter.  
**BEARINGS:** Heavy nickel plated brass front and rear shoulder bearings.  
**ROTOR CONNECTION:** Heavy, two finger N.P. phosphor bronze wiper bears on 1/8" thick N.P. brass contact ring, at each end.  
**STATOR CONSTRUCTION:** Plates permanently staked into slotted, rounded edge aluminum stator blocks.  
**INSULATION:** Mycalex (glass bonded mica).  
**MOUNTING:** 3 clearance holes for No. 10 screws in each side of each end plate permitting mounting on any side, as well as provision for mounting associated components such as inductance coil mountings, etc.

### TYPE "P" LIGHT HEAVYWEIGHT DUAL CONDENSERS

Parts List No.	Type	Per Section			Air Gap	Length Over End Plates	List Price
		Max. Cap.	Min. Cap.	No. Plates			
PL9208	PJ-750-QD	750	50	35	.168	20 1/2	Special
PL9210	PK-200-QD	210	30	13	.230	11 3/4	Special
PL9203	PKD-70-QD	70*	15*	7	.350	9 1/4	82.50
PL9204	PKD-100-QD	115	22	9	.350	11 3/4	91.85
PL9205	PZ-50-QD	50*	15*	7	.500	11 3/8	90.48
PL9206	PZ-70-QD	70*	20*	9	.500	14 1/4	96.69
PL9207	PZ-100-QD	91	23	11	.500	16 1/2	110.00
PL9209	PZ-150-QD	150	40	19	.500	24 1/8	137.50

\* Estimated value.  
Tolerance for maximum and minimum capacity values: ±10%.

### DISC TYPE NEUTRALIZER

For neutralizing low capacity transmitting triodes. Glazed steatite insulation. Polished aluminum discs. Fine screw thread adjustment in long nickel silver bearing—no wobble. Knurled thumb nut for easy locking. Heavy satin finish aluminum support and base plate.



ADN, Neut. Conds.  
PL-7118

### DISC TYPE NEUTRALIZING CONDENSERS

Item No.	Parts List No.	Type	Max. Cap.	Air Gap	Min. Cap.	Air Gap	List Price
1	PL7118	ADN	7 mmf.	.100"	1 mmf.	.700"	\$9.84
2	PL7119	BDN	15 mmf.	.200"	3 mmf.	1.000"	8.14

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

# CARDWELL CONDENSERS

## THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

# STANDARDS OF COMPARISON

## INSULATED COUPLINGS

For isolating R.F. controls. Ceramic insulation (Alsmag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brass hubs, permanently swaged or spin riveted into the springs. Two fillister head, cup point, case hardened steel set screws in each hub insure positive lock to shaft.

All rigid types have improved three-point-spider construction, carefully machined solid brass castings, and are absolutely rigid.

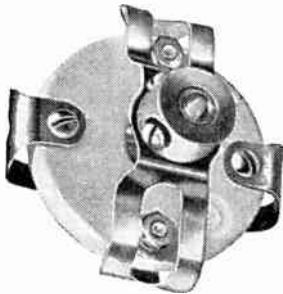
Flexible types C, D, E and F fit both 1/4" diameter shaft or a 3/8" shaft by removing bushing supplied.



"LNF" Rigid Coupling  
PL-5201



"FNF"  
PL-5013



"C"  
PL-5004



"A"  
PL-5000

### INSULATED COUPLINGS—Flexible

Parts List No.	Type	DIMENSIONS		Peak Flashover	To Fit Shaft Diameter	List Price
		"A" (Width)	"B" (Length)			
5000	A	1 3/8"	3/4"	3,700 V.	3/4"	\$0.83
5002	B	1 3/8"	1 3/8"	7,000 V.	3/4"	.83
5202	AB	1 3/8"	3/8"	5,000 V.	3/4"	1.10
5004	C	2 5/8"	2 3/8"	13,500 V.	3/4 & 3/8"	3.91
5006	D	2 5/8"	1 3/8"	9,000 V.	3/4 & 3/8"	3.91
5008	E	2 1/8"	1 3/4"	10,000 V.	3/4 & 3/8"	2.09
5010	F	2 1/8"	1 1/8"	5,000 V.	3/4 & 3/8"	2.09

### INSULATED COUPLINGS—Rigid

5014	CNF	2 1/4"	2 1/8"	12,000 V.	3/8"	4.90
5201	ENF	1 3/8"	1 3/8"	10,000 V.	3/4"	1.65
5013	FNF	1 3/8"	1 3/8"	7,500 V.	3/4"	1.38

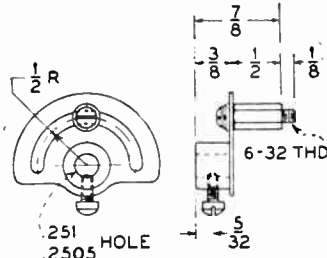
## ACCESSORIES

### "MIDWAY" MOUNTING FEET

Heavy aluminum, with 2 screws; for Midway condensers. Parts List No. 5052 ..... List (Pair) \$0.28

### INDUCTANCE CLIPS

For tapping air-wound inductors. Cadmium plated phosphor bronze spring clips for No. 12 or 14 wire. Thin blades prevent shorting turns. Type 804-A. Parts List No. 5104 ..... List Price \$0.22



### ROTOR LOCK

For locking "X" standard or "M" Midway rotor shafts in position for fixed tune. Can be set behind panel or attached to any 1/4" shaft, mounted directly on front of panel. Nickel plated brass; diameter 1/2".

Parts List No. 5100 (Type ARL) ..... List Price \$0.83

### SHAFT LOCK PANEL BUSHING

Long panel bushing for 1/4" shafts, has tapered nut for locking shaft in position. Fits 3/8" hole in panel. Complete with panel nuts. Nicked brass. Parts List No. 5055 (Type ALB) ..... List Price \$0.44

### TYPE "M" BRACKET

Use with type "N" U.H.F. duals or "M" Midway condensers. Turns condenser upside down for shortest plate leads in balanced R.F. amplifier. Regular mounting feet can be used to support a tank coil or jack base. Made of strong, satin finished, 1/16" aluminum, and supplied with proper screws and lock washers. Parts List No. 5051 ..... List Price, each \$0.28

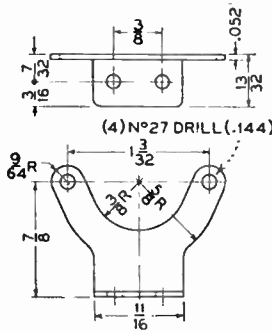
### "STANDARD" TYPE "X" MOUNTING FEET

Heavy nickel plated brass; for "X" transmitting types, with four screws. Parts List No. 5053 ..... List Price, pair \$0.28

### TRIM-AIR ACCESSORIES

As catalogued, Trim-Air singles are equipped for single hole mounting. Additional mounting accessories listed below are sold separately.

MOUNTING POSTS—(1/4" hex. x 3/4" long, tapped 6-32 N.P. brass). Pair, with screws and lockwashers. Parts List No. 5054 ..... List Price \$0.28



### "TRIM-AIR" MOUNTING BRACKET

For dual and single Trim-air condensers. Insulated from rotor and stator; N.P. brass, with two screws and nuts.

Parts List No. 5050 ..... List Price, each \$0.22

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

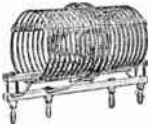
# CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

**B&W**

# COMPONENTS for amateurs and experimenters

BARKER & WILLIAMSON, Inc. • UPPER DARBY, PA.



## ANTENNA INDUCTORS TYPES TA AND HDA

Wound with tinned copper wire for ease in tapping feeders to coils. Equipped with fixed center links for coupling to either fixed or variable linked final tank circuits through a low impedance line. Two tinned clips come with each coil. TYPE TA COILS for power input up to 500 watts. TYPE HDA COILS for power inputs of one kilowatt.

### SPECIFICATIONS

Band	Stock No.	Type	Capacity to Res. L.F. End of Band mmfd.	Net Price
<b>TA TYPES</b>				
10	3601	10TA	20	\$3.45
15	3602	15TA	23	3.57
20	3603	20TA	23	3.57
40	3604	40TA	34	3.96
80	3605	80TA	50	4.38
160	3606	160TA	100	4.71
Stock No. 3321 Jack Bar Assembly for TA Inductors.				1.25

### HDA TYPES

10	3607	10HDA	20	7.02
15	3608	15HDA	20	7.83
20	3609	20HDA	20	7.83
40	3610	40HDA	20	8.25
80	3611	80HDA	34	9.06
160	3612	160HDA	100	10.32
Stock No. 3721 Jack Bar Assembly for HDA Inductors				1.75

## B & W MININDUCTORS

For use in limited space—can be cut to size. Amazingly high Q characteristic. Useful for tank circuit coils, R-F chokes, high-frequency I-F transformers, loading coils, etc.



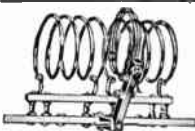
### SPECIFICATIONS

Catalog No.	Diameter	Turns per Inch	Length	Net Price
3001	1/2"	4	2"	\$0.36
3002	1/2"	8	2"	.36
3003	1/2"	16	2"	.36
3004	1/2"	32	2"	.36
3005	5/8"	4	2"	.45
3006	5/8"	8	2"	.45
3007	5/8"	16	2"	.45
3008	5/8"	32	2"	.45
3009	3/4"	4	3"	.54
3010	3/4"	8	3"	.54
3011	3/4"	16	3"	.54
3012	3/4"	32	3"	.54
3013	1"	4	3"	.60
3014	1"	8	3"	.60
3015	1"	16	3"	.60
3016	1"	32	3"	.60

## TYPE TVH INDUCTORS

For Powers up to 500 Watts Input

A special group of units with eight contact plug bars which gives greater flexibility than otherwise possible.



### SPECIFICATIONS

Band	Stock No.	Type	*Capacity to Res. L.F. End of Band mmfd.	Net Price
10	3501	10TVH	11	\$4.71
15	3502	15TVH	23	4.71
20	3503	20TVH	23	4.71
40	3504	40TVH	28	4.71
80	3505	80TVH	49	4.71
160	3506	160TVH	100	4.71
Stock No. 3566 Jack Bar Assembly for Type TVH Inductors				5.16

\*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

PRICE INDICATIONS ARE REVISIONS MADE SEPTEMBER 1, 1951

## JUNIOR INDUCTORS

For Powers Up to 75 Watts Input

Fitted with standard five-prong seatite base. Small size for compact construction. May be used in the oscillator, buffer or final amplifier stage with input powers up to 75 watts and plate voltages up to 850. Three different assemblies provided, any of which may be used in capacity-coupled circuits by omitting connection to the links.



### SPECIFICATIONS

Band	Stock No.	Type	*Cap. to Res. L.F. End of Band mmfd.	Net Price
<b>End Linked Models</b>				
6	3100	6JEL	15	\$1.65
10	3101	10JEL	22	1.65
15	3102	15JEL	22	1.65
20	3103	20JEL	34	1.65
40	3104	40JEL	47	1.65
80	3105	80JEL	60	1.65
160	3106	160JEL	100	1.65
<b>Center Linked Models</b>				
6	3107	6JCL	15	1.65
10	3108	10JCL	16	1.65
15	3109	15JCL	16	1.65
20	3110	20JCL	16	1.65
40	3111	40JCL	33	1.65
80	3112	80JCL	53	1.65
160	3113	160JCL	100	1.65
<b>Variable Link Models</b>				
6	3114	6JVL	15	1.65
10	3115	10JVL	22	1.65
15	3116	15JVL	27	1.65
20	3117	20JVL	21	1.65
40	3118	40JVL	31	1.65
80	3119	80JVL	46	1.65
160	3120	160JVL	100	1.65

\*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

## B & W TURRET ASSEMBLIES

Unique switching assembly makes possible fast, positive band switching without absorption effects. All units cover 80, 40, 20, 15 and 10 meter bands. Also available with 160 meter coil substituted for 15 meter coil.

**B & W 75 WATT 2A "BAND HOPPERS"** Uses same coil design as B & W Juniors. Unusually compact panel controlled unit. It may be used for interstage coupling between two beam power tubes or between beam power tubes and triodes.

Stock No. 3121—Type JTCL—Center linked, center tapped coils. Amateur Net \$5.76

**B & W 75-WATT TURRETS**—provide a means for link coupling single ended or push-pull low power stages. Complete assembly is mounted on a positive action switch arranged for panel mounting through a single 3/8" hole. Turrets may be used with tubes operating at voltages up to 850.

Stock No. 3810—Type JTCL—Center linked, center tapped coils. Amateur Net \$11.25

Stock No. 3811—Type JTCL—End linked, untapped coils. \$11.25

**B & W 150-WATT TURRETS**—Supplied in both center and end link models for both single- and double-ended circuits. Operation is by a positive action switch arranged for panel mounting through a single 3/8" hole. Turrets may be used with tubes operating at voltages up to 1000 volts.

Stock No. 3812—Type BCL—Center linked, center tapped coils. Amateur Net \$14.01

Stock No. 3813—Type BEL—End linked, untapped coils. \$14.01



## BALUN INDUCTORS

These bifilar balun inductors are specially designed for use with Collins 32-V series and similar transmitters—see "The Impedance Matcher" as described in CQ Magazine for May 1951. Two coils mounted on an 8" square plate serve as a compact, highly efficient all-band (80-10 meters) unit for matching feed line systems to both transmitters and receivers. Can be connected to match 75 ohm unbalanced transmitter outputs to 75 and 300 ohm balanced antenna feed lines. Full instructions included.

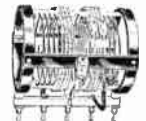


Type 3975  
\$4.65 each coil

## 3400 SERIES INDUCTORS

FOR POWERS UP TO 500 WATTS

Each coil has an individual internal center coupling adjustable over 360°, permitting impedance matching up to 600 ohms. 10, 15, 20, 40, 80 and 160 meter band types. Write for details.





**B&W**

# COMPONENTS for amateurs and experimenters

BARKER & WILLIAMSON, Inc. • UPPER DARBY, PA.

## B & W NEW PLUG-IN LINKS

FOR IMPEDANCE MATCHING  
Adaptable to all B & W Swinging Link assemblies, these B & W plug-in links solve the quick change problem. Just pull out one coil and plug in another with the required number of turns. Old link arm easily replaced with new plug-in type.



ORDERING NUMBERS FOR B & W PLUG-IN LINKS			
For Types TVH, TVL, BVL Swinging Link Assemblies		For Type HDV Swinging Link Assemblies	
Ordering No.	Price	Ordering No.	Price
Arm Only	3550 \$ .70	Arm Only	3750 \$1.40
Arm and Hinge	3565 1.00	Arm and Hinge	3765 1.80

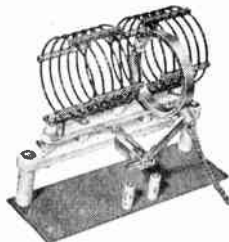
PLUG-IN LINK COILS			
Ordering No.	Price	Ordering No.	Price
1 turn	3551 \$ .60	1 turn	3751 \$1.25
3 turns	3553 .60	3 turns	3753 1.25
6 turns	3556 .60	6 turns	3756 1.25
10 turns	3560 .95	10 turns	3760 1.75

Above are standard. Other turns available on request.

## B & W FARADAY SHIELDED LINKS

... fit all B & W variable link air inductors

These shielded links effectively reduce harmonic or spurious signal radiations normally transferred by capacity coupling. Adaptable to all conventional link coupled circuits, the B & W Faraday Shielded Links materially aid in the reduction of TV and BC interference. They may be used with external antenna tuning units or, in conjunction with harmonic reduction filters of the low-pass or band-pass types. It is impossible to specify the exact number of link turns required because loading is affected greatly by the antenna input impedance and this is not generally known with any degree of accuracy.



On 10 and 20 meters, a one turn link is normally satisfactory for 50 ohm lines, two turns for 75 ohm lines and three turns for lines having higher impedances. For average conditions our two turn link should suffice.

Cat. No.	No. Turns	Wattage	Price
<b>FOR B &amp; W TVL, TVH, AND BVL SERIES COILS</b>			
3581	1 turn	500 watts	5.10
3582	2 turns	500 watts	5.10
3583	3 turns	500 watts	5.10
3588	Link arm assembly		2.40
3589	Link arm and hinge		2.70
<b>FOR B &amp; W HDVL SERIES COILS</b>			
3781	1 turn	1000 watts	5.40
3782	2 turns	1000 watts	5.40
3783	3 turns	1000 watts	5.40
3788	Link arm assembly		2.70
3789	Link arm and hinge		3.00

## B & W COIL MATERIALS

### Stock lengths for cutting to size

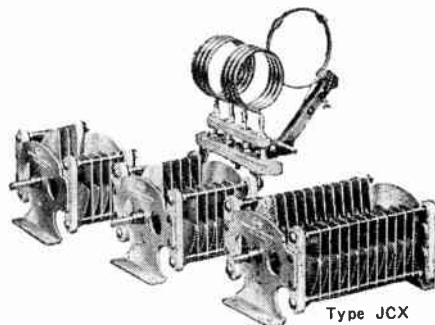
Often an amateur or experimenter wants to make a special coil or to assemble his own coils. For such purposes, we offer seven popular coils in standard lengths which can readily be cut and mounted to meet your individual requirements.

All coils are 10" long Net Price each \$1.50

Stock No.	Wire Size	Diameter	Turns per Inch
Enameled	Tinned		
3900	#14	2"	8
3905	3905-1	#12	2 1/2"
3906	3906-1	#14	2 1/2"
3907	3907-1	#16	2"

PRICE INDICATIONS ARE REVISIONS MADE SEPTEMBER 1, 1951

## B & W NEW, SMALL BUTTERFLY VARIABLE CAPACITORS



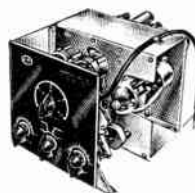
These new JCX Variable Capacitors use the popular B&W split stator, butterfly type construction but with just 25% of the frontal area of CX types.

Featuring stainless steel shafts, heavy rounded aluminum plates and high quality insulating materials, the B&W Midget Butterfly will be a welcome addition for the amateur who is looking for peak efficiency in low and medium power transmitter stages.

Stock No. 3238—Type B Jack Bar for JCX Capacitors ..... \$1.25 Net  
Stock No. 3239—Type BX Jack Bar for JCX Capacitors ..... 1.55 Net

Type	Catalog Stock No.	Capacity Section in Series		Capacity Per Section		Mounting Length	Net Price
		Max.	Min.	Max.	Min.		
JCX100E	100	80	15	99	23	5 1/2"	\$10.80
JCX50E	101	25	10	42	13	3 3/4"	8.10
JCX25E	102	16	8	25	10	2 3/4"	6.60

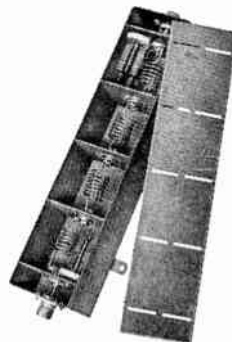
## B & W FREQUENCY MULTIPLIER



Price: \$85.00 Amateur Net. Complete with tubes. Dimensions: 6 1/2" x 7" x 9 3/4".

This B & W all-band frequency multiplier solves the difficult problem of developing frequency step-up stages. Packaged unit covers 80-40-20-15-11 and 10 meter bands. Just flip a switch on the attractive reverse etched aluminum panel plate, to get the required band. Operates on either VFO or Crystal input and not less than 30 watt output.

## B & W TVI LOW-PASS FILTERS



- Provide extreme attenuation to all harmonics above 30 mc
- Eliminate individual filters for each band
- Handle 1 kilowatt with ease
- Insertion loss less than .25 db

Three years of intensive study of TVI problems made possible the B & W Faraday Shielded Link. Its natural companion, the B & W Low Pass Filter, was developed concurrently and is now available. Properly installed in accordance with our recommendations, this filter enables you to attenuate all frequencies above 50 megacycles, approximately 75 db or more, throughout the entire television band.

The B & W Low Pass Filter consists of two "m" derived end sections and three mid-sections of constant K type. Each section is contained in a completely sealed copper compartment to prevent inductive transfer of unwanted frequencies from section to section. Complete installation instructions and recommendations to aid you in eliminating TVI are given in "Filter-Facts," packed in each unit. Individual copies of "Filter-Facts" are also available for 15 cents. Filters are supplied in hammered gray metal cabinets 2 1/2" x 2 1/2" x 12" and weigh 2 1/4 lbs.

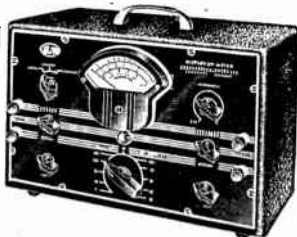
The proper filter for the more common types of feed line systems are:  
For single 52-ohm coax ..... Net Price \$27.00  
Model 52, B & W Cat. No. 415.  
For single 75-ohm coax ..... Net Price \$27.00  
Model 75, B & W Cat. No. 416

**B&W****TEST EQUIPMENT and SPECIAL COMPONENTS**  
BARKER & WILLIAMSON, Inc. • UPPER DARBY, PA.**B&W DISTORTION METER**  
**Model 400**Net Price: \$168.00.  
Dimensions: 13 $\frac{3}{4}$ "  
x 7 $\frac{1}{4}$ " x 9 $\frac{1}{2}$ ".

A sensitive instrument having a wide range of applications in the audio frequency measurements field. Ideal for measuring low level audio voltage and determining noise and harmonic content of same. Variable frequency selective filter provides a single frequency suppression circuit for the frequency range of 30 to 15,000 cycles. Small size, light weight and outstanding performance make this instrument an ideal unit for either laboratory or field work.

**FEATURES**

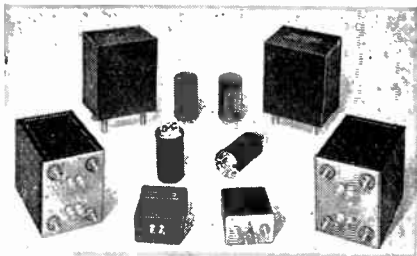
- Frequency Range:**
  - Distortion meter. For fundamentals from 30 to 15,000 cycles, measuring harmonics up to 45,000 cycles.
  - As voltmeter and D.B. meter from 30 to 45,000 cycles.
- Sensitivity:**
  - Noise and distortion measurements, minimum input .3 volts.
  - Voltmeter, full scale readings of .3, .1, .03, .01, .003 volts.
- Calibration:** For distortion measurements:  $\pm 5$  D.B. For voltage measurements:  $\pm 5\%$  of full scale at 1000 cycles.

**B&W AUDIO OSCILLATOR**  
**Model 200**Net Price: \$138.00.  
Dimensions: 13 $\frac{3}{4}$ " x 7 $\frac{1}{4}$ " x 9 $\frac{1}{2}$ ".

Ideal for use in distortion measurements, frequency measurements or in any application where a stable, accurately calibrated source of frequencies between 30 and 30,000 cycles is required. No zero reset or line calibration is required. Self-contained power supply. Housed in an attractive black crackle finished steel cabinet with carrying handle and rubber feet. Panel is of  $\frac{1}{8}$ " reverse etched aluminum.

**FEATURES**

- Voltage Output:** 10 volts into a 500 ohm load.  
**Wave Form:** RMS harmonics at 3 volts on 500 ohm load less than 1% on all frequencies between 50 and 15,000 cycles.
- Frequency Response:** Better than  $\pm 1$  D.B. from 30 to 15,000 cycles with 500 ohm load.  
**Stability:** Better than 1%.  
**Calibration:**  $\pm 3\%$  of scale reading.

**B & W FILTERS — DISCRIMINATORS**  
**SPECIAL COMPONENTS**

B & W toroidal type filters — high-pass, low-pass, band-pass, band-suppression and discriminators for RF or audio filtering . . . for line RF suppression . . . for harmonic attenuation . . . for teletype communications . . . for single side band equipment . . . for teletype equipment, and many other uses. Manufactured to fulfill special requirements in both design and performance. These units also supplied to meet MIL-T-27 specifications in Class A, Grade I, where temperature and humidity are important factors.

**B & W ROTARY COILS AND CYCLOMETERS**

The B & W Rotary Coil offers a practical method of continuously varying circuit inductance over the entire range of the coil. Types are available for powers up to 1000 watts. B & W Cyclometer

type counters for rotating and resetting these and other rotary units assure close accuracy. Write for details to Barker & Williamson, Inc., Upper Darby, Pa.

**B&W FREQUENCY METER****Model 300**

Net Price: \$126.00.

Dimensions: 13 $\frac{3}{4}$ "  
x 7 $\frac{1}{4}$ " x 9 $\frac{1}{2}$ ".

An accurate and convenient means of making direct measurements of unknown audio frequencies up to 30,000 cycles. Integral power supply. Extremely useful for routine checking of audio oscillators or tone generators. Housed in an attractive black crackle finished steel cabinet with carrying handle and rubber feet.

**FEATURES**

- Frequency Range:** 0 to 30,000 cycles in 6 ranges.  
**Sensitivity:** Minimum .25 volts input.  
**Wave Form:** Will operate on any wave form with peak ratios of less than 8 to 1.
- Calibration:** When referenced against 60 cycles line frequency, all other frequencies will fall within 5%.

**B & W LINEAR DETECTOR**Model 404 — Net Price \$85.00  
Dimensions: 8 $\frac{3}{4}$ " x 7 $\frac{1}{2}$ " x 5"

Provides combined RF detection and audio bridging circuits for use with any distortion meter, to measure distortion or noise in AM carriers or in balanced and unbalanced audio circuits. Includes a bridging transformer, a vacuum tube rectifier, a 40 D.B. pad adjustable in 10 D.B. steps, and a function selector switch.

**FEATURES**

- RF Operating Range:** 400 kc. to 30 mc.  
**Input:** Single-ended; impedance 10,000 ohms.  
**Bridging Impedance:** 6000 ohms; insertion loss 1 D.B.  
**Frequency:** Essentially flat from 20 to 50,000 CPS.

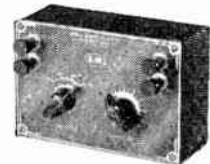
**B & W SINE WAVE CLIPPER**  
**Model 250**

Equipped with a pair of input terminals, a pair of output terminals, an output volume control and a selector switch.

Net Price: \$10.00.

Dimensions: 2" x 4" x 5 $\frac{1}{2}$ ".

**SPEEDS ACCURATE ANALYSIS OF AUDIO CIRCUITS. SIMPLIFIES SELECTIONS OF COMPONENTS. SAVES VALUABLE TIME.** Here's an instrument that will do most of the jobs usually assigned to a square wave generator costing about 10 times as much! The B & W Sine Wave Clipper provides a test signal particularly useful in examining the transient and frequency response of audio circuits. Designed to be driven by an audio oscillator, the clipper provides a clipped sine wave — hence the name "Sine Wave Clipper." Used in engineering work, repairs, or with equipment under development, it will quickly pay for itself many times over.

**B & W TOROIDS**

B & W toroidal\* coils are available in frequency ranges from 1000 cycles to 200 KC, with inductance and Q value to your specific application requirements. Sizes for these toroids range from  $\frac{1}{8}$ " to 3" diameter.

These coils have a specific application in low and medium frequency ranges and provide a high degree of stability vs. voltage and temperature. Available in either open, cased, potted or hermetically sealed types, wound on cores having any desired properties, including the latest high permeability cores. Where required, they may be designed to compensate for conditions of extreme temperature variations.

\*Western Electric license



## UNIVERSAL ADJUSTABLE COILS



These Adjustable - Inductance Ferrocart (Iron-core) coils will replace the Broadcast band coils in practically any receiver.

Continuously variable in inductance over a wide range, these coils will accurately "track" with the other coils in the receiver when properly adjusted. The exact inductance of the old coil is easily matched by a simple screwdriver adjustment, regardless of the value of the tuning condenser.

High "Q" iron cores used in these coils add gain and selectivity to the receiver. The oscillator coil provides complete adjustment for intermediate frequencies between 175 and 520 kc. May be used in either "cut-plate" tuning condenser or padded circuits. Available shielded or unshielded, furnished with complete instructions. 1 3/4" square by 2 1/2" high.

### UNSHIELDED

No.	Description	List
14-1026	Universal Ant. Coil	\$2.14
14-1027	Universal R.F. Coil	2.11
14-1028	Universal Osc. Coil	2.11

### SHIELDED

No.	Description	List
14-7413	Universal Ant. Coil	\$3.38
14-7558	Universal R.F. Coil	3.38
14-7560	Universal Osc. Coil	3.38

## SLIP-OVER PRIMARIES



Designed to provide economical replacement of burned out primaries on all types of Antenna and R.F. coils. All windings are high-impedance type for improved performance. Sizes given below are outside diameter of coil over which the replacement winding will fit. Complete instructions for repair and replacement given.

No.	Size	List
14-6850	For 1 3/4" O.D. Coil	\$0.48
14-6852	For 1" O.D. Coil	.42
14-6854	For 7/8" O.D. Coil	.42
14-6856	For 3/4" O.D. Coil	.42
14-8418	For 1/2" O.D. Coil	.37

## "PLASTIC" I-F TRANSFORMERS



These remarkable transformers are only 1 1/4" square and 2 1/2" high!

The one-piece molded plastic coil-form and trimmer-base eliminates many separate parts that were required with other types of construction. The iron core series are highly recommended for use in compact receivers and auto sets where only one I-F stage is permitted.

### Selectivity Band Width

No.	Freq. Range	Peak Factory Setting	2x	10x	Use
16-6648	140-200	175	6.0	17.5	Input
16-6650	140-200	175	5.7	15.0	Interstage
16-6651	140-200	175	11.2	29.5	Output
18-6652	200-310	262	9.5	24.7	Input
18-6653	200-310	262	10.4	27.5	Interstage
16-8854	200-310	262	20.5	52.1	Output
16-6854	305-480	370	8.4	24.4	Input
18-6856	305-480	370	11.3	30.0	Interstage
16-6857	305-480	370	18.8	47.7	Output
16-6858	400-550	455	18.8	46.6	Input
16-6859	400-550	455	12.5	33.0	Interstage
18-6860	400-550	455	17.5	50.5	Output

Air-Core "PLASTIC" I-F Transformers \$1.69

IRON CORE "PLASTIC" I-F's

18-6662	380-600	455	80	11.2	30.0	Input
18-6663	380-600	455	85	15.0	41.0	Output

IRON-CORE "PLASTIC" I-F Transformers \$2.54



## CARTWHEEL I. F. TRANSFORMER

A brand new, ultra-compact, unshielded I-F Transformer, complete with dual trimmers, finds useful application in many types of compact AC-DC or Midget type receivers. Only 1 3/8" by 1 3/8" by 1 1/4" high; one-piece molded plastic trimmer base; for 456-kc only.

List Price ..... \$1.69

## STANDARD ANTENNA R. F. COILS

Standard type air-core coils of superior construction, designed to cover the Broadcast band from 545 to 1420 kc with a 365-mmfd. tuning condenser. All coils have high-impedance primaries. Secondaries are wound with Litz wire. Fully protected against humidity. Shielded coils are in non-magnetic cans. 1 1/2" diameter by 2 1/2" high.



### UNSHIELDED

No.	Type	List
14-1010	Standard Antenna Coil	\$1.14
14-1011	Standard R.F. Coil	1.14

### SHIELDED

No.	Type	List
14-1004	Standard Antenna Coil	\$1.51
14-1005	Standard R. F. Coil	1.51

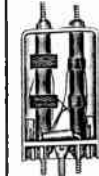
## DOWEL TYPE PRIMARY

Popular replacement for burned out primaries in high impedance antenna coils. Universal wound on 3/8" dia. by 1/2" long dowels moisture protected. Inductance 1700 uh.



No. 14-6865 List Price. . . . .48

## FM-AM "COMPOSITE" I.F. TRANSFORMER



Contains a 455-kc. AM and a 10.7 mc. FM I.F. transformer. Can size: 1 1/2" square x 2 1/2" long. Spade bolt mounting.

16-6675 10.7 mc.-455 kc. I.F. Trans., List .....\$4.83

## FERROCART I. F. TRANSFORMERS

All units are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are of high-grade Litz wire, thoroughly impregnated. Shield is bright aluminum finish. 1 1/2" square by 3" high.

No.	Freq. Range	Peak Factory Setting	Use
16-5728	127-206	175	Input
16-5730	127-206	175	Output
16-5740	360-600	455	Input
16-5742	360-600	455	Output
16-8091	1050-2000	1500	Input-Interstage
16-8099	1050-2000	1500	Output

List Price Each ..... \$3.38

## AIR-CORE R-F CHOKES

Accurately wound and individually tested; coils wound on specially treated forms, mounted on bakelite terminal base and thoroughly moisture proofed. Available in shields or without; both single - hole mounting. Shielded chokes have terminals thru top of can so unit may be mounted on inside wall of chassis. Shields are bright aluminum finish. 1 1/2" square.



MII			Unshielded		
Induct.	No.	List	No.	List	
2.5	19-5582	\$1.09	19-1994	\$0.79	
5.5	19-5584	1.09	19-4551	.79	
8.0	19-5586	1.14	19-2078	.85	
10.0	19-1900	1.27	19-8770	.90	
16.0	19-5590	1.33	19-1995	1.03	
30.0	19-5592	1.45	19-2330	1.09	
80.0	19-5594	1.63	19-3247	1.27	
80.0	19-5596	1.69	19-2709	1.33	

## STANDARD OSCILLATOR COILS

High-quality Broadcast band oscillator coils designed for use with any of the Antenna and R. F. coils listed above, using a 365-mmfd. tuning condenser. Frequency coverage is 545 to 1580 kc; units are provided for all popular intermediate frequencies.



Coils are mounted on bakelite base with tinned soldering lugs for connections. Unshielded coils have single-hole stud mounting. All coils are thoroughly impregnated to resist severe climatic conditions. Shielded coils are in cans, 1 1/2" diameter by 1 1/2" high, black crackle finish.

### UNSHIELDED

No.	I.F. Freq.	Padder Required	List
14-3732	175 kc	900 mmf	\$1.27
14-6590	262 kc	700 mmf	1.27
14-6592	370 kc	350 mmf	1.27
14-4034	456 kc	350 mmf	1.27

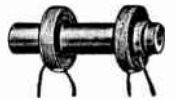
### SHIELDED

No.	I.F. Freq.	Padder Required	List
14-4242	175 kc	900 mmf	\$1.63
14-4243	456 kc	350 mmf	1.63

14-1033 Special Unshielded Osc. for 6SA7; 456 kc 350 mmf \$1.03

## REPLACEMENT I. F. WINDINGS

Coils are wound on wood dowels, 3/8" diameter and 1 1/2" long; coupling is adjustable by sliding primary coil. Complete instructions furnished with each coil.



No.	Freq.	Type	List
16-6600	175	Standard	\$1.03
16-6601	455	Standard	1.03
16-6602	175	Center-tap	1.33
16-6603	455	Center-tap	1.33

## STANDARD I. F. TRANSFORMERS

All transformers are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are fully impregnated. Well-insulated RMA color-coded lead wires. Bright aluminum finish shield is 1 1/2" square by 3" high.



No.	Freq. Range	Peak Factory Setting	Use
16-5700	121-235	175	Input
16-5702	121-235	175	Output
16-3731	121-235	175	Output C. T.
16-5704	220-360	262	Input
16-5706	190-325	262	Output
18-5712	425-650	455	Input
16-6133	435-1000	455	Interstage
18-5714	425-650	455	Output
18-3736	255-550	455	Output C. T.

List Price Each .....\$2.54

## PHONO-OSCILLATOR COIL

For use in building either wireless or direct-connected phonograph-oscillator units for record reproduction through the radio receiver. Knob adjustment permits selection of clear frequency in the broadcast band. Coil is in bright aluminum shield, 1 1/2" square by 3 1/2" high.

No. 17-9373 List ..... \$3.38

## B. F. O. COIL

For use with standard I. F.'s in superhet receivers. They supply the "beat" note necessary to reception of C. W.; materially aid in tuning and locating weak stations. Mica trimmed. Freq. Range 200-650 KC. Peaked at 456 KC. In 3/8" sq. x 3 1/2" h. can with knob for pitch control. No. 17-6753 List Price ..... \$2.96

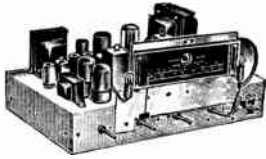




Mt. Carmel, Illinois . . .

World's largest precision  
Coil Manufacturers

**Meissner AM-FM TUNER  
MODEL 9-1091-C**



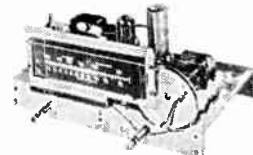
High fidelity reception! Covers AM Broadcast Band from 527 to 1620, FM Band from 88 to 108 MC (channels 200 to 300). Frequency response is flat with plus or minus 2 db from 50 to 15,000 cycles! Input jack provided for crystal or high level magnetic type phonograph pickup. Extreme sensitivity and selectivity.  
List Price . . . . . \$341.70

**Meissner MODEL 8C FM RECEPTOR**



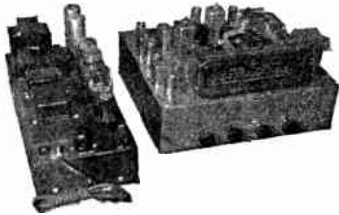
Add superb frequency modulation to any regular AM set. Precision built for simple connection to your present AM radio. Audio fidelity: Flat within plus or minus 2 db from 50 to 15,000 CPS. Frequency range 88 to 108 MC. Power supply 115 volts AC.  
List Price . . . . . \$91.15

**MODEL 8CK RECEPTOR KIT**



Frequency Range: New FM band, 88 to 108 MC. Sensitivity: 10 microvolts. Audio Output: 3 volts R.M.S. at minimum usable signal output, 30% modulation. For greater signal inputs, output voltages as high as 15 volts R.M.S. may be obtained without distortion. Assembly: Easily assembled from detailed pictorial diagram and simplified schematic. Front end factory assembled and aligned. Wire, hardware and solder included. I-F Coils pre-aligned. Weight: 4 1/2 lb. actual.  
Net Price . . . . . \$42.75

**MODEL 9-1093 AM-FM TUNER AND AMPLIFIER**



A high-quality AM-FM tuner and amplifier that is hard to beat. Power output, 18 watts at less than 2% harmonic distortion. Audio fidelity flat within plus or minus 2 db from 50 to 15,000 CPS. Hum level 65 db below full output. Slide rule dial is calibrated in kilocycles (535 to 1620 KC) on the AM band and in megacycles (88 to 108 MC) on the FM band. Sensitivity less than 20 microvolts. A phonograph input jack controlled by a front switch is mounted in rear. The circuit is com-

pensated for either magnetic or crystal pickup. The Tuner can also be used with the new GE Reluctance Pick-up because of a new phonograph preamplifier that has been incorporated in the circuit. Simply plug a 6SC7 in the socket provided. The 8SC7 is not supplied. A combination tone control provides bass boost up to 11 db at 40 CPS and treble attenuation up to 13 db at 10,000 CPS. Amplifier is designed for an 8 to 16-ohm speaker. Power supply: 105-125 volts, 50-60 cycles; consumption, 150 watts.

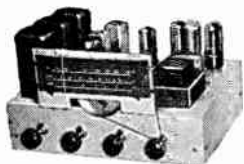
Tube Complement: 3-6SK7, 1-6SA7, 1-6H6, 5-6AG5, 1-6C4, 2-9001, 1-6AL5, 2-6J5, 1-6SN7-GT, 2-6L6 Power Amplifiers, 1-5Y3G Rectifier, 1-5V4G Rectifier and 1-6U5/6G5 Tuning Eye. Chassis Mounting Space: Tuner — 14 1/2" w. x 12 1/2" d. x 8 3/8" h. Amplifier — 7 1/2" w. x 16 1/2" d. x 7" h. (Allow clearance above amplifier for ventilation). Tuner weight is 18 lbs.; amplifier, 27 lbs. Supplied complete with tubes, two antennas and all hardware required to mount chassis units in cabinet. Antennas consist of a low impedance, 12" x 16", noise reducing loop for AM broadcast and an indoor type folded dipole, 300-ohm, for FM broadcast. Cabinet and speaker not included.  
List Price . . . . . \$432.35

**T-32W10 AUDIO AMPLIFIER**



Fidelity: 1DB, 20 to 20,000 c.p.s. Power output: 10 watts with less than 2% harmonic distortion. Hum level: 70 db below rated output. Output impedance: 4, 8, and 16 ohms. Has treble boost and bass boost controls. Complete for use with ordinary pick-up or tuner, can be instantly converted when operation with reluctance pick-ups or high impedance microphones is contemplated. Simply plug-in T-32W10 Pre-Amplifier. A pre-wired socket already provided. Here's America's Great Audio Amplifier value!  
T-32W10 Complete for use with high impedance pick-up or tuner . . . . . List Price \$65.95  
T-32W00 Plug-in Pre-Amplifier for use with reluctance pick-up or high impedance microphones . . . . . List Price \$1.90

**MODEL 6BK 3-BAND AC KIT**



Frequency Range: 535 KC to 18 MC in 3 overlapping bands.  
Sensitivity: 15 microvolts on all bands.  
Audio Output: 3 watts maximum, 2 watts at 5% distortion.  
Power Supply: 105 to 125 and 210 to 250 volts, 50 to 60 cycles. Power consumption, 55 watts.  
Assembly: Easily assembled from detailed pictorial diagram and simplified schematic. Wire, hardware and solder included.  
Weight: 8 1/2 lbs. actual.  
Net Price . . . . . \$44.30

**TRANSMITTER CHOKES**

No. 19-3019	\$3.38
Inductance	2.8 mh
Current	1000 ma
Ohms	5.0
No. 19-3022	\$2.96
Inductance	5.5 mh
Current	500 ma
Ohms	12.5
No. 19-3025	\$2.96
Inductance	5.9 mh
Current	200 ma
Ohms	34.9



**IRON-CORE R-F CHOKES**

No.	MH	List
19-6834	2.5	\$1.14
19-6840	10.0	1.45
19-6842	30.0	1.69
19-6844	60.8	1.93
19-6846	80.0	2.17
19-6848	125.0	2.78



**F. M. COILS—I. F. TRANSFORMER**

Permeability tuned; designed for use on newly assigned F. M. Frequencies. Mounted in 1-7/16" x 3/4" x 1-20/32" can. Tuned to 10.7 mc.  
No. 16-6665 List Price \$3.56



**DISCRIMINATOR TRANSFORMER**

Mounted in same size can as I.F. Transformer listed above. Permeability tuned to 10.7 mc.  
No. 17-3484 List Price \$4.71

**"6SA7" OSCILLATOR COIL**



Tapped type coil for currently popular 6SA7 tube. For use with 420 ufd. condenser and padner.  
14-1033 List . . . . . \$1.03  
For use with 162 ufd. "cut" section condenser.  
14-1053 List . . . . . \$1.03

**"UNIVERSAL" ADJ. IND. OSCILLATOR COIL**

A truly universal oscillator coil for 455 kc. I.F. Primary is tapped for use with any of 25 different type oscillator tubes. Instructions included.  
14-1040 List . . . . . \$2.42

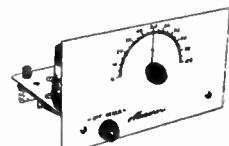
**MIDGET SHIELDED ANT. AND R.F. COILS**

A compact, super quality shielded antenna and R.F. coil. Provides full coverage of the broadcast band with a 365 tuning condenser. Special wound Iltz wire secondaries. High impedance primaries. Capacity coupling used to level gain over frequency range. Coil forms are bakelite 1/2" diameter; winding protected by wax impregnation. Shields are 1 3/8" square x 2" high.  
14-2436 Shielded Ant. Coil, List . . . . . \$1.51  
14-2437 Shielded R.F. Coil, List . . . . . \$1.51



**MIDGET UNSHIELDED B.C. ANT.—R.F. COILS**

Highly efficient antenna and R.F. coils, especially designed for use where space is at a premium. Cover the regular broadcast band with a 365 ufd. tuning condenser. Coils have high impedance primaries and Iltz wire secondaries. Windings are impregnated for moisture protection and wound on 3/8" diameter x 1 1/2" long forms.  
14-1022 Unshielded Ant. Coil, List . . . . . \$1.03  
14-2023 Unshielded R.F. Coil, List . . . . . \$1.03



**MODEL 2BK BATTERY TRAINER KIT**  
Circuit: Regenerative grid leak detector with resistance coupled pentode audio stage. Tuning Range: Shipped with coil to cover the broadcast range of 520 to 1530 KC. Other coils available to cover various ranges are listed below. Batteries and headphones required but not supplied with kit. Assembly: The kit is easily assembled from detailed pictorial diagram and simplified schematic. Wire, hardware and solder included. Size: 7 3/4" x 4 1/4" tall x 4 3/8" deep. Weight 1 1/2 lb. actual.  
Net Price . . . . . \$10.65

**MODEL 3BK AC-DC TRAINER KIT**

Circuit: Same as 2BK except AC-DC type power supply added. Power Supply: 105 to 125 volts. AC or DC. Power consumption, 18 watts. Headphones: Shipped less phones. Assembly: Easily assembled from detailed pictorial diagram and simplified schematic. Wire, hardware and solder included. Size: 7 3/4" x 4 1/4" tall x 4 3/8" deep. Weight: 1 1/2 lb. actual. Net Price: \$12.25. Extra Coils: 170 to 340 KC. and 540 to 1300 KC. List Price \$2.54. 1.4 to 4.50 MC, 3.2 to 8.2 MC, 8 to 18 MC and 15 to 34 MC. Weight: each 1 oz.  
List Price \$1.03.

**NEW MEISSNER WAVE TRAPPERS**



AVAILABLE IN 5 MODELS  
6 to 13 mc, 13 to 27 mc, 27 to 54 mc, 54 to 108 mc, 108 to 216 mc.  
You can now attenuate interfering signals on fundamental or harmonic frequencies with these new, highly efficient tunable wave traps. Several may be connected in series if interference exists on more than one frequency. Efficient with any balanced or unbalanced line from 50 to 400 ohms impedance.  
List Price . . . . . \$6.04

**NEW MEISSNER LINE FILTERS**



(Grounded & Shielded)  
Reject interference from electric shavers, electric fans, food mixers, vacuum cleaners, etc. 300-watt rating.  
List Price . . . . . \$7.85

# DECIMETER

## Progressive Products

### TVI WAVE TRAPS



Kill interference from FM broadcast, diathermy, 10-meter amateur, and spurious IF.

DeciMeter TVI Wave Traps are easy to install — they slide over lead-in — require no cutting of wire, and no ground connection.

In three ranges:

- A — 20 MC. to 26 MC.
- B — 25 MC. to 35 MC.
- C — 88 MC. to 108 MC.

List price, any range **\$4.95** Write for Bulletin RM-11

## DECALS FOR ELECTRONICS

World's largest assortment of Decals for Electronics — over 200 different title plates, dial plates, alphabets and numerals, high-voltage signs in red, call letters in black and gold, and television terms. Printed in neat, opaque letters on clear, tough backing. Top surface has protective coating which provides high resistance to wear. Superior adhesive qualities.

- Water-type "slip-off" decals.
- Adhere to any clean surface.
- Economical to use.
- Improve appearance and safety of equipment.
- Self-service display assortment for jobbers.

Write for Bulletin RM-14

### DM-430 DIVERSE ADAPTOR

... brings diversity reception to the ham rig at low cost. The DM-430 is connected to two antennas of different characteristics, and automatically and instantly selects the best antenna for best reception. Minimizes deep fading in HF. Ideal for any

communications receiver. Used without tuning.

Range of 3 to 30 Megacycles.

Neon bulb indication of antenna being used.

For AM and FM phone signals and frequency-shift keying.

For either or both balanced or unbalanced antennas.

Net price, assembled **\$29.50**

Kit **14.95** Write for Bulletin RM-12

### DM-240-A OSCILLATOR

... makes 13 CM. receivers and transmitters practical. Uses 2C40 tube. Precise adjustments control tuning, feedback, and output coupling. Supplied complete

with all hardware and instructions.

Tuning range of 2000 to 2500 MC.

One watt output.

Net price **\$19.50**  
(less tube)

Write for Bulletin RM-15

### The New TV



### "PROFESSIONAL" PREAMPLIFIER

Here is the preamp that does everything a preamp should do—an entirely different approach to and solution of the problems of preamplification. No. 300, dark finish; No. 400, blonde.

#### Exclusive Features:

- Balanced circuit — less noise pickup.
- Adjustable gain to suit all conditions.
- Constant band width amplifies sound and picture equally on all channels.
- Three tuned circuits reject interference.
- Shielded transformer reduces line noise.
- Channel switch — factory tuned coils.
- Picture increased up to 5 times over noise.
- Glareless illuminated dial — no squinting at switch numbers.
- Handsome cabinets — complement all TV receiver cabinets.

POSITIVELY GUARANTEED TO IMPROVE RECEPTION IN FRINGE AREAS.

List price **\$59.50**

Write for Bulletin RM-16.

### The DM-103-W "SLIPSTICK" WAVEMETER

The Slipstick gives quick, accurate frequency readings on oscillators, receivers, or transmitters in the UHF field. A sturdy, every-day tool for the engineer and experimenter. Easy to use, the Slipstick is coupled to the oscillator, receiver, or transmitter by inserting its tip into the rf field, or the antenna circuit.

Enormous range — 90 to 3000 MC.

Rapid, direct-reading scale.

2% accuracy or better; sturdy construction.

Polystyrene insulation for permanence and low loss.

Net price **\$16.50**

Write for Bulletin RM-13.



# DECIMETER

INC.

1430 MARKET ST. DENVER 2, COLO

# MONITORADIO POLICALARM



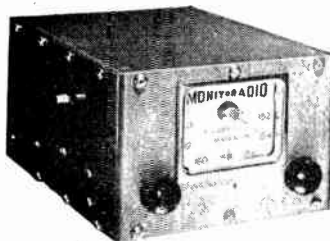
**model PR-8 FM receiver**  
115 volt, AC-DC operated receiver for  
152-163 MC band.  
Net Price \$44.95



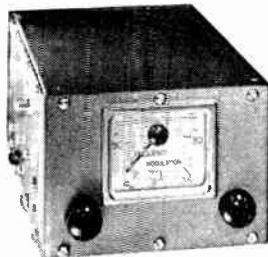
**model PR-31 FM receiver**  
AC-DC, 115 volt receiver for 30-50 MC band.  
Net Price \$44.95



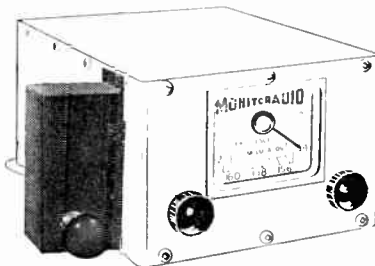
**model AR-2 and AR-3 AM receivers**  
AC-DC, amplitude modulated receivers. Model  
AR-2 for 108-136 MC band. Model AR-3 for  
118-149 MC band.  
Net Price \$49.50



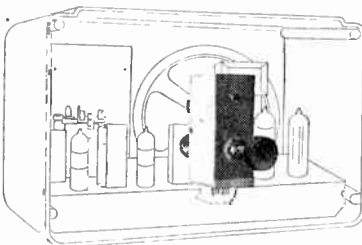
**model M-101 FM receiver**  
This 6 volt, battery operated unit receives  
all communications in the 152-163 MC band.  
Net Price \$72.50



**model M-51 FM receiver**  
For use in the 30-50 MC band — 6 volt,  
battery operated.  
Net Price \$72.50



**model MS-119 squelch adapter**  
For use with Monitoradio Models M51, M51A,  
M101 and M101A. Provides simple means of  
converting to quiet stand-by.  
Net Price \$12.50



**model S-19 squelch adapter**  
Converts Policalarm Models PR7, PR8, PR30,  
PR31A and PR74 to quiet stand-by operation.  
Net Price \$12.50

see your jobber or write us today

**RADIO APPARATUS CORPORATION**



## PRIVATE TUTOR NOVICE COURSE.

The new Eldico "Private Tutor" Amateur Radio Course is a unique and tested method for learning theory and code for the Novice Amateur Radio license. The code records are absolutely unique in the educational field, consists of five unbreakable long-playing 12" records, Columbia recording, giving a total course of instructions, of almost five hours, or equal to fifty standard speed records. Code instructions are accompanied by the voice of the instructor, with code groups gradually increased in speed. Communications-type sequences are interspersed, giving practical code experience. Actually, speed develops beyond the requirements of the FCC examinations.

The six theory lessons profusely illustrated, covers theory, rules and regulations, equipment operation and on-the-air techniques; included is step-by-step construction information of a novice transmitter and test equipment.

Private Tutor Novice Course complete .....	\$25.00
Code records only .....	17.00
Theory lessons only .....	10.00

## TR-1 TRANSMITTER.

300-watt c.w. — 250-watt AM Phone. An outstanding all-band transmitter constructed from conservatively designed circuits built around components that loaf at rated power. The lineup consists of a 6V6 crystal-oscillator; 6V6 frequency doubler; 6L6 buffer-amplifier; 813 power amplifier. A 6L6 keyer tube provides clean, clickless electronic keying. For phone a 6SL7GT high-gain input into a 6V6GT drives 811s. Features of Eldico's TR-1 include broadband r.f. driver circuits; band-switching in all stages except the power amplifier; metering of all important circuits through use of meter switching; detailed instructions; all miscellaneous parts. Power supplies on separate chassis; 5U4G medium-voltage rectifier; 866A high-voltage rectifiers. All components and tubes carry standard manufacturers warranty.

TR-1, complete kit with instructions ..... \$199.95

## TR-75TV TRANSMITTER.

The improved version of the now famous Eldico TR-75 is a rig designed for the CW man. Hundreds of these transmitters have given worldwide performance. Simple enough for the beginner to assemble, sturdy enough for years of trouble-free operation. Uses the time proven crystal oscillator-final amplifier combinations. Circuit permits use of 80 meter or 40 meter crystals to cover all bands. Plug-in coils eliminate trick circuits. Husky power supply delivers 500 volts d.c. to the final. Built-in antenna tuner for matching all types of antennas; ideal for multi-band operation. All stages are metered using a meter which can be switched to oscillator, final grid and final plate. Over-all size with cover 17" x 10" x 9".

TR-75TV, complete kit with instructions (less crystal) ..... \$59.95

## MT-2—MR-2 2 METER EQUIPMENT.

Designed for mobile or fixed station operation. Complete 2-meter superhet receiver tuning 144-150 mc and the crystal controlled transmitter of the same frequency range is available with a.c. or d.c. power supply, non-directional antenna, carbon microphone, crystals, etc. MR-2 Receiver has a sensitivity of better than 1 uv for 6 db signal-to-noise ratio. Using the Walman front end circuit and 9 mc i.f.'s, the ten tube circuit has a total battery drain of only 22 watts. Line-up 6AK5 1st r.f.; 6J6 second r.f.; 6AK5 mixer; three 6BA6 i.f. amplifier; 6AL5 detector and noise limiter; 6AT6 first audio amp.; 6V6GT second audio amp. of 1 Watt into 4 ohms; 6C4 oscillator and OA2 voltage regulator.

Local oscillator is designed as an integral assembly. At additional cost it can be purchased in a small external box for mounting in confined areas or where the feature of separate receiver tuning is wanted. Over-all size 5 1/2" x 9 1/2" x 5 1/2".

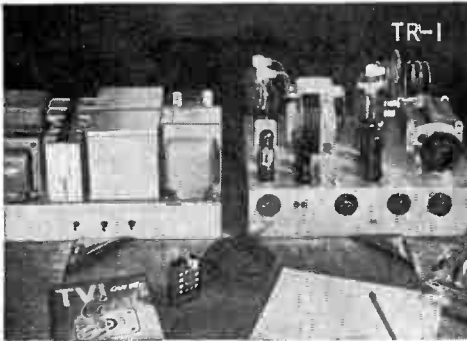
MT-2 Transmitter uses 8 m.c. crystal, 6AQ5 doublers; driving 2E26 final up to 22 watts input. 6C4 speech amplifier for carbon microphone input drives 6V6 modulators. A modified pi network is provided for ease of coupling to any type 2-Meter antenna. Low power plate drain is only 300 v. 150 to 200 ma depending upon plate loading. Coax output and integral antenna switching included. Over-all size 5 1/2" x 9 1/2" x 5 1/2".

MR-2 Receiver, kit with instructions.....	\$59.95	MR-2 Receiver, W. & T.....	\$94.95
For external local oscillator add \$5.00 to above prices.			
MT-2 Transmitter, kit with instruction.....	\$49.95	MT-2 Transmitter, W. & T.....	\$74.95
MP-2 AC Power supply for receiver and transmitter-kit.....	\$25.00	W. & T.....	\$35.00
MA-2 Non-Directional antenna .....			\$12.50

## SINGLE SIDEBAND TRANSMITTER-EXCITER.

The Eldico SSB Jr., patterned after the revolutionary unit developed by GE engineers is available in either kit form or completely wired and tested. Eldico's SSB Jr. is a complete 7-tube 5-watt single sideband transmitter. Tube complement consists of 12AU7 combination speech amplifier-oscillator; 12AT7 twin-channel amplifier; 6AG7 final; 12AT7 speech preamplifier; 6H6 bias; 5Y3-GT rectifier. The audio phase-shift network is laboratory assembled and adjusted. The Eldico SSB Jr. may be used as a transmitter, as a driver for a high-power linear amplifier, or in conjunction with a v.f.o. A preamplifier is included as an integral part of the Eldico SSB Jr. kit to enable the use of any low-level microphone such as crystal or dynamic.

SSB JR., complete kit with instructions .....	\$69.95
SSB JR., wired and tested .....	\$99.95



Signals of Distinction

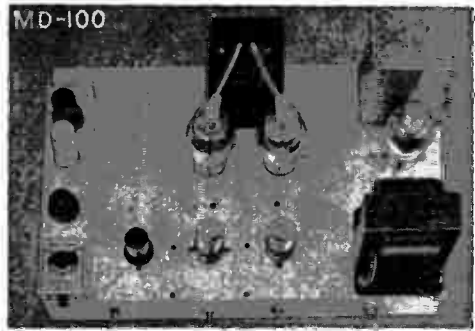
**ELDICO**  
OF NEW YORK  
INCORPORATED

YOUR FREE  
CATALOG  
No. 51  
ON REQUEST

DOUGLASTON, LONG ISLAND, N. Y.

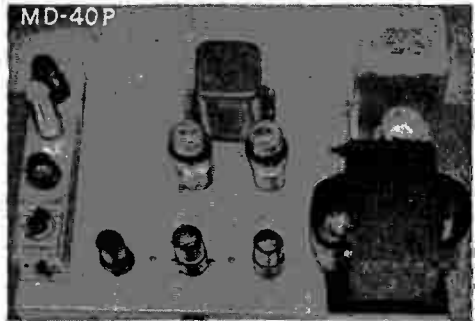
## MD-100 MEDIUM POWER MODULATOR.

An unusually compact speech amplifier and modulator capable of delivering 100 to 120 watts maximum of AM audio for 100% plate modulation of any c.w. transmitter up to 250 watts input. Lineup consists of 6SJ7 resistance coupled to 6SN7 dual-voltage amplifier and phase inverter, driving a 6SN7 transformer coupled to a pair of modulators in class AB2. Modulation transformer is matched for a class C r-f plate load of 3000 ohms. This complete package includes everything from a carefully punched and drilled chassis to an Electro Voice 915 crystal microphone. Plate voltage to the low-power speech stages and screen voltage for the modulator is supplied from an integral power supply. The Modulator plate voltage must be obtained from external supply. Size 17" x 11" x 3". For 110-220 v. 50-60 cycles. MD-100, complete kit with instructions ..... \$49.95



## MD-40/MD-40P LOW POWER MODULATOR/SPEECH AMPLIFIER.

The modulator especially designed for use in conjunction with TR-75TV. 40 watts of audio, the MD-40/MD-40P is a kit of the same superior parts that goes into all Eldico products. Crystal mike input to 6SJ7 drives a 6SN7 amplifier/phase inverter which in turn drives a 6SN7 driving a pair of 6L6G modulator tubes in Class AB2. The output transformer is matched from 6L6's to Class C r-f plate load to the Class C r-f plate load of TR-75TV (6000 ohms). MD-40 Complete kit including tubes and instructions ..... \$34.95 MD-40P Complete kit as specified, but including heavy duty power supply on some chassis ..... 44.95 MODEL 1000 SPEECH CLIPPER, as shown in photo wired and tested additional ..... 14.70

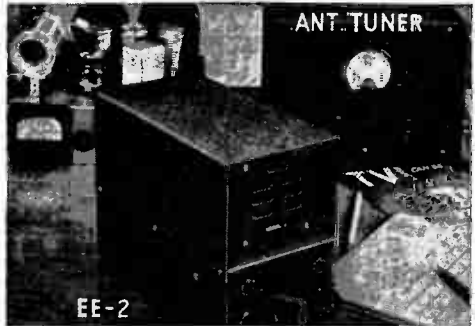


## ELECTRONIC BUG.

Self-completing type of automatic keying device incorporating all the latest improvements in automatic keying known to the art. Features self-completing characters that automatically insure perfectly formed sending; continuous variable speed control for any rate of sending from 8 to 50 w.p.m.; separate control for weight of characters and ratio of dashes-to-dot length, allowing individual tailoring to your own fist; self contained with built-in power supply in attractive gray Hammer-tone portable case complete with automatic key. EE-1, complete kit with instructions ..... \$24.95 EE-1, wired and tested ..... 29.95 EE-2, complete kit including addition of integral keying monitor with speaker ..... 29.95 EE-2, wired and tested with keying monitor ..... 39.95

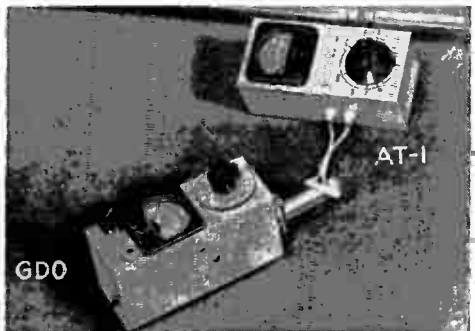
## ALL BAND ANTENNA TUNER.

300-watt Universal antenna coupling designed to couple any conventional antenna feedline, regardless of impedance, to any conventional tank circuit. Tuner kit includes split sator capacitor, 500 watt coils with swinging link, shielded case, R.F. ammeter, coax connector from transmitter, coax and open line connectors on output. Complete with coil for one amateur band. Additional coils available. ANTENNA TUNER, complete kit with instructions ..... \$21.95 ANTENNA TUNER, wired and tested ..... 29.95



## GRID DIPPER.

Based on the original grid-dip oscillator designed by W2AEF, the new model incorporates all the improvements to this basic instrument. High-sensitivity regeneration circuit is now standard part of kit. Large square 0-1 ma meter improves readability of instrument. Special straight-line frequency capacitor is fully assembled with all mounting brackets and coil socket. Assembly time reduced substantially. The GDO is the instrument that enables you to locate resonant circuits for pre-tuning or de-bugging without applying power to the rig or receiver; measures harmonics; may be used as a signal generator; and performs numerous other measuring functions. Grid Dipper kit includes everything required, special case designed to facilitate one-hand operation, tube, internal power supply, meter and detailed instruction book covering assembly and operation. Range 3 mc to 250 mc, covered in six steps. Operation from 115 volts AC or DC. GDO, complete kit with instructions ..... \$29.50 GDO, wired and tested ..... 43.00



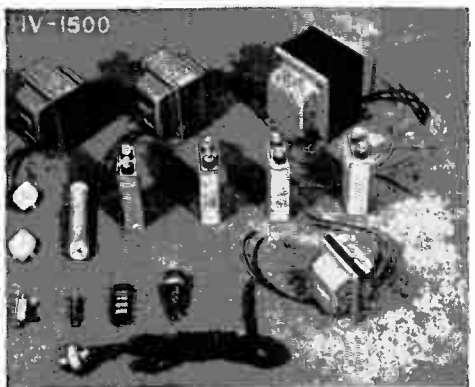
## ANTENNASCOPE.

The instrument to give you Positive antenna performance and efficiency! The Antennascope is an impedance measuring meter used in conjunction with the Grid Dipper. With the Antennascope you can measure radiation resistance of your antenna; resonant frequency of your antenna; impedance of your transmission line; input impedance of your receiver; standing-wave ratio of your feedline. Each kit is absolutely complete with special hand-selected pots; 0-100 ua microammeter; silk screened dial; drilled and fabricated case. Each kit includes detailed instructions. ANTENNASCOPE, complete kit with instructions ..... \$24.95 ANTENNASCOPE, wired and tested ..... 29.95

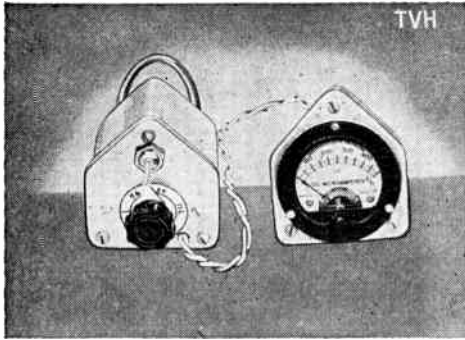
## HIGH VOLTAGE POWER SUPPLY KITS.

These kits use all standard components and are conservatively rated to give dependable high voltage under continuous duty service. Because high-voltage supplies generally require little modification upon completion, these units are engineered to give trouble-free performance without attention from the day you solder the last connection. Each kit includes plate transformer, separate filament transformer, smoothing chokes, oil filled condensers, rectifier sockets. Each kit is supplied complete with instruction — less chassis and rectifier tubes. All Eldico High Voltage Power Supply Kits are for 110-120 v, 50 to 60 cycles ac. Total cost of each kit is comparable to what you would expect to pay for the plate transformer alone. 1500 volt supplied uses 866A's, all others use 872A's.

		Kit Complete	Only Transformers
HV-1500	1500 v.d.c. 350 ma.....	\$45.00	\$24.95
HV-2000	2000 v.d.c. 500 ma.....	89.50	59.95
HV-2000SP	2000 v.d.c. 700 ma.....	109.50	79.95
HV-2500	2500 v.d.c. 500 ma.....	129.50	99.95



ELDICO OF NEW YORK, INC., DOUGLSTON, NEW YORK



TVH

### HARMONIC CHASER.

Modified absorption type wave-meter for locating, measuring and identifying transmitter harmonics falling into the television channels. Designed to eliminate swamping by the transmitter fundamental when the unit is tuned to the harmonic. Complete with all parts except indicating meter. Requires a sensitive external current indicator. Can be used with most volt-ohmmeters or with the 500 microampere meter listed below. Size: 3 x 3 x 4". Requires external indicating meter.

TVH, complete kit, with instructions ..... \$6.98  
 TVH, wired and tested. Harmonic Chaser ready to operate. .... 10.98  
 TVH 500 microampere meter in case to match Harmonic Chaser. .... 7.50

### LOW-PASS FILTERS.

Eldico's TVD-62 is a two-section M-derived low-pass filter completely self-contained in a special case measuring 9 1/2" x 4 3/4" x 2 1/8", supplied with coaxial connectors for the input and output. Attenuation of harmonics radiated by the antenna, the source of most TVI, is in excess of 60 db. Cut-off frequency of 40 mc insures maximum performance to 10 meters. Each filter includes six 50-uuf ceramic condensers; pre-wound and formed coils, shielded case and all necessary fittings. The TVD-62 is installed directly between the link output of the final and the antenna or tuner. For stubborn cases of TVI in high-power rigs an additional filter should be installed between driver and final grids. Filter will handle up to 1 kw AM. Insertion loss negligible. 52 or 72-ohm coaxial feedlines or coaxial feed to antenna tuner.

TVD-62, complete kit with instructions ..... \$ 9.99  
 TVD-62, wired and tested ..... 12.99

### DIAXIAL LOW-PASS FILTERS.

To fill the requirements of amateurs using parallel 52-ohm or 72-ohm coaxial feedlines the Diaxial Low-Pass Filter is a modification of the TVD-62. Consists of two TVD-62 filters paralleled in a single case with a nominal impedance of 100 ohms. All parts and instructions included. Supplied with four standard coaxial connectors for input and output and shielded case.

TVD-104, complete kit with instructions ..... \$16.95  
 TVD-104, wired and tested ..... 19.95

### HIGH-PASS FILTERS.

For television interference reduction. Essential filters to be installed directly at the antenna coil of the television receiver. Greatly reduces or completely eliminates r-f interference from amateur or commercial transmitters, industrial equipment, diathermy, oscillator radiation and other sources. Negligible insertion loss. Efficient on any television receiver. 40-mc cut-off, no attenuation to signals above 40 mc, consequently does not affect picture strength or quality. Available for coaxial or 300-ohm twin-lead transmission line. Can be assembled from kit in a few minutes. Size: 2 3/4 x 1 3/4 x 1".

TVR-300, 300-ohm. TVR-62, 62-ohm. Either high-pass Model ..... \$1.98  
 TVR-300, 300-ohm. TVR-62, 62-ohm. Either Model W. & T. .... 3.98

### BRUTE FORCE LINE FILTER.

R.F. feeding back through power lines is a serious source of TVI and 8CI. Eldico's two-section Brute Force Line Filter will completely eliminate r.f. feed through in an a.c. line, requires only minimum installation. Patterned after the recommended model in the 1949 ARRL Handbook each filter consists of two special coils (3/16" square copper in TVL-2.5KW) pre-formed and wound; 5 oil filled capacitors and 3 mica capacitors, all rated at 400 v.d.c. Metal case measures 4 3/4" x 9 1/2" x 2 1/8". TVL-1KW supplied with heavy duty line cord and plug and female a.c. outlet receptacle. TVL-2.5KW equipped with 8X clamps for securing a.c. lines. Complete with instructions.

TVL-1KW, in kit form ..... \$ 7.98 Wired and tested ..... 10.93  
 TVL-2.5KW, in kit form ..... 13.98 Wired and tested ..... 19.98

### R.F. SHIELDING — COPPER MESH

Heavy duty — tightly wound, far more effective than ordinary copper screen. Minimum order — 6 Sq. Ft. 36" wide. Per Sq. Ft. \$.85 plus \$.50 handling charge.

### R.F. BY-PASSING

Here are the bypasses that really trap the unwanted r.f. All a.c. leads, power leads, relay and switch leads and every connection between chassis should be bypassed. Use our high-voltage ceramic for high voltage our button or feed thru's for medium and low voltages; our micas for a.c.

### HI-VOLTAGE CENTRALAB

50 MMFD. Tapped for 6/32 screws — 7500 V. working ..... \$1.29 ea.

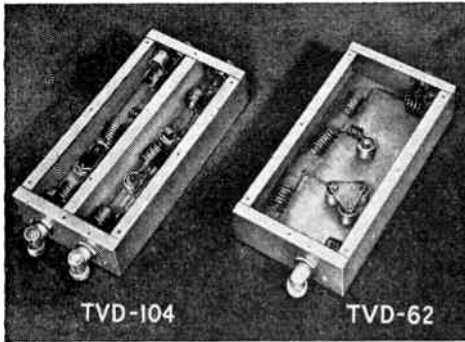
### BUTTON FEED THRU AND CERAMICON CONDENSERS

Available in these capacities. Automatically grounded through mounting screws.  
 40, 100, 180, 500 MMFDS. 500 V. .... \$ .21 each \$2.25 per dozen  
 2400 MMFD. 600 V. .... \$ .29 each \$3.00 per dozen  
 2000 MMFD. 1250 V. .... \$ .49 each \$5.00 per dozen

Just insert a hole in chassis, tighten nut and you have a feed through connection which is automatically bypassed to ground.

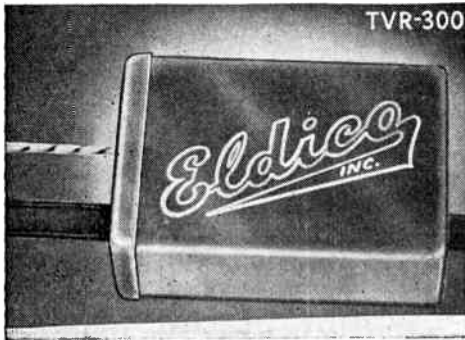
Available in 50 MMF. capacity; with locking nuts ..... \$ .21 each \$2.25 per dozen  
 Ceramic Condensers — Axial type — Temperature compensated.

Ideal for use in small spaces.  
 Available in 3, 5, 15, 25, 50, 100 and 300 MMFD. .... \$ .18 each \$2.00 per dozen

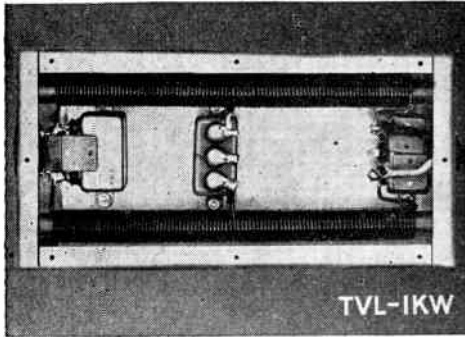


TVD-104

TVD-62



TVR-300



TVL-1KW



Signals of Distinction

# ELDICO

OF NEW YORK

INCORPORATED

YOUR FREE CATALOG No. 51 ON REQUEST

DOUGLSTON, LONG ISLAND, N. Y.



## JOHNSON VIKING II TRANSMITTER KIT - 150 WATTS INPUT

100 Watts Phone Output  
115 Watts CW Output

100% AM Modulation  
TVI Suppression Features

The JOHNSON Viking II is a bandswitching 100 watt phone/CW amateur transmitter supplied in kit form. It incorporates all the desirable features of its predecessor plus those required for effective TVI suppression. Full output is available on the 160, 80, 40, 20, 15 and 10 meter amateur bands. The complete range of output frequencies is as follows:

BAND	LOW FREQ. LIMIT	HIGH FREQ. LIMIT
160	1.8 mc.	2.4 mc.
80	2.9	4.4
40	5.2	8.0
20	9.8	15.0
15	15.0	21.8
10	21.0	30.0

The RF section consists of a 6AU6 oscillator, a 6AQ5 buffer/doubler and parallel 6146 output amplifier. Modulator, pp 807s with 6AL6 speech amplifier and 6AL6 driver. Parallel 5R4 HV rectifiers, 5Z4 low voltage rectifier with 6AL5 bias rectifier. Fixed bias applied to buffer and output amplifier for break-in CW operation. Audio response limited to the center of the speech range.

PI-network amplifier matches a wide range of impedances; provides up to 30 db second harmonic attenuation before filtering. Ventilated copper plated steel cabinet, with phosphor bronze bonding strip, completely shields transmitter, yet provides easy access to chassis. Power leads filtered to eliminate radiation of harmonics by the power line. Shielded coaxial output connector, antenna relay terminals.

All parts furnished including cabinet, punched chassis, wiring harness, wire, solder terminals, grommets and all other hardware. Carefully detailed and illustrated instructions for assembly, test and operation.

For 115 volt 50/60 cycle operation only.

Cat. No. **240-102 VIKING II**, complete with tubes..... **\$279.50** Amateur Net

## VIKING VFO KIT

Variable frequency oscillator with output on 160 and 40 meters for frequency multiplying transmitters. Accurately calibrated for amateur bands 160 thru 10 meters. 6AL6 electron coupled oscillator, OA2 voltage regulator. Temperature compensation and rigid construction insure excellent stability. 6-1 vernier tuning with high reset accuracy. Power requirements 6.3 volts .3 amperes, 250-300 volts 15 ma. DC unregulated. Power and input connections provided on every Viking transmitter. Kit furnished complete with all parts, assembly and calibration instructions.

Cat. No. **240-122 VIKING VFO Kit**..... **\$42.75** Amateur Net

## JOHNSON UNIVERSAL ROTOMATIC ROTATOR

An improved all-weather antenna rotator suitable for the most rigorous service. Housed in a sturdy, light weight, aluminum casting with 1/4" steel rotating table and "tilt head" base plate.

Oversized worm gearing, continuously lubricated, provides large safety factor at high wind loading. The drive unit consists of a 1/20th HP capacitor type gear motor. Motor and integral gears, equipped with ball bearings and special all-weather lubricant, turn beam at approximately 1.1/2 RPM. Full torque delivered at extremely low temperatures. No radio frequency interference. Plated slip rings are quiet; will not corrode. Rotator weight approximately 44 pounds.

Selsyn indicator presents antenna azimuth bearing continuously on illuminated dial of control box. Rotator instantly reversible. Antenna relay slip rings permit use of two beams on one rotator.

## JOHNSON PARASITIC BEAMS

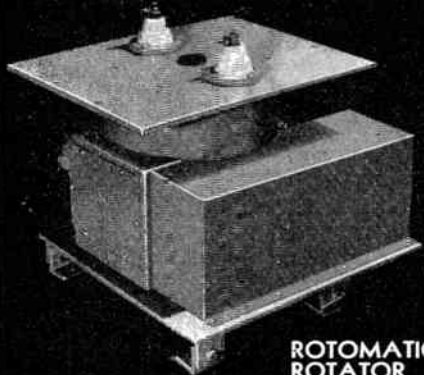
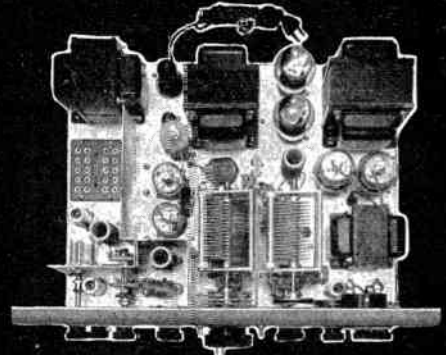
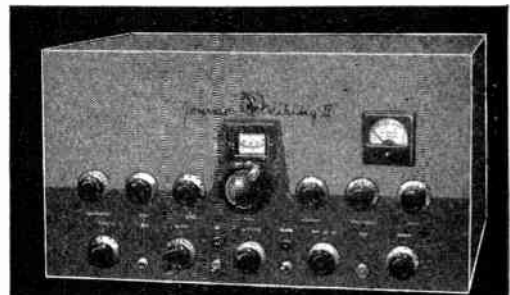
Large diameter aluminum alloy elements; galvanized steel boom. Element lengths and spacing are both adjustable for optimum performance. Elements grounded at center, to boom. Driven element equipped with "T" match, beams may be matched to a variety of balanced feed lines. Single or dual band arrays, including 4 element 10 meters and 3 element 20 meters, can be accommodated on one boom.

## JOHNSON LOW PASS FILTER



Providing 75DB or more attenuation of transmitter harmonic and spurious output above 54 mc., it will handle a full kilowatt 100% modulated. Low inductance Teflon insulated capacitors, minimum insertion loss. Characteristic impedance of filter is 52 ohms. Equipped with 5O239 coaxial input and output connectors.

Cat. No. **250-20 Low Pass Filter**..... Net **\$16.50**



**ROTOMATIC ROTATOR**

The Prices of all JOHNSON Products are subject to change without notice.





## TYPES "C" AND "D" VARIABLE CAPACITORS

JOHNSON C and D Capacitors are rugged, reliable and simple. Their functional design permits rapid, accurate assembly which results in lower cost to the user. Materials are appropriate for the application and the finest available today. If you're building medium powered radio frequency equipment it will pay you to use JOHNSON C and D Capacitors.

### CONSTRUCTION

Heavy aluminum end frames, .051" plates and 5/16" tie rods assure extreme rigidity. Rotor contacts are laminated phosphor bronze. Dual models have center rotor contact for electrical symmetry. Low-loss Sialite insulators are located outside the most intense RF fields and used solely to support stator assemblies. Shafts are 1/4" diameter, cadmium plated with 3/4" rear extensions.

Mounting brackets furnished for normal or inverted mounting. End frames drilled and tapped for panel mounting, special brackets or mounting of accessory components.

### SPECIAL TYPES

Variations from standards such as special capacitances, ball bearings, dynamically balanced rotors, stainless steel shafts and right angle drive duals can be furnished in production quantities.

### TYPE C SINGLE SECTION

Cal. No.	Type No.	Net Price	Cap. per Sect. Max.	Min.	Spacing	Number Plates	L
152-1	250C70	\$10.80	252	34	.175"	24	6 <sup>13</sup> / <sub>16</sub> "
152-2	500C70	15.35	496	56	.175"	47	12 <sup>3</sup> / <sub>16</sub> "
152-3	250C90	12.75	245	45	.250"	31	12 <sup>3</sup> / <sub>16</sub> "
152-4	350C90	15.05	337	63	.250"	43	14 <sup>27</sup> / <sub>32</sub> "
152-5	50C110	7.70	51	19	.350"	8	4 <sup>25</sup> / <sub>32</sub> "
152-6	100C110	9.80	103	30	.350"	17	8 <sup>15</sup> / <sub>32</sub> "
152-7	250C110	15.20	251	66	.350"	41	18 <sup>9</sup> / <sub>32</sub> "
152-8	50C130	8.50	51	24	.500"	10	7 <sup>11</sup> / <sub>16</sub> "
152-9	100C130	11.10	102	42	.500"	21	13 <sup>11</sup> / <sub>16</sub> "

### TYPE C DUAL SECTION

152-501	900CD45	\$13.40	904	91	.125"	15	8 <sup>19</sup> / <sub>32</sub> "
152-502	300CD45	15.70	920	96	.125"	21	10 <sup>3</sup> / <sub>32</sub> "
152-503	900CD70	15.35	198	97	.175"	19	12 <sup>3</sup> / <sub>16</sub> "
152-504	300CD70	20.30	305	37	.175"	29	16 <sup>25</sup> / <sub>32</sub> "
152-505	150CD90	16.35	147	30	.250"	19	14 <sup>27</sup> / <sub>32</sub> "
152-507	50CD110	11.45	50	18	.350"	8	10 <sup>5</sup> / <sub>32</sub> "
152-509	100CD110	16.00	103	32	.350"	17	16 <sup>25</sup> / <sub>32</sub> "
152-510	50CD130	13.10	51	24	.500"	10	14 <sup>27</sup> / <sub>32</sub> "

### TYPE D SINGLE SECTION

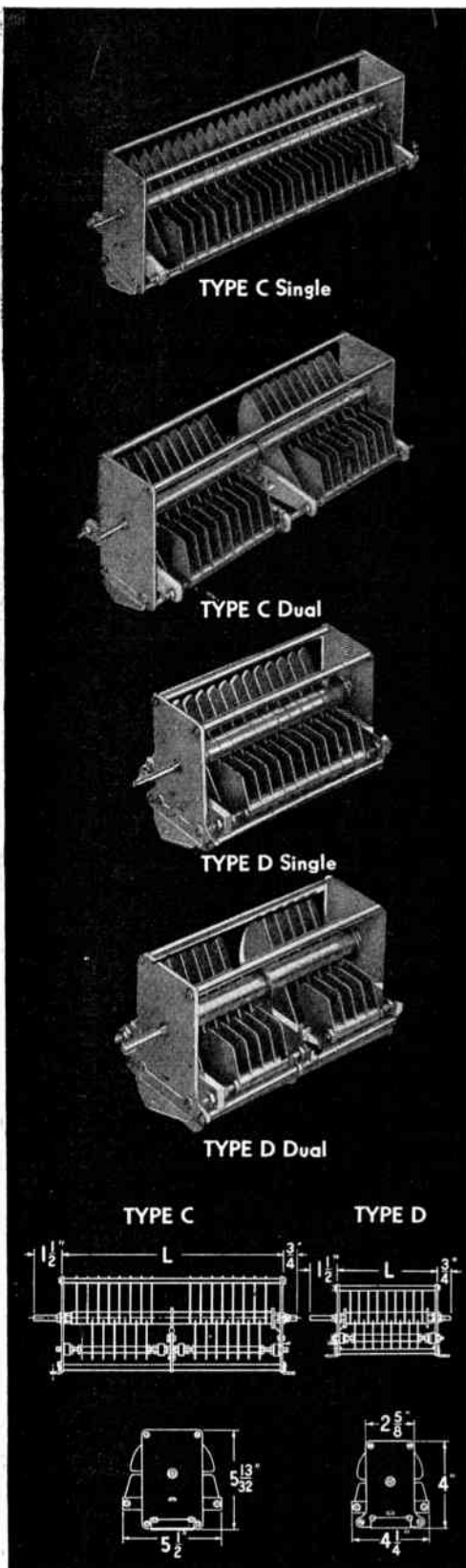
153-2	100D35	\$5.70	99	14	.080"	8	2 <sup>25</sup> / <sub>32</sub> "
153-4	250D35	7.35	252	24	.080"	20	4 <sup>25</sup> / <sub>32</sub> "
153-6	500D35	9.65	496	36	.080"	39	6 <sup>25</sup> / <sub>32</sub> "
153-7	100D45	6.20	104	19	.125"	12	4 <sup>25</sup> / <sub>32</sub> "
153-8	150D45	7.20	146	23	.125"	17	4 <sup>25</sup> / <sub>32</sub> "
153-9	50D70	5.70	51	17	.175"	7	2 <sup>25</sup> / <sub>32</sub> "
153-10	70D70	6.35	72	18	.175"	11	4 <sup>25</sup> / <sub>32</sub> "
153-11	100D70	7.00	98	23	.175"	15	4 <sup>25</sup> / <sub>32</sub> "
153-12	150D70	8.15	151	31	.175"	23	6 <sup>13</sup> / <sub>16</sub> "
153-13	250D70	10.15	244	45	.175"	37	10 <sup>3</sup> / <sub>16</sub> "
153-14	350D70	12.40	351	62	.175"	53	13 <sup>11</sup> / <sub>16</sub> "
153-15	50D90	6.55	53	20	.250"	10	4 <sup>25</sup> / <sub>32</sub> "
153-16	70D90	7.20	73	25	.250"	14	5 <sup>15</sup> / <sub>16</sub> "
153-17	100D90	7.85	99	30	.250"	19	7 <sup>11</sup> / <sub>16</sub> "
153-18	150D90	9.30	149	43	.250"	29	10 <sup>3</sup> / <sub>16</sub> "

### TYPE D DUAL SECTION

153-501	100DD35	\$7.70	95	13	.080"	8	4 <sup>25</sup> / <sub>32</sub> "
153-502	150DD35	8.65	147	15	.080"	12	5 <sup>15</sup> / <sub>16</sub> "
153-503	200DD35	10.30	202	19	.080"	16	7 <sup>11</sup> / <sub>16</sub> "
153-504	300DD35	12.25	291	24	.080"	23	9 <sup>15</sup> / <sub>32</sub> "
153-505	500DD35	16.70	496	38	.080"	39	13 <sup>11</sup> / <sub>16</sub> "
153-506	150DD45	10.60	155	24	.125"	18	9 <sup>15</sup> / <sub>32</sub> "
153-507	200DD45	12.10	198	27	.125"	23	12 <sup>3</sup> / <sub>16</sub> "
153-508	50DD70	8.15	52	15	.175"	8	5 <sup>15</sup> / <sub>16</sub> "
153-509	70DD70	9.30	72	17	.175"	11	7 <sup>11</sup> / <sub>16</sub> "
153-510	100DD70	10.45	97	22	.175"	15	9 <sup>15</sup> / <sub>32</sub> "
153-511	150DD70	13.55	151	31	.175"	23	13 <sup>11</sup> / <sub>16</sub> "
153-513	50DD90	9.50	52	19	.250"	10	9 <sup>15</sup> / <sub>32</sub> "
153-514	100DD90	12.75	97	30	.250"	19	14 <sup>27</sup> / <sub>32</sub> "

See Explanation of Type Numbers on Opposite Page.

Stated maximum and minimum values of capacitors are nominal, subject to plus or minus tolerances. Guaranteed values, or "lowest maximum, highest minimum" should be requested from the factory if necessary.





## TYPES "E" AND "F" VARIABLE CAPACITORS

Designed as rugged, compact units for medium and low power transmitters, type E and F capacitors are in a class by themselves. They have more capacity per cubic inch and occupy less panel space for their rating than any other capacitor on the market.

Points of superiority: Heavy aluminum plates, .032" thick, with rounded edges for maximum voltage rating — Heavy aluminum tie rods 1/4" diameter for frame strength and rigidity — Steatite insulation — mount with stator up to reduce capacity to ground — heavy phosphor bronze contact springs, cadmium plated — Center contact on dual models — Chassis or panel mounting — Stainless steel shafts.

In addition to mounting foot shown, removable single hole brackets are furnished so that capacitor may be inverted from position shown, or other components mounted above.

### TYPE F SINGLE SECTION

Cat. No.	Type No.	Net Price	Cap. per Sect. Max.	Sect. Min.	Spacing	Number Plates	L
155-1	35F20	\$2.95	35	7	.045"	6	1 11/16"
155-2	50F20	3.05	54	8	.045"	9	1 5/8"
155-3	70F20	3.20	66	8	.045"	11	1 25/32"
155-4	100F20	3.50	106	10	.045"	17	2 1/8"
155-5	150F20	3.95	154	12	.045"	25	2 7/8"
155-6	250F20	4.75	252	17	.045"	41	4 5/8"
155-8	50F30	3.30	52	9	.075"	13	2 3/16"
155-9	70F30	3.55	67	11	.075"	17	2 23/32"
155-10	100F30	4.00	99	14	.075"	25	3 19/32"
155-11	150F30	4.65	148	18	.075"	37	4 7/8"

### TYPE F DUAL SECTION

155-501	50FD20	5.00	53	7	.045"	9	3 1/2"
155-502	70FD20	5.30	66	7	.045"	11	3 3/4"
155-503	100FD20	5.85	104	9	.045"	17	4 1 1/8"
155-504	150FD20	6.75	153	11	.045"	25	6"
155-505	200FD20	7.55	202	14	.045"	33	7 1/4"
155-506	50FD30	5.40	51	8	.075"	13	4 3/16"
155-507	70FD30	6.05	66	10	.075"	17	5 23/32"
155-508	100FD30	7.00	99	13	.075"	25	7 1/8"

### TYPE E SINGLE SECTION

154-1	250E20	4.05	244	12	.045"	23	2 25/32"
154-2	350E20	4.55	353	15	.045"	33	3 11/16"
154-3	500E20	5.30	488	19	.045"	45	4 19/32"
154-7	100E30	3.65	100	11	.075"	15	2 1/16"
154-8	150E30	4.10	154	14	.075"	23	3 1/16"
154-9	250E30	4.90	251	20	.075"	37	4 1/16"
154-10	350E30	5.80	347	25	.075"	51	6 1/16"
154-11	35E45	3.35	38	9	.125"	9	2 3/16"
154-12	50E45	3.60	53	11	.125"	12	2 3/16"
154-13	70E45	3.80	74	13	.125"	17	3 1/16"
154-14	100E45	4.15	101	16	.125"	23	4 1/16"
154-15	150E45	4.80	145	20	.125"	33	6 5/16"
154-16	250E45	6.10	241	32	.125"	55	9 1/16"

### TYPE E DUAL SECTION

154-502	300ED20	7.30	312	13	.045"	29	6 21/32"
154-503	50ED30	5.10	52	8	.075"	8	4 3/16"
154-504	70ED30	5.45	72	8	.075"	11	4 1/16"
154-505	100ED30	6.00	99	10	.075"	15	5 3/16"
154-506	150ED30	6.85	153	13	.075"	23	7 1/16"
154-507	200ED30	7.70	196	15	.075"	29	8 9/16"
154-508	50ED45	5.45	52	10	.125"	12	6 5/16"
154-509	70ED45	6.15	74	12	.125"	17	7 1/16"
154-510	100ED45	7.10	100	15	.125"	23	9 1/16"

### EXPLANATION OF TYPE NUMBERS

The first part of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size. A second letter D indicates a two-section type. The final number multiplied by 100 is the approximate peak breakdown voltage. Capacity measurements of the E and F types are made with the capacitors in the position shown in the above illustration. The C and D types are measured in inverted position.

### DEPARTURES FROM STANDARD

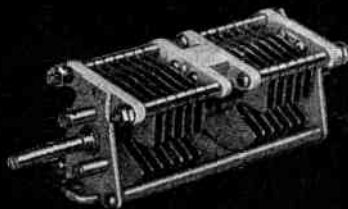
Special plate spacings, capacities, shaft extensions, insulation, mounting brackets, terminals, etc., can be furnished to specifications for commercial applications.

### CAPACITORS FOR HIGHER VOLTAGES

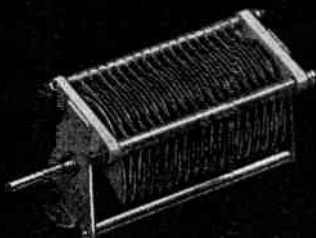
The JOHNSON line includes heavy duty pressurized or air dielectric fixed and variable capacitors for high voltage commercial applications. Data sheets furnished on request.



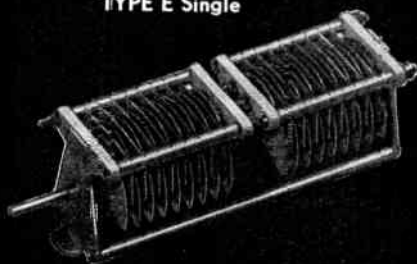
TYPE F Single



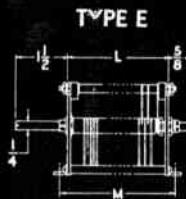
TYPE F Dual



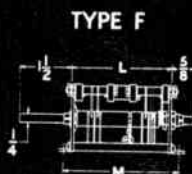
TYPE E Single



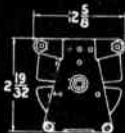
TYPE E Dual

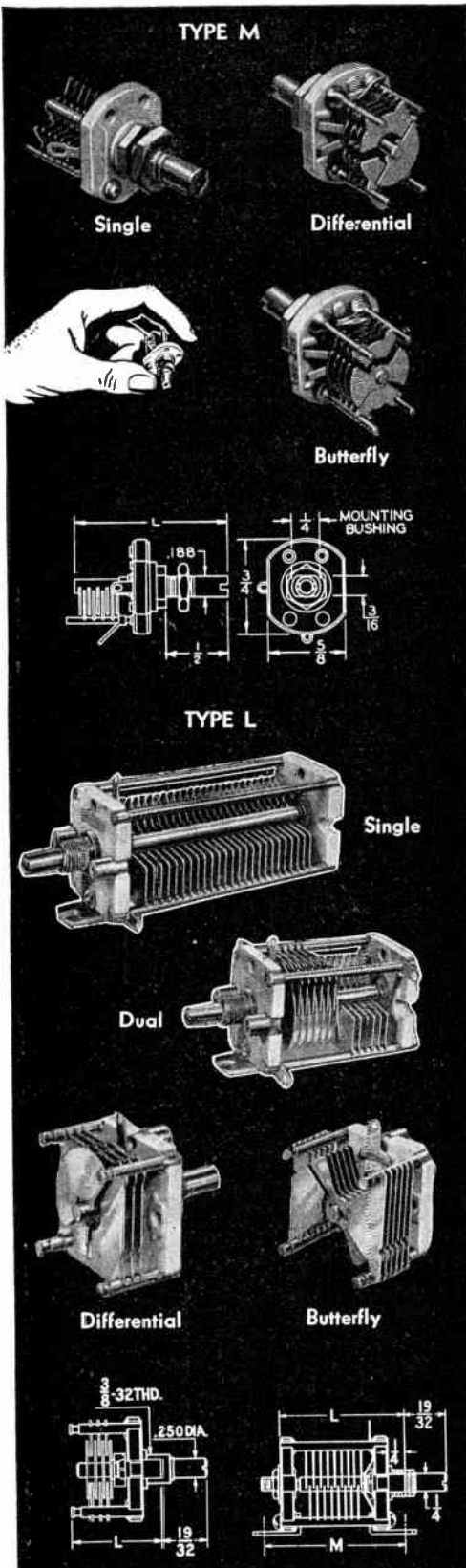


TYPE E



TYPE F





## MINIATURE AIR VARIABLE CAPACITORS (Type M)

Requiring a panel area just 5/8" wide by 3/4" high, these diminutive capacitors provide the answers to many problems encountered in the design of compact radio frequency equipment.

JOHNSON Miniature Air Variables are available in three types: single section, differential and butterfly. Ideally suited for portable, mobile and airborne equipment thru the VHF range of frequencies, they are designed and constructed with features that assure reliable performance throughout long service life.

### Specifications

Low inductance. Soldered plates assembled with precision tools. Split sleeve bearings. Beryllium copper tension spring contact for permanent alignment, constant torque and low inherent noise. Differential and butterfly types electrically symmetrical. Excellent vibration characteristic due to low inertia. Steatite insulation impregnated with DC-200. Metal parts brass, nickel plated. Single hole mounting bushing threaded 1/4-32 with flats to prevent turning. 3/16" shaft slotted for screw driver adjustment. Plate spacing .017". Peak voltage rating, 1250.

### Specials

JOHNSON Miniature Air Variables are available in production quantities with features such as: 1. Locking bearing. 2. With 180° stop. 3. Various shaft extensions. 4. .0135" spacing offering capacities up to 30 mmfd. 5. High torque. We would be pleased to quote on your special requirements.

SINGLE							
Cat. No.	Type No.	Net Price	Nominal Max.	Capacity mmf. Min.	Number Plates	L	
160-102	5M11	\$ .95	5.0	1.5	5	1 1/4	
160-104	9M11	1.01	8.7	1.8	9	1 1/2	
160-107	15M11	1.15	14.2	2.3	15	1 13/32	
160-110	20M11	1.31	19.6	2.7	21	1 31/64	
DIFFERENTIAL							
160-303	6MA11	1.37	5.0	1.5	7	1 1/4	
160-305	9MA11	1.51	8.7	1.8	13	1 1/2	
160-308	15MA11	1.70	14.2	2.3	22	1 13/32	
160-311	19MA11	1.96	19.6	2.7	31	1 31/64	
BUTTERFLY							
160-203	3MB11	1.37	3.1	1.5	7	1 1/4	
160-205	5MB11	1.51	5.1	1.8	13	1 1/2	
160-208	9MB11	1.70	8.0	2.2	22	1 13/32	
160-211	11MB11	1.90	10.8	2.7	31	1 31/64	

## JOHNSON TYPE "L" VARIABLES (167 Series)

Perfected ceramic soldering assures permanent rigidity and maintenance of capacitance. JOHNSON ceramic soldering leaves a bond which is stronger than the rugged end plates themselves. There are no eyelets, nuts or screws to work loose which would cause stator wobble and fluctuations in capacity.

Split sleeve tension bearing assures silent operation on highest frequencies. Ceramic end plates, 1 3/8" square with 2 mounting posts tapped for 6-32 screws on 1 1/2" centers. Mounting (M) dimension is 1/2" more than L dimension.

Two sets of stator contacts. Corrosion resistant, bright alloy plating has low electrical resistance.

These new variables are suitable for the severest conditions of portable-mobile operation. Other capacities and spacings on special order in production quantities.

TYPE L SINGLE SECTION							
Cat. No.	Type No.	Net Price	Cap. per Sect. Max.	Cap. per Sect. Min.	*Spacing	Plates Per Sect.	L
Single End Plate							
167-101	10L15	\$1.57	11	2.8	.030"	3	1 1/2
167-102	25L15	1.67	27	3.5	.030"	7	1 3/4
167-103	50L15	1.83	51	4.6	.030"	13	1 7/8
167-104	75L15	1.96	75	5.7	.030"	19	1 3/4
Double End Plate							
167-151	100L15	3.17	99	6.8	.030"	25	2 1/4
167-152	200L15	4.00	202	11.6	.030"	51	3 3/8
Dual Section							
167-501	25LD15	3.08	27	3.5	.030"	7	1 13/16
167-502	50LD15	3.57	51	4.6	.030"	13	2 27/64
167-503	100LD15	4.29	99	6.8	.030"	25	3 3/8
Differential							
167-301	10LA15	1.90	11	2.8	.030"	3	1 1/2
167-302	25LA15	2.03	27	3.5	.030"	7	1 3/4
167-303	50LA15	2.29	51	4.6	.030"	13	1 7/8
Butterfly							
167-201	10LB15	2.19	10.5	2.8	.030"	5	1 3/4
167-202	25LB15	2.49	26	4.3	.030"	12	1 7/8
167-203	50LB15	2.88	51	6.8	.030"	23	1 15/16

\*.020, .060, .080 spacing also available.

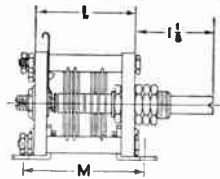
### EXPLANATION OF TYPE NUMBERS

The first part of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter D indicates a two-section type. The final number multiplied by 100 is the approx. peak breakdown voltage.



## TYPE "H" CAPACITOR

Minimum weight and size with rugged construction. Steatite end plates 1-1/2" square permit panel mounting with both rotor and stator insulated. Aluminum plates .020" thick. Mounting dimension (M) is 5/16" more than the L dimension. Shaft dia. 1/4".



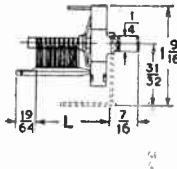
### TYPE H SINGLE SECTION

Cat. No.	Type No.	Net Price	Cap. per Sect.		Spacing	Plates Per Sect.	L
			Max.	Min.			
<b>Single End Plate</b>							
156-1	25H15	\$1.77	25	4	.030"	6	1 11/16
156-2	35H15	1.83	30	4	.030"	8	1 13/16
156-3	50H15	1.93	40	4	.030"	11	1 7/8
156-4	70H15	2.09	69	6	.030"	15	1 15/16
156-5	100H15	2.29	97	7	.030"	21	1 1/2
<b>Double End Plate</b>							
156-6	150H15	3.27	146	9	.030"	31	2 11/16
156-7	250H15	4.32	249	13	.030"	51	3 13/16
156-11	70H30	3.76	74	13	.080"	35	4 15/16
<b>TYPE H DUAL SECTION</b>							
156-512	35HD15	3.08	31	6	.030"	7	1 11/16
156-513	50HD15	3.31	51	7	.030"	11	2 1/16
156-514	70HD15	3.63	71	8	.030"	15	2 1/2
156-515	100HD15	4.09	99	10	.030"	21	3 1/8
156-516	35HD30	3.66	38	12	.080"	17	4 13/16
156-517	50HD30	4.68	55	15	.080"	25	6

## TYPE "J" CAPACITOR

Has wider spacing, .025", than most small types, yet occupies little more space. Ideal for oscillator and low power stages. Steatite end plate is 1-1/8" wide. Mounting brackets included.

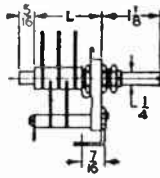
Cat. No.	Type No.	Net Price	Cap. per Sect.		Plates Per Sect.	L
			Max.	Min.		
157-1	7J12	\$1.28	8	2.6	3	1 1/2
157-2	15J12	1.37	17	3.3	6	2 1/2
157-3	25J12	1.51	29	3.6	10	3 1/4
157-4	50J12	1.77	52	4.9	17	4 1/4
157-5	75J12	2.06	73	6	26	5 1/2
157-6	100J12	2.45	102	7	36	6 1/2



## TYPE "G" CAPACITOR

Neutralizing copocitor for medium and low power stages. .032" rounded aluminum plates, Steatite insulation. Furnished with universal mounting bracket and locking nut. Mounting space required: 2-1/16" wide, 2-17/64" high.

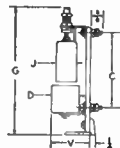
Cat. No.	Type No.	Net Price	Cap. per Sect.		Number Plates	L
			Max.	Min.		
165-2	50G20	\$2.45	52	5	.045"	9
165-4	13G45	2.26	13	4.7	.125"	5
165-5	23G45	2.45	23	6.4	.195"	9
165-6	6G70	2.45	5.7	3.5	.225"	3
165-7	12G70	2.78	12	6	.225"	7



## TYPE "N" CAPACITOR

Extremely high voltage rating in proportion to size and requiring small mounting area. Constant voltage rating throughout full capacity range. Plates are aluminum cups supported by Steatite frame with cast aluminum mounting bracket. Peak RF breakdown ratings at 2 Mc.: N125—8,500, N250—11,500, N375—14,500.

Cat. No.	Type No.	Net Price	Capacity		D	C	G	V	Spacing
			Max.	Min.					
159-125	N125	\$4.25	11.0	1.1	1 3/4	3 1/4	6 17/32	1 11/16	.195"
159-250	N250	4.91	10.6	1.4	1 7/8	3 3/4	7 17/32	2 3/8	.250"
159-375	N375	6.22	10.7	1.7	2 1/8	5 19/32	8 29/32	2 15/16	.375"

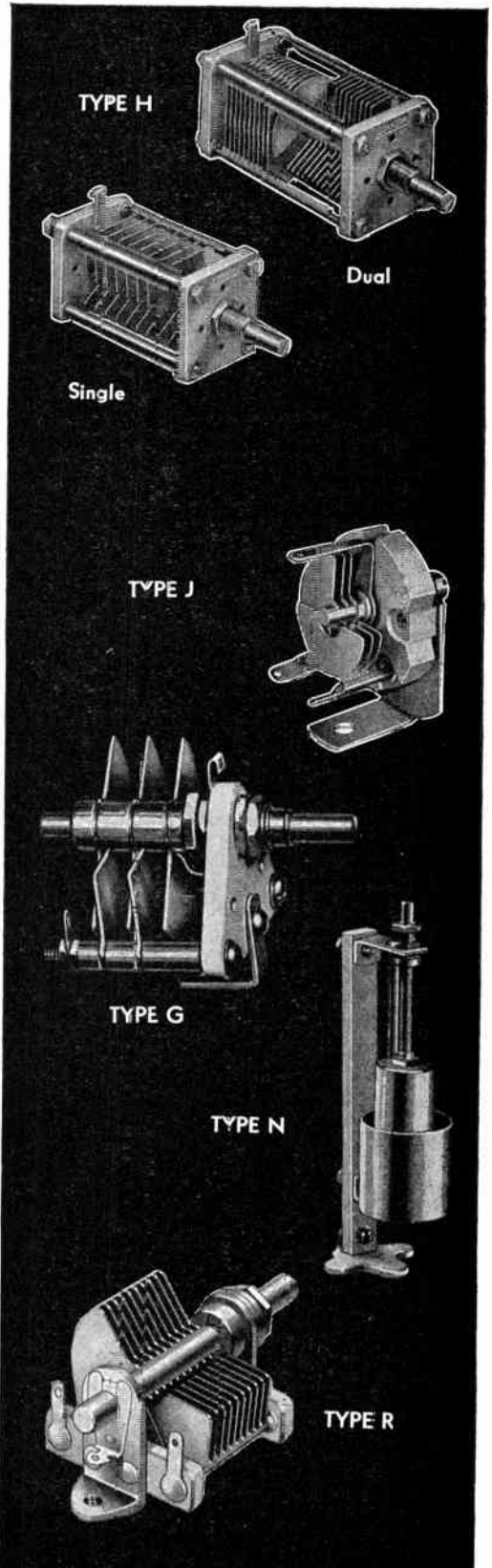
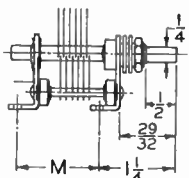


## TYPE "R" CAPACITOR

The JOHNSON version of a highly popular standardized capacitor widely used in compact portable and mobile equipment. End plates are of extra heavy nickel-plated brass, Steatite insulating bars. All soldered and riveted construction.

### SPECIFICATIONS

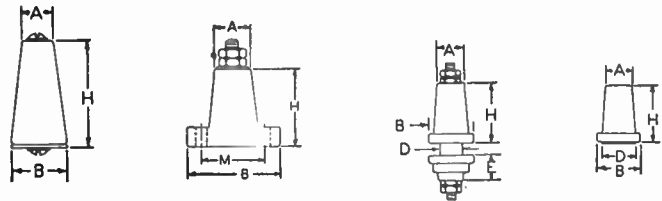
All plates are .0225" thick, of brass with bright allow plating, far more corrosion resistant than cadmium. Spacing is ordinarily .0245", but available on special order in spacings up to .0715". Panel mounting area required; 1-5/8" wide, 1-11/16" deep. Supplied at present only on special order in production quantities. Write for full details.





## INSULATORS AND BUSHINGS

Steatite and porcelain RF insulators with a long history of user satisfaction. Dense molding and glazing impart fracture resistance together with low moisture absorption. Extended creepage paths provide maximum voltage breakdown compatible with compact design. Relatively large mounting faces permit substantial lateral loads. Heavily nickel plated brass hardware suitable for exposed applications.



### STAND-OFF INSULATORS

Steatite insulators combining excellent strength with economy for surface mounting applications. Heavy integral mounting bases; ample clearance for screw heads.

Cat. No.	Net Price	H	B	M	A	Hardware
135-20	\$0.14	1 1/16	1 3/8	1 5/16	3/4	10-32
135-20J	.18	1 1/16	1 3/8	1 5/16	3/4	74 Jack
135-22	.12	1	1 1/8	1 1/8	3/4	8-32
135-22J	.15	1	1 1/8	1 1/8	3/4	74 Jack
135-24	.08	3/8	1	1 1/16	3/8	6-32

Ribbed porcelain insulators with square mounting bases and four mounting holes; top glazed.

135-80	.59	4 1/2	2 1/8	1 7/8	1 3/16	1/4-20
135-82	.33	2 3/4	1 3/8	1 3/8	3/8	1/4-20

Surface mounting porcelain insulators with drawn and etched aluminum bases. Nos. 135-65, 135-65J, 135-68, 135-68J are ribbed.

135-65	.20	1 3/8	1 7/8	1 3/8	5/8	10-32
135-65J	.23	1 3/8	1 7/8	1 3/8	5/8	74 Jack
135-66	.46	2 5/8	1 3/4	1 5/8	1 1/2	1/4-20
135-66J	.59	2 5/8	1 3/4	1 5/8	1 1/2	76 Jack
135-67	.56	4 1/2	2 1/4	1 3/4	1 1/4	1/4-20
135-67J	.72	4 1/2	2 1/4	1 3/4	1 1/4	76 Jack
135-68	.26	2 1/16	1 3/8	1 3/8	2 1/2	10-32
135-68J	.33	2 1/16	1 3/8	1 3/8	2 1/2	74 Jack

### STEATITE CONE INSULATORS

Material, grade L-4 or better, Steatite. Deep clean threads are tapped directly into the ceramic. Furnished complete with machine screws, brass and cork cushion washers.

135-500	\$0.20	2 1/8	5/8	7/16	6-32
135-501	.23	1 1/2	3/4	1/2	8-32
135-502	.43	1 3/4	1	1/2	8-32
135-503	.49	2 1/16	1 1/8	5/8	10-32
135-504	.95	3 1/16	1 3/8	3/4	10-32

### METAL BASES

Brass bases for replacement on 135-65, -66, -67 and -68 insulators.

Cat. No.	Net Price	For use with
135-865	\$0.08	135-65
135-866	.10	135-66, 135-68
135-867	.13	135-67

### FEED-THRU BOWL ASSEMBLIES

Bowls, electrical glass, 6 1/16" maximum diameter, 4 3/8" high. Steel mounting flange 7 3/4" dia. Stud threaded 1/2" - 13. Cork gaskets and spun aluminum corona shields included in fittings. 135-15-1 consists of single bowl with fittings, 10 1/4" stud; 135-15-3 two bowls and fittings with 16" stud for walls up to 4". 135-15-7 with 24" stud for walls up to 12". Can also be furnished with special hollow studs.

Cat. No.	Net Price
135-15-0	Glass bowl only, less fittings . . . 6.05
135-15-1	One bowl and fittings . . . . . 11.10
135-15-3	Two bowls and fittings . . . . . 19.60
135-15-7	Two bowls and fittings . . . . . 20.30

\*Height dimension includes cushion mounting washer.

### THRU-PANEL INSULATORS

High voltage insulators compression mounted by means of a stud throughout length. Extrusion of insulator base extends thru mounting hole increasing breakdown rating. Flat mounting surfaces with cushion washers eliminate breakage. Types equipped with jacks have terminal permitting connection above as well as below the panel.

#### STEATITE

Cat. No.	Net Price	H	B	D	E	A	Hardware
135-40	\$0.23	1 3/4	1 5/16	7/16	1/2	1 9/32	10-32
135-40J	.29	1 3/4	1 5/16	7/16	1/2	1 9/32	74 Jack
135-42	.20	7/8	3/4	.400	3/8	1/2	10-32
135-42J	.26	7/8	3/4	.400	3/8	1/2	74 Jack
135-44	.16	5/8	5/8	.305	5/16	5/8	6-32

#### PORCELAIN

135-45	\$0.29	1 3/8	1 1/4	1/2	1 1/16	5/8	10-32
135-45J	.39	1 3/8	1 1/4	1/2	1 1/16	5/8	74 Jack
135-46	.65	2 3/8	1 3/4	1 1/16	1	1 5/16	1/4-20
135-46J	.82	2 3/8	1 3/4	1 1/16	1	1 5/16	76 Jack
135-47	.92	4 1/2	2 1/8	1 1/2	1 1/16	1 1/2	1/4-20
135-47J	1.08	4 1/2	2 1/8	1 1/2	1 1/16	1 1/2	76 Jack
135-48	.42	2	1 3/8	1 1/16	7/8	3/4	10-32
135-48J	.52	2	1 3/8	1 1/16	7/8	3/4	74 Jack

### INSULATED THRU-PANEL BUSHINGS

Assemblies consist of a pair of identical steatite insulators, hardware and cushion washers. The 135-55 assembly has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.

135-50	\$0.23	1 1/2	3/4	1 1/2	3/8	6-32
135-51	.33	1 5/8	1 1/4	2 1/8	5/8	10-32
135-52	.52	1 3/4	1 1/4	1 1/2	7/8	1/4-20
135-55	.20	1/4	3/4	1 1/2	1/2	6-32

### LEAD-IN BUSHINGS

Single porcelain insulators less all hardware except cushion washer. Mounting flanges listed separately.

135-53	\$0.20	1 3/4	2 1/4	1 7/8	1 1/4
135-54	.49	4	3 1/2	2 1/4	1

### MOUNTING FLANGES

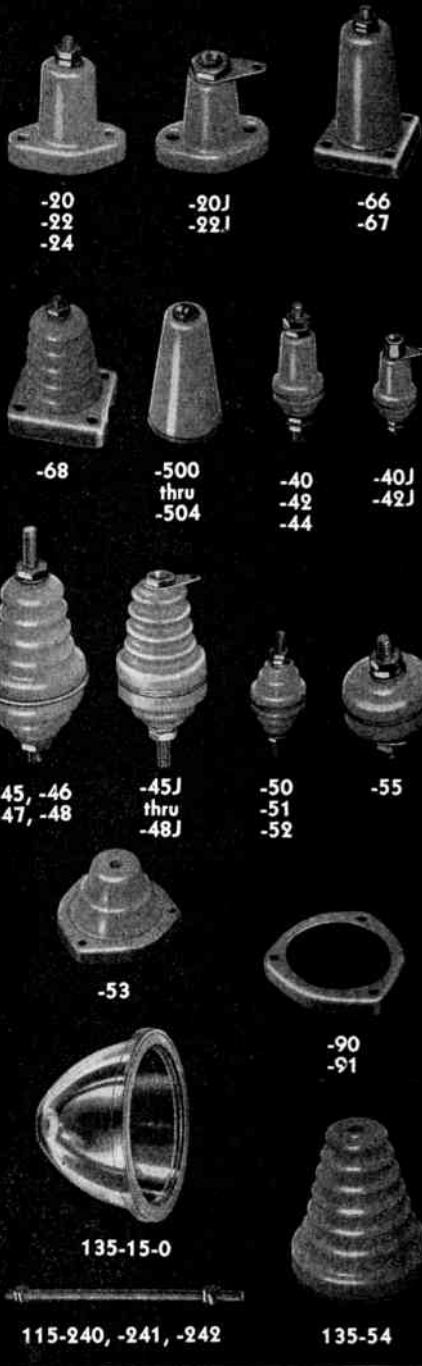
Stamped aluminum mounting flanges for lead-in bushings 135-53 and 135-54. Three mounting holes spaced 120 degrees apart.

Cat. No.	For Bushing No.	Net Price
135-90	135-53	\$0.23
135-91	135-54	.46

### THREADED BRASS ROD

Intended primarily for use with lead-in bushings 135-53 and 135-54. Rod threaded overall 1/4-20. Complete assembly includes rod, 4 brass washers and 4 nuts, all parts heavily nickel plated.

Cat. No.	Length	Net Price
115-240	8"	\$0.33
115-241	10"	.39
115-242	12"	.46





## ENAMELED COPPERWELD ANTENNA WIRE

JOHNSON Enamelled Copperweld Antenna Wire will not stretch nor sag. Prices are per 100 feet. Carried by most suppliers in bulk, it is available from the factory in any specified length.

Cat. No.	Net Price	B & S Gauge	Ft. per Lb.	Breaking Strength
144-348	\$2.91	10	34 1/2	1130 lbs.
144-350	2.13	12	54	720 lbs.
144-352	1.44	14	85	400 lbs.

## FEEDER INSULATORS

Nos. 136-122, -124 and -126 are conventional feeder spreaders of high grade low absorption porcelain, Silicone impregnated. No. 136-122 has notches for 1 1/2" line spacing. All have 3/8 x 1/2" cross section.

Cat. No.	Net Price	Lgth.	Cat. No.	Net Price	Lgth.	Cat. No.	Net Price	Lgth.
136-122	\$ .10	2"	136-124	\$.15	4"	136-126	\$.20	6"

## ANTENNA INSULATORS

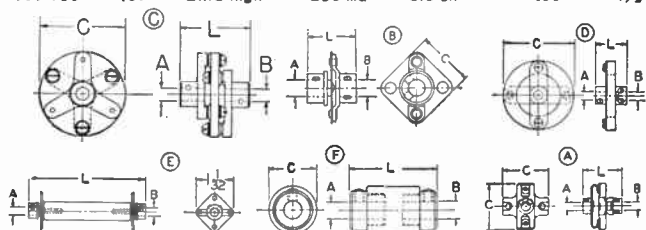
The 136-151, -152, -153 are 1 1/2" in dia., wet process porcelain with non-corrosive aluminum end bells. The 136-107-112, are wet process 1" in dia. The 136-104 is dry process 3/8" square. The 136-32 is dry process compression strain type, 1 1/2" long. All antenna insulators glazed.

Cat. No.	Net Price	Breaking Strength	Net	Over-all Length
136-151	\$5.90	5000 lbs.	8"	15 1/2"
136-152	7.85	5000 lbs.	12"	19 1/2"
136-153	11.45	5000 lbs.	20"	25 1/2"
136-104	.13	400 lbs.		4"
136-107	.72	800 lbs.		7"
136-112	.79	800 lbs.		12"
136-32	.10			1 1/2"

## RADIO FREQUENCY CHOKES

Have high reactance over the range for which they are designed. Coils are of enamelled silk-covered wire impregnated with high grade R.F. lacquer and wound on Steatite cores. Current ratings may be increased for intermittent use.

Cat. No.	Net Price	Frequency	Current	Induct. (1 mc.)	Ohms DC	Lgth.
102-750	\$1.15	1.7 to 30 mc.	150 ma	.83 mh	15	1 1/2"
102-752	1.64	1.7 to 30 mc.	500 ma	1.0 mh	5.2	2 1/2"
102-754	1.96	1.7 to 30 mc.	750 ma	1.9 mh	4	4 3/4"
101-760	.39	Ultra-high	250 ma	6.8 uh	.33	1 1/2"



## COUPLINGS

All JOHNSON couplings are manufactured with high quality, low loss insulation, accurately machined and suitably finished metal parts. Each is capable of many thousands of operating cycles without failure due to fatigue. DC "breakdown" ratings derated in accordance with good engineering practice. The phosphor bronze springs of the -250 and -251 series couplings provide flexibility without backlash and adjust to minor shaft misalignments. Rigid types -252, -262 and -261 meet the requirements of accurate shaft alignment and high torque. The -259 and -2593 are bar type couplings recommended for high voltages or very high frequencies. The -264 is a small bakelite insulated flexible coupling for DC or low voltage RF applications.

Cat. No.	Net Price	DC "Breakdown"	Dim. Dwg.	Dimension			
				C	L	A	B
104-250	\$.65	4000	A	1 1/16	1 1/8	3/4	3/4
104-2503	.72	4000	A	1 5/16	1 1/8	3/4	3/4
104-251	.92	8000	A	2 1/8	1 1/2	3/4	3/4
104-251A	.92	8000	A	2 1/8	1 1/2	3/4	3/4
104-251B	.92	8000	A	2 1/8	1 1/2	3/4	3/4
104-252	.59	7000	F	1 1/16	1 1/4	3/4	3/4
104-258	.23			1/2	3/4	3/4	3/4
104-259	.98	8000	E		3 3/8	3/4	3/4
104-2593	.95	5000	E		2 3/8	3/4	3/4
104-261	2.78	7500	C	2 1/2	1 1/8	3/4	3/4
104-262	.56	5000	D	2	2 1/16	3/4	3/4
104-264	.39	750	B	1 1/8	2 3/32	3/4	3/4

## PANEL BEARINGS

Nickel plated brass for 3/4" shaft and up to 3/8" panels. Also with 3" and 6" nickel-plated brass shafts.

Cat. No. 115-255	Panel bearing only	Net Price	\$.13
Cat. No. 115-256	Bearing and 3" shaft	Net Price	.26
Cat. No. 115-2562	Bearing and 6" shaft	Net Price	.39

## FLEXIBLE SHAFTS

Phosphor bronze, non-rusting with 1/4" hubs. Permit out of line or up to 90 degree angular control.

Cat. No. 115-253	3" flexible shaft	Net Price	\$.33
Cat. No. 115-254	6" flexible shaft	Net Price	.46

## CRYSTAL SOCKETS

Designed for HC-6 U crystal holder. Steatite base, DC200 impregnated. Contacts spaced .486" accept pins .050" diameter, .248" long; silver plated, hot tin dipped terminals. Single 1/8" mounting hole. Withdrawal force 1 1/2 lbs. plus or minus 40%.

Cat. No. 126-105	Body glazed, phosphor bronze contacts	Net Price	\$.15
Cat. No. 126-105-2	Body glazed, beryllium copper contacts	Net Price	.21

## MULTIPLE CRYSTAL SOCKETS

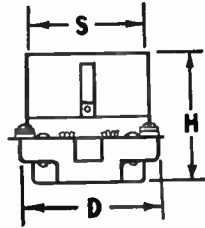
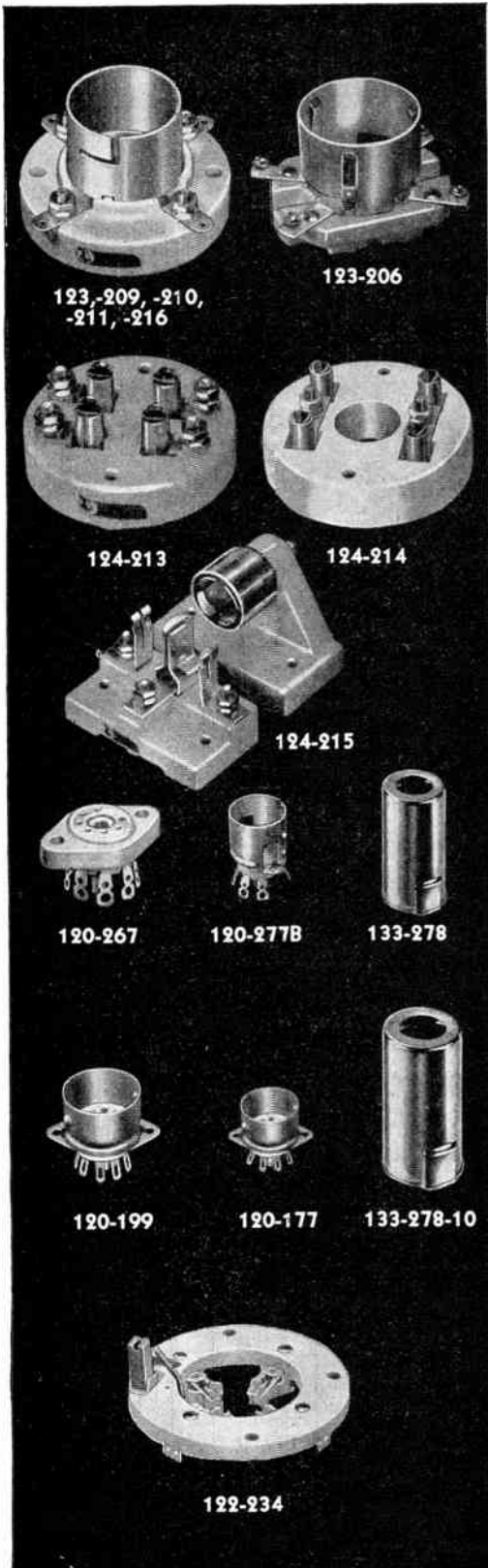
Crystal socket accommodates up to ten FT-243 holders (pin spacing .486"). Base is mica filled phenolic; contacts are brass, cadmium plated, accept pins .400" long, .093" dia.

Cat. No. 126-120-1 (Board Only)	Net Price	\$.20
Crystal selector assembly: socket, bracket, 11 position switch and index plate.		
Cat. No. 126-220-1 (Crystal Selector)	Net Price	\$.38

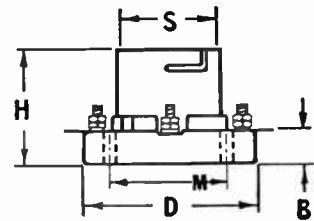




## TUBE



123-206



123-209, -210, -211, -216

No. 123-206 industrial bayonet socket with rugged metal shell for extremely high voltage applications. Will accommodate 800B, 5C22, FG104, GL146 and other tubes with similar bases. Has steatite insulation, silver plated beryllium copper contacts, screw terminals and three heavy springs in shell insure tube being held securely in place. No. -209 has 4 mtg. holes, -206, -210, -211, -216 have 2. Nos. -209, -210, -211 and -216 all have heavy phosphor bronze, side wiping type contacts, metal shells and white, glazed porcelain bases. No. -209 is similar to No. -210, but provides greater spacing between contacts and shell, for higher voltages.

No. 211, the standard "50-watt" socket, has double filament contacts for carrying heavy currents. No. -216 is for tubes having a GIANT 5-pin bayonet base such as the 803, RK28, etc. Suffix letters "SB" indicate beryllium copper contacts and steatite bases.

Cat. No.	Net Price	D	H	M	S	Pins	Tube Base
123-206	\$1.96	2 5/8 x 3 1/2	2 1/2	2 3/4	2.250	4	Super Jumbo
123-209	.98	2 15/16	1 7/8	2 5/16	1.386	4	Med. Bay.
123-209SB	1.64	2 15/16	1 7/8	2 5/16	1.386	4	Med. Bay.
113-210	.98	2 1/2	1 7/8	2 1/16	1.386	4	Med. Bay.
123-211	1.21	3 3/8	2 3/4	2 15/16	1.886	4	Stand. Jumbo
123-211SB	2.29	3 3/8	2 3/4	2 15/16	1.886	4	Stand. Jumbo
123-216	1.96	3 3/4	2 1/16	3 1/8	2.198	5	Giant Bay.
123-216SB	3.37	3 3/4	2 1/16	3 1/8	2.198	5	Giant Bay.

No. -213 takes Eimac 152TL and 304TL. Contacts for either series or parallel filaments. No. -214 takes Eimac 1500TH.

No. -215 is for "250 watt" tubes such as 204A, 849, etc.

The plate terminal has a "safety cup" which prevents accidental dislodgement.

Cat. No.	Base	Net Price
124-213	"Eimac"	\$1.31
124-214	"Eimac"	1.80
124-215	"250 Watt"	2.78

### MINIATURE SOCKETS

Sockets Steatite insulated, with phosphor bronze contacts.

Cat. No.	Description	Net Price
120-267	Miniature socket, all ceramic	\$0.33
120-277B	Miniature socket with shield base	.49
133-277S	Miniature shield base only	.10

### JAN MINIATURE SOCKETS

Top mounting, saddle type sockets per JAN spec. S-28A. One piece ceramic insulator grade L-4B or better, top glazed, DC 200 impregnated. Brass shell and center shield nickel plated to withstand salt spray test. Contacts beryllium copper, silver plated. Terminals hot tin dipped. Mounting centers 7/8" on 7 prong type; 1 1/8" on 9 prong type.

Cat. No.	Military Designation	Type	Net Price
120-177	TS102CO1	7 prong	\$0.59
120-199	TS103CO1	9 prong	.79

### MINIATURE SHIELDS

Brass, nickel plated to meet JAN specs.

Cat. No.	Military Designation	Fits Socket	Length	Net Price
133-278-6	TS102UO1	177, 277	1 3/8"	\$0.14
133-278-7	TS102UO2	177, 277	1 3/8"	.16
133-278-8	TS102UO3	177, 277	2 1/8"	.20
133-278-9	TS103UO1	199	1 1/2"	.20
133-278-10	TS103UO2	199	1 15/16"	.23
133-278-11	TS103UO3	199	2 3/8"	.26

### FOR 5D21, 705A AND 715A & B

No. -234 for Western Electric 5D21, 705A, 715A, 715B includes heavy steatite base and special locking device for retaining tube in socket.

Cat. No.	Net Price
122-234	\$1.96



## SOCKETS

### WAFER SOCKETS

JOHNSON wafer sockets are insulated with grade L 4 steatite or better, top and sides glazed, underside impregnated in conformance with latest Army Navy specifications. Contacts are brass with steel spring, cadmium plated and are mounted against phenolic washers in molded recesses to prevent movement. Rivets are countersunk and mounting holes banded to permit sub-panel mounting. Locating grooves facilitate tube insertion.

Cat. No.		Net Price
122-217	7-pin small.....	\$0.49
122-224	4-pin.....	.39
122-225	5-pin.....	.42
122-226	6-pin.....	.46
122-227	7-pin med.....	.49
122-228	Octal.....	.52

### 7 PIN WITH BUILT-IN BASE SHIELD

The 122-101 is a 7-pin steatite wafer socket incorporating ventilated base shield, five tube retainer springs and provision for mounting button mica capacitors directly to the socket. Socket is specially designed for UHF use with tubes such as the 826, 829 832, 4D32 and 4D22. Contacts silver plated and recessed to prevent movement. Special terminals permit direct mounting of grid coils. Two holes provided for mounting of buss bar neutralizing leads. .185" mounting holes on 2<sup>1</sup>/<sub>16</sub>" square.

Cat. No.	Net Price
122-101.....	\$1.96

### GIANT 7 PIN

No. -237 is a 7-pin large steatite wafer socket for transmitting tubes having a GIANT 7-pin base such as the 4E27A, HK257 and RCA 813. 3/4" ventilating hole in base. .174" mounting holes on 1 7/8" square.

Cat. No.	Net Price
122-237.....	\$0.72

### 7 PIN AND BASE SHIELD

No. -247 is a 7-pin steatite wafer socket for transmitting tubes such as the 826. It is furnished with etched aluminum base shield. .174" mounting holes on 1 7/8" square.

Cat. No.	Net Price
122-247—Ceramic base 2 1/8" square.....	\$0.82
122-248—Same as -247 above except 2 3/8" square.....	.86

### SUPER JUMBO 4 PIN

The 122-244 is a 4-pin wafer socket of Steatite insulation, for transmitting tubes having a Super Jumbo base such as the 800B. Brass clip contacts and reinforcing steel springs are cadmium-plated and designed for high currents.

Cat. No.	Net Price
122-244.....	\$1.31

### FOR 833 AND 833A

The No. -212 socket for RCA833 or 833A. Base of Steatite. Filament clamps incorporate "springs" which minimize strains on the glass tube seals and prevent breakage. Heat radiating plate terminals have 4 3/8" flexible laminated leads.

Cat. No.	Net Price
124-212.....	\$6.55

### GIANT 5 PIN

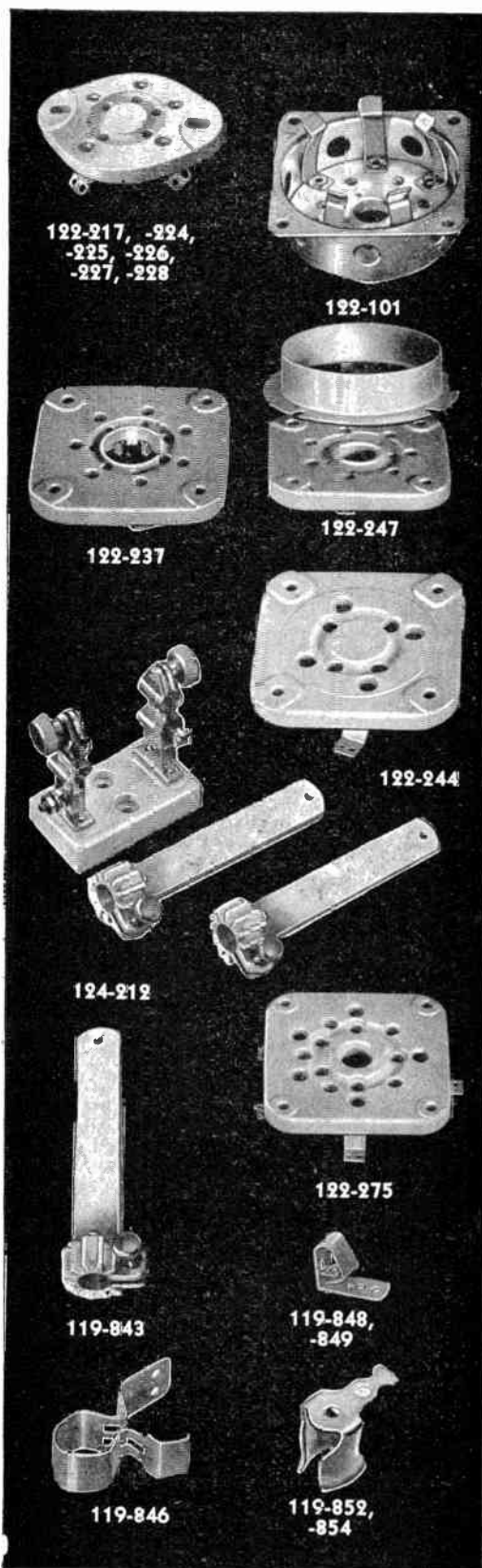
The 122-275 is a 5-pin steatite wafer socket for transmitting tubes having a GIANT 5-pin base such as the 4-125A and RK48. Contacts are designed for high currents. Adequate ventilation for tubes is provided by a central hole and five holes between contacts. .190" mounting holes on 2 1/4" square.

Cat. No.	Net Price
122-275.....	\$1.15

### TUBE CAP CONNECTORS

The 119-843 is a part of the 124-212 socket. Types 119-846 to 119-849 are silver-plated beryllium copper plated for permanent low resistance contact. 119-852 and -854 are of phosphor bronze, cadmium plated with high spring tension.

Cat. No.	Tube Cap. Dia.	Net Price
119-843	.567".....	\$ .98
119-846	.125".....	.23
119-848	.070".....	10.45/c
119-849	.048".....	7.85/c
119-852	.360".....	3.90/c
119-854	.566".....	7.85/c







## JOHNSON AIR WOUND INDUCTORS

Swinging link inductors for amateur bands 160 thru 6 meters; 150, 500 and 1000 watt sizes. Two inductance values for each band permits choice of appropriate L/C ratio dictated by amplifier plate voltage and plate current. Polystyrene insulation, Steatite bases and heavier wire sizes insure highest efficiency. HCS—Inductors match high voltage, low current tubes. LCS—Inductors match low voltage, high current tubes.

### SWINGING LINK INDUCTORS

#### 1,000 watts

Cat. No.	Type No.	Net Price	Wire Size	Cap.*mfd.	Height	Width
238-106	1000HCS160	\$7.50	10	90	5 1/16"	4 1/8"
238-107	1000LCS160	7.50	10	140	5 1/16"	4 1/8"
238-101	1000HCS80	6.70	10	46	5"	3 3/8"
238-102	1000LCS80	6.70	10	73	5"	3 3/8"
238-103	1000HCS40	6.05	10	24	5"	3 3/8"
238-104	1000LCS40	6.05	8	55	5"	3 3/8"
238-105	1000HCS20	5.55	8	19	4 7/8"	3 3/8"
238-111	1000LCS20	5.55	.250"	26	5 1/8"	4"
238-112	1000H/LCS14	5.20	.250"	19	4 7/8"	3 1/2"
238-113	1000H/LCS10	4.90	.250"	18	4 7/8"	3 1/2"

#### 500 watts

238-125	500HCS160	3.75	14	100	4 7/32"	3 1/8"
238-126	500LCS160	3.75	14	148	4 7/32"	3 1/8"
238-121	500HCS80	3.45	14	45	3 3/8"	2 5/8"
238-122	500LCS80	3.45	12	76	3 3/8"	2 1/2"
238-123	500HCS40	3.15	12	27	3 3/8"	2 1/2"
238-124	500LCS40	3.15	10	50	3 1/2"	2 1/2"
238-131	500HCS20	2.70	6	25	3 1/2"	2 1/8"
238-132	500LCS20	2.70	6	37	3 1/2"	2 1/8"
238-133	500H/LCS14	2.25	6	19	3 1/2"	2 1/8"
238-134	500H/LCS10	2.10	6	19	3 1/8"	2 1/8"
238-135	500H/LCS6	2.10	6	18	3 1/8"	2 1/8"

#### 150 watts

238-147	150HCS160	3.30	18	102	4 3/16"	3 1/8"
238-148	150LCS160	3.30	16	151	4 7/32"	3 3/8"
238-141	150HCS80	3.00	16	51	4 7/32"	2 1/8"
238-142	150LCS80	3.00	16	68	4 7/32"	2 1/8"
238-143	150HCS40	2.70	14	28	3 3/8"	2 5/8"
238-144	150LCS40	2.70	12	57	3 3/8"	2 1/2"
238-145	150HCS20	2.40	12	21	3 1/2"	2 1/8"
238-146	150LCS20	2.40	12	32	3 1/2"	2 1/8"
238-151	150H/LCS14	2.10	8	19	3 1/2"	2 1/2"
238-152	150H/LCS10	1.95	8	19	3 1/2"	2 1/2"
238-153	150H/LCS6	1.95	8	16	3 1/2"	2"

\*Total circuit capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mfd. Height measured from the bottom of the plug bar. Width is O.D. of winding.

### PLUG-IN SWINGING LINKS

Plug-in links originated by JOHNSON. Select the link to match your line, coupler or output filter for optimum power transfer.

Cat. No.	Type No.	No. Turns	Net Price	Cat. No.	Type No.	No. Turns	Net Price
238-181	150/500SL12	12	\$1.80	238-191	1000SL10	10	\$1.80
238-182	150/500SL5	5	1.14	238-192	1000SL5	5	1.44
238-183	150/500SL2	2	.96	238-193	1000SL2	2	1.08

### SWINGING LINK ARM ASSEMBLIES

238-179	150/500SLA	—Arm assembly for 150, 500 watt inductors.....	Net \$1.11
238-180	1000SLA	—Arm assembly for 1000 watt inductors.....	Net 1.37

### JACK BAR ASSEMBLIES

238-171	150JBS	—150 watt 3 3/4" x 3/16" x 3/8"	Net .87
238-172	500JBS	—500 watt 5 3/4" x 3/8" x 3/8"	Net 1.20
238-173	1000JBS	—1000 watt 7 1/2" x 7/8" x 1/2"	Net 1.80

### JOHNSON FARADAY SHIELD

Faraday shields to minimize capacitively coupled spurious output. Designed for JOHNSON plug-in links, equally effective and readily installed on other links including non-plug-in types. Screen is copper plating on polystyrene. Grounded hood and copper braid complete shielding.

238-303	150/500 watt swinging link shield, hood and lead assembly...	Net \$2.45
238-304	1000 watt swinging link shield, hood and lead assembly .....	Net 2.75
238-301	150/500 watt link shield only .....	Net 1.05
238-302	1000 watt link shield only .....	Net 1.35

(Link, coil, jack bar and arm not included.)

### EDGEWISE WOUND "HI-Q" INDUCTORS

Edgewise wound, 1/4" copper strip, bright alloy plated, Mycalex supporting bars. Widely used commercially, they will safely handle more than 1000 watts in continuous service. Write for information on other types for industrial and broadcast applications.

Cat. No.	Net Price	Inductance micro H	Winding L x ID
239-610	\$7.60	31	7 13/16" x 2 1/2"
239-620	9.85	84	8 5/8" x 4"
239-622	7.70	41	6 1/8" x 3 1/4"
239-624	5.95	20	6" x 3 1/4"
239-626	5.05	10	4 3/4" x 2 1/2"

### ROTARY INDUCTOR

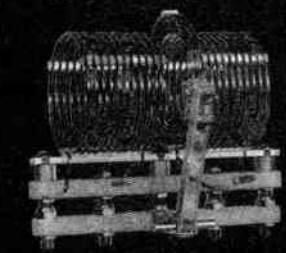
Same efficient inductor used in final tank of the VIKING I. May be used in any low and medium power transmitter with bandswitching exciter to provide continuous tuning throughout the range 3.5 to 30.0 mcs. without changing coils. Variable pitch winding of No. 14 tinned copper wire. Maximum inductance 10 microhenries. Form and end plates Steatite. Positive rolling contact assured by beryllium copper tension springs. Overall size: 2 1/2" wide x 4 1/2" long x 3" high. Supplied with typical tuning curves.

Cat. No. 239-201	Net Price \$8.85
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### INDUCTOR CLIPS

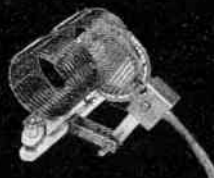
Clip No. 235-804 is plated phosphor bronze and is designed for making connections to edgewise wound inductors. No. 235-860 will admit wire from No. 20 to No. 10 without moving and shorting adjacent turns.

Cat. No. 235-804	Net Price \$2.20
Cat. No. 235-860	Net Price .10

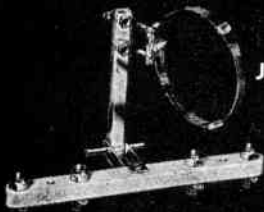


INDUCTOR 1000 HCS 40  
LINK 1000 SL5

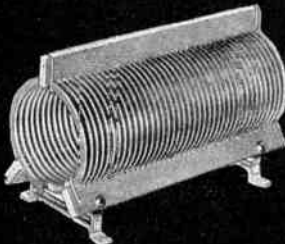
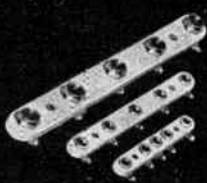
INDUCTOR  
500 LCS 40  
WITH LINK  
& FARADAY  
SHIELD



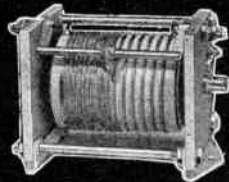
JACK BAR 1000 JBS  
WITH 1000 SLA  
ARM ASSEMBLY  
& 1000 SL5 LINK



JACK BARS  
1000 JBS, 500 JBS,  
150 JBS



EDGEWISE WOUND  
"HI-Q" INDUCTOR



ROTARY INDUCTOR



-804

-860

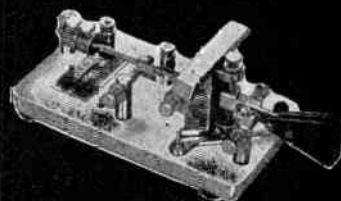


## KEYS, PRACTICE SETS, BUZZERS

### STANDARD SEMI-AUTOMATIC KEYS

Improved standard model mounted on heavy steel base  $6\frac{1}{4}'' \times 3\frac{1}{4}'' \times \frac{1}{2}''$ . Four rubber feet insure stationary position while operating. Five adjustments with lock nuts assure dependable operation at all speeds. Smooth, easy action, adjustable from lowest to highest speeds. Vibrator arm, posts, circuit closing switch, and all machine parts heavily chrome plated for permanent finish. Heavy brass connector strips under base insure low resistance circuit. Two black fiber paddles can be adjusted separately to best height. Vibrator bearings are perfectly aligned and free-acting. Complete with circuit-closing switch and adjustable weight.

Cat. No.		Net Price
114-500	$\frac{1}{8}''$ contacts, black wrinkle base	\$13.50
114-501	$\frac{1}{4}''$ contacts, polished chrome base	19.20
114-501L	—Same as 114-501 except left handed.	21.00



-500, -501

### AMATEUR SPECIAL MODEL SEMI-AUTOMATIC KEY

Sturdy steel base  $6\frac{1}{4}'' \times 3'' \times \frac{3}{8}''$ , attractively finished with black wrinkle enamel. Four rubber feet prevent slipping or tilting. Vibrator and all hardware heavily chrome plated. Two adjustable weights. Contacts are  $\frac{1}{8}''$  coin silver. Adjustments have lock nuts to assure stable operation. No circuit closing switch.

Cat. No.		Net Price
114-515	—Amateur model, semi-automatic.	\$9.60

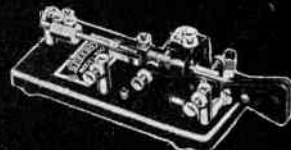


-515

### AMATEUR SEMI-AUTOMATIC KEY WITH SWITCH

For those who prefer a compact, light model. Has circuit closing switch. Base is die cast,  $6'' \times 2\frac{3}{4}'' \times \frac{3}{4}''$ . Base and frame attractively finished in black wrinkle enamel. Vibrator arm is the same as on the Standard model, with the same smooth, easy action, fully adjustable from eight words per minute to as high a rate as desired.  $\frac{1}{8}''$  coin silver contacts. An outstanding value.

Cat. No.		Net Price
114-510	—Amateur model, with switch.	\$10.50



-510

### HEAVY DUTY KEYS

Heavy die cast base, chrome plated key arm, heavy brass connector strips under base well insulated for heavy duty service. Large  $\frac{1}{4}''$  coin silver contacts. Improved Navy-type knob. Adjustable steel bearings and well designed spring give a light keying touch. The finest hand key money can buy.

Cat. No.		Net Price
114-320	—Black wrinkle enamel base	\$3.60
114-321	—Polished chrome plated base	5.10



-320,  
-321

### STANDARD KEYS

Heavy die cast base. Smooth adjustable bearings. Provision for plugging in semi-automatic keys. Contacts are  $\frac{1}{8}''$  coin silver. A high quality key at low cost.

Cat. No.		Net Price
114-310	—Black wrinkle, no switch	\$3.00
114-310S	—Black wrinkle, switch	3.25
114-311	—Chrome plated, no switch	4.90
114-311S	—Chrome plated, switch	5.15
114-316	—Brass wrinkle, no switch	3.00



-310, -311

### PHENOLIC BASE KEYS

A high quality black phenolic base key. Adjustable, smooth-acting bearings. Improved spring, pigtail connection,  $\frac{1}{8}''$  coin silver contacts. All metal parts heavily nickel plated.

Cat. No.		Net Price
114-301	—No circuit-closing switch	\$1.95



-301

### PRACTICE KEYS

Inexpensive practice keys for beginners. All metal parts except base nickel plated. Adjustable key arm spring, smooth action bearings,  $\frac{1}{8}''$  coin silver contacts.

Cat. No.		Net Price
114-300	—Molded brown phenolic base	\$1.45



-300, -306

### PRACTICE SET

Constant frequency buzzer and key on a  $4'' \times 6''$  molded brown Bakelite base. May be used singly or in pairs for code practice.

Cat. No.		Net Price
114-450	—Practice set	\$3.60



-450

### CORD AND WEDGE FOR SEMI-AUTOMATIC KEYS

Cord and wedge for quick, easy attachment of semi-automatic key across the circuit-closing switch of a standard hand key. Used almost universally by railroad telegraphers, it is also ideal for amateur service where both hand key and semi-automatic are used.

Cat. No.		Net Price
114-380	—Cord and wedge	\$ .90



-380

### CONSTANT FREQUENCY BUZZER

Molded black Bakelite base and cap. Fully adjustable, holds constant frequency. Coin silver contacts. Uses 2 dry cells or "C" battery.

Cat. No.		Net Price
114-400	—Constant frequency buzzer	\$1.35



-400



## PLUGS AND JACKS

### NYLON TIP JACKS

Completely insulated jack, body molded from low-loss Nylon. Contact recessed for maximum voltage breakdown and safety. Low capacity to panel. One piece phosphor bronze or beryllium copper silver plated contact for .081" diameter pins with integral solder terminal. Threaded  $\frac{1}{4}$  - 32, jack mounts with single nut. Overall dimensions; diameter  $\frac{3}{8}$ ", length  $2\frac{1}{2}$ ".

B. C. Cont. Cat. No.	P. B. Cont. Cat. No.	Net Price	Color
105-601-1	105-601-2	\$0.30	White
105-602-1	105-602-2		Red
105-603-1	105-603-2		Black
105-604-1	105-604-2		Dk. Green
105-605-1	105-605-2		Light Blue
105-606-1	105-606-2	\$0.27	Orange
105-607-1	105-607-2		Yellow
105-608-1	105-608-2		Brown
105-609-1	105-609-2		Lt. Green
105-610-1	105-610-2		Dark Blue
105-611-1	105-611-2	with phosphor-bronze	Ivory

### PLASTIC HEAD TIP JACKS

Plastic heads in choice of colors listed. Supplied with fibre shoulder bushing and nickel-plated hex nut. Standard finish is nickel plate on body. Mounts in  $\frac{3}{8}$ " hole. Maximum panel thickness  $\frac{5}{16}$ " where insulating washers are used,  $\frac{1}{4}$ " where omitted.  $\frac{1}{4}$ "-32 thread.

Cat. No.	Net	Color	Cat. No.	Net	Color
105-520	\$0.13	Red	105-526	\$0.13	Orange
105-521	.13	Black	105-527	.13	Yellow
105-522	.13	Dk. Green	105-528	.13	Lt. Green
105-524	.13	Brown	105-529	.13	Dk. Blue
105-525	.13	Lt. Blue	105-530	.13	Ivory

Description similar to above type except that brass body is molded integral with head, and additional phenolic washer is furnished.  $\frac{5}{16}$ "-40 thread.

Cat. No.	Net Price
105-418 Red	\$0.20
105-419 Black	0.20

### ALL METAL TIP JACKS

#### SMALL HEX HEAD

$\frac{1}{4}$ "-32 thread. Supplied with fibre bushing to fit  $\frac{3}{8}$ " panel hole.  $1\frac{1}{16}$ " maximum panel thickness.

Cat. No.	Net Price
105-417	\$0.10

#### HEADLESS TIP JACK

105-1 Body nickel plated.  $\frac{1}{4}$ "-32 thread .06

### INSULATED COMBINATION JACK

Supplied with shoulder bushing, phenolic washer and one piece contact and nut. Maximum chassis thickness  $\frac{1}{8}$ ". Mounts in  $\frac{3}{8}$ " diameter hole. Provides insulated jack for phonetic plugs and No. 75 series "banana spring" plugs.

Cat. No.	Color	Net Price
105-420	Red	\$0.20
105-421	Black	0.20

**LONG SOLDERLESS TIP PLUG.** For use with all tip jacks including 105-16 and 105-420.

Cat. No.	Net Price
105-15	\$0.13
105-14	Sharpened point .14

**SHORT SOLDERLESS TIP PLUG.** For use with all tip jacks except 105-16, -420 and -421.

Cat. No.	Net Price
105-415	\$0.12

#### TWIN TIP JACKS

Twin jacks spaced  $\frac{7}{8}$ ". Single hole mounting. Molded black phenolic body.

Cat. No.	Marking	Net Price
105-401	Blank	\$0.39
105-4012	Speaker	.39
105-4015	Phono	.39

#### SHORTING TYPE TWIN TIP JACKS

Circuit closes automatically when tips are removed. Jacks spaced  $\frac{7}{8}$ ". Single hole mounting. Molded black or red phenolic body.

Cat. No.	Color	Net Price
105-432	Black	\$0.39
105-433	Red	.39

#### "BANANA SPRING" TYPE

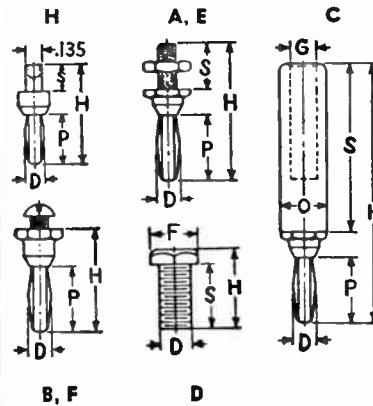
Nickel-silver springs and high grade nickel plated brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs for added support. 75D is designed for riveting. Spring is beryllium copper.

75BB has  $1\frac{1}{8}$ " black plastic handle; 75BR same but red.

77BB has  $1\frac{1}{4}$ " black plastic handle; 77BR same but red.

75 or 75A can be furnished with beryllium copper spring on special order, and all plugs can be furnished with nickel, cadmium or silver plating if required.

108-7451 is a jack similar to the 108-74 with a red plastic insulated head and furnished with fibre washers. 108-7452 same but black.



Cat. No. Plugs	Net Price	Illus. Dwg.	S	P	D	H	G	O	Thread
108-75	\$0.08	A	$\frac{3}{8}$	$1\frac{1}{16}$	.175	$1\frac{1}{8}$	....	....	6-32
108-75A	.09	A	$\frac{3}{8}$	$1\frac{1}{16}$	.175	$1\frac{1}{8}$	....	....	6-32
108-75BB	.26	C	$1\frac{1}{8}$	$1\frac{1}{16}$	.175	$2\frac{1}{8}$	.215	$\frac{7}{16}$	....
108-75BR	.26	C	$1\frac{1}{8}$	$1\frac{1}{16}$	.175	$2\frac{1}{8}$	.215	$\frac{7}{16}$	....
108-75C	.09	B	$\frac{3}{8}$	$1\frac{1}{16}$	.175	$1\frac{1}{8}$	....	....	6-32
108-75D	.06	E	$\frac{1}{2}$	$1\frac{1}{16}$	.155	$1\frac{1}{8}$	....	....	....
108-77	.20	A	$\frac{3}{8}$	$\frac{3}{4}$	.300	$1\frac{1}{2}$	....	....	$\frac{1}{4}$ -28
108-77A	.23	B	$\frac{3}{8}$	$\frac{3}{4}$	.300	$1\frac{1}{8}$	....	....	10-32
108-77BB	.33	C	$1\frac{1}{4}$	$\frac{3}{4}$	.300	$2\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	....
108-77BR	.33	C	$1\frac{1}{4}$	$\frac{3}{4}$	.300	$2\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	....
Jacks		F		D	S	H	B		Thread
108-74	.07	D	$\frac{3}{8}$	$\frac{1}{4}$	$1\frac{1}{16}$	.166	....	....	$\frac{1}{4}$ -28
108-7451	.16	....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	.166	....	....	$\frac{1}{4}$ -28
108-7452	.16	....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	.166	....	....	$\frac{1}{4}$ -28
108-76	.23	D	$\frac{3}{8}$	$\frac{3}{8}$	$1\frac{1}{16}$	.277	....	....	$\frac{3}{8}$ -24



## JOHNSON KNOBS AND DIALS

A distinctive line of matching knobs and dials suitable for the finest electronic equipment. All types are derived from a new basic knob design, the first in years. Knobs have twelve well defined flutes and present an essentially round appearance.

Tough, scratch resistant black phenolic is used for all molded parts. Metal dial scales have an etched satin chrome finish. This contrasts greatly with deeply etched and filled engraving, provides maximum legibility under poor lighting conditions. All types have accurately centered brass inserts for  $\frac{1}{4}$ " shafts.

In addition to the items listed, JOHNSON is prepared to supply variations (in production quantities) such as; special shaft sizes, scales, set screws or indicators.

Cat. No.	Illus.	Description	Net Price
<b>KNOBS</b>			
116-220	1	Knob, $1\frac{1}{8}$ " dia., black phenolic.....	\$ .29
116-260	1	Knob, $1\frac{3}{8}$ " dia., black phenolic.....	.39
116-280	1	Knob, $2\frac{3}{8}$ " dia., black phenolic.....	.59
<b>SKIRTED KNOBS</b>			
116-221	2	Knob, $1\frac{1}{8}$ " dia. with $1\frac{1}{2}$ " black phenolic skirt.....	\$ .46
116-261	2	Knob, $1\frac{3}{8}$ " dia. with $2\frac{1}{16}$ " black phenolic skirt.....	.62
116-281	2	Knob, $2\frac{3}{8}$ " dia. with 3" black phenolic skirt.....	.82
<b>DIALS</b>			
116-222	3	Dial $1\frac{1}{2}$ " bevelled satin chrome scale with $1\frac{1}{8}$ " knob. Scales as follows:	
		116-222-1 100-0 over 180 degrees.....	\$ .56
		116-222-2 0-10 over 270 degrees.....	.56
		116-222-3 1 — 7 over 180 degrees.....	.56
		116-222-4 ON — OFF over 60 degrees.....	.56
		116-222-5 Single line.....	.56
116-262	5	Dial, $2\frac{3}{4}$ " satin chrome scale with single line indicator 0 — 100 over 180 degrees.....	\$1.15
116-282	5	Dial, 4" satin chrome scale with single line indicator. 0 — 100 over 180 degrees.....	1.64
116-290	5	Dial, 4" satin chrome scale with single line indicator. 100 — 0 over 360 degrees.....	1.64
<b>VERNIER DIALS</b>			
116-265	6	Dial, $2\frac{3}{4}$ " satin chrome scale 0 — 100 over 180 degrees with 3 to 1 friction vernier drive and single line indicator	\$3.00
116-285	6	Dial, 4" chrome scale 0 — 100 over 180 degrees with 5 to 1 friction vernier drive and single line indicator.....	\$3.60
116-288	6	Dial, 4" satin chrome scale 100 — 0 over 360 degrees with 5 to 1 friction vernier drive and single line indicator.....	\$3.60
<b>SPINNER KNOBS</b>			
For multi-turn devices such as variable inductors, potentiometers etc.			
116-226	4	Spinner knob $1\frac{1}{8}$ " black phenolic.....	\$ .56
116-266	4	Spinner knob $1\frac{3}{8}$ " black phenolic.....	.62
116-286	4	Spinner knob $2\frac{3}{8}$ " black phenolic.....	.82

### COUNTER DIAL

A positively calibrated drive for rotary variable inductors and other multi-turn devices. Counter records up to 99 turns. Vernier dial calibrated 0-100 over 360 degrees, making possible accurate return to any pre-determined setting. Built-in dial lock, "spinner knob" and attractive black phenolic escutcheon. Furnished with mounting template for easy installation.

Cat. No.	Net Price
116-208-1 Counter dial with dial lock, escutcheon and $2\frac{3}{8}$ " spinner knob...	\$11.10
116-208-4 Same as above without dial lock.....	9.80

### INSTRUMENT KNOB

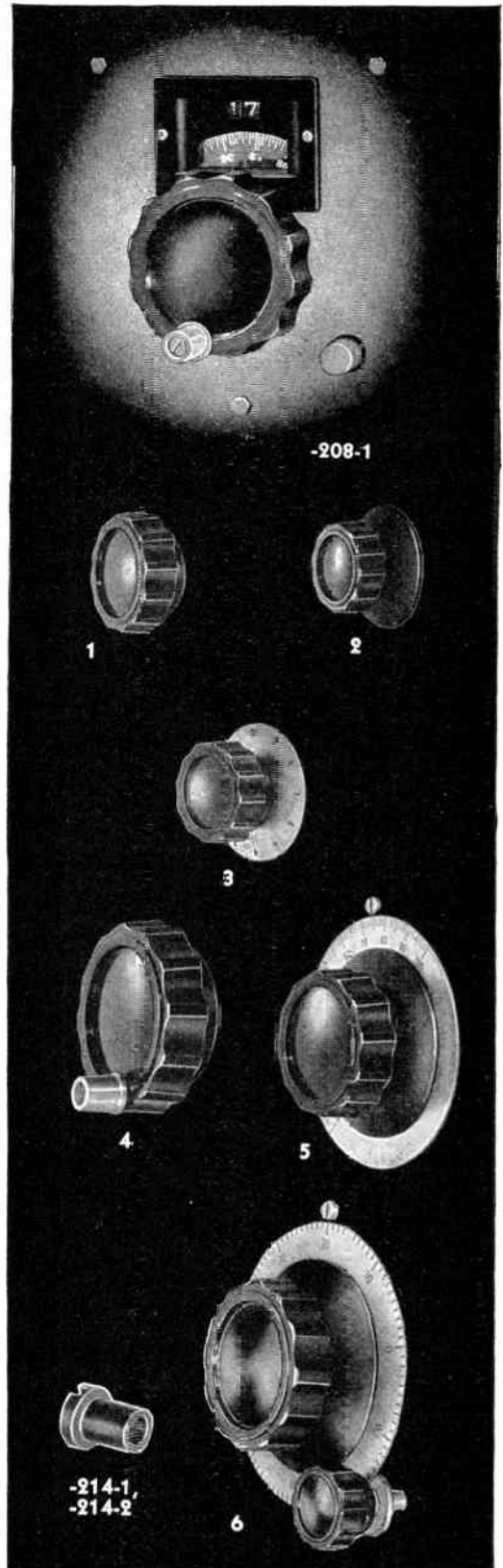
Unique black phenolic knob may be finger operated or mounted so as to project thru panel and screwdriver actuated. Length  $1\frac{15}{16}$ ", skirt diameter  $\frac{3}{4}$ " main body diameter  $\frac{1}{2}$ ". Equipped with set screw.

Cat. No.	Net Price
116-214-1—for $\frac{1}{4}$ " shaft.....	\$ .33
116-214-2—for $\frac{3}{16}$ " shaft.....	.33

### ESCUTCHEON PLATE

Attractive black phenolic escutcheon shown on 116-208-1 counter dial. Provides neat "window" for back-of-panel dial plate mounting. One edge of escutcheon suitable for attaching standard  $\frac{3}{8}$ " wide etched name plate. Opening  $1\frac{1}{4}$ " wide x  $\frac{3}{8}$ " high. Overall size  $2\frac{1}{4}$ " x  $1\frac{11}{16}$ ". Furnished with No. 2 screws.

Cat. No.	Net Price
116-201 Escutcheon plate.....	\$ .65





## PILOT LIGHTS

JOHNSON Pilot Lights are built to exacting standards from the finest appropriate materials. The listings on these pages include only those standard units in greatest demand. Many other types and variations from standards including those meeting military specifications are available in production quantities.

Standard finish for jewel holder bezels is polished chrome except for  $\frac{1}{4}$ " and  $\frac{3}{8}$ " sizes which are finished in nickel. Black oxide finish is frequently supplied to meet special requirements.

### ENCLOSED 1" LIGHT



Underwriters' Laboratories approved. One inch friction type jewel holder, bezel chrome plated brass. Lamp replaceable from front of panel. Mounting hole required 1". Porcelain insulated candelabra screw socket with solder terminals.

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Jewel
147-1000	\$.92	2 1/2"	S-6	Faceted
147-1001	.92	2 1/2"	S-6	Smooth
147-1002	.98	2 1/2"	S-6	Colored Disc
147-1003	.92	2 1/2"	T 4 1/2, NE45	Faceted
147-1004	.92	2 1/2"	T 4 1/2, NE45	Smooth
147-1005	.98	2 1/2"	T 4 1/2, NE45	Colored Disc

The following assemblies are identical except socket bases are phenolic and equipped with screw terminals.

147-1032	\$1.08	2 3/4"	S-6	Faceted
147-1033	1.08	2 3/4"	S-6	Smooth
147-1034	1.15	2 3/4"	S-6	Colored Disc
147-1035	1.08	2 1/2"	T 4 1/2, NE45	Faceted
147-1036	1.08	2 1/2"	T 4 1/2, NE45	Smooth
147-1037	1.15	2 1/2"	T 4 1/2, NE45	Colored Disc

### ENCLOSED 1" LIGHTS WITH BAYONET SOCKETS

SEE ILLUSTRATION ABOVE

One inch friction type jewel holder, lamp replaceable from front of panel. Hard rubber insulation, screw terminals. All are Underwriters' Laboratories approved except 147-1050, -1051 and -1052 which have single contact bayonet sockets. Mounting hole 1".

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Lamp Base	Jewel
147-1050	\$1.15	2 1/2"	G-6	SC Bayonet	Faceted
147-1051	1.15	2 1/2"	G-6	SC Bayonet	Smooth
147-1052	1.21	2 1/2"	G-6	SC Bayonet	Colored Disc
147-1053	1.15	2 1/2"	G-6	DC Bayonet	Faceted
147-1054	1.15	2 1/2"	G-6	DC Bayonet	Smooth
147-1055	1.21	2 1/2"	G-6	DC Bayonet	Colored Disc
147-1056	1.15	2 1/2"	G-6, NE48	DC Bayonet	Faceted
147-1057	1.15	2 1/2"	G-6, NE48	DC Bayonet	Smooth
147-1058	1.21	2 1/2"	G-6, NE48	DC Bayonet	Colored Disc
147-1076	1.31	2 3/8"	G-6, NE48	DC Bayonet*	Faceted
147-1077	1.31	2 3/8"	G-6, NE48	DC Bayonet*	Smooth
147-1078	1.38	2 3/8"	G-6, NE48	DC Bayonet*	Colored Disc

\*Has 30,000 ohm series resistor built in for NE48.

### DETACHABLE SOCKET 1" LIGHTS



Economy 1" pilot light. Chrome plated friction jewel holder. Lamp replaceable from front or rear of panel. Socket detachable from panel bushing for applications demanding removable panel. Mounting hole 1". Two solder terminals, both insulated.

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Lamp Base	Jewel
147-800	\$.69	1 11/16"	G 3 1/2, T 3 1/2	Min. Screw	Faceted
147-801	.69	1 11/16"	G 3 1/2, T 3 1/2	Min. Screw	Smooth
147-802	.72	2 1/2"	T 4 1/2	Cand. Screw	Faceted
147-803	.72	2 1/2"	T 4 1/2	Cand. Screw	Smooth
147-804	.72	1 11/16"	G 3 1/2, T 3 1/2	Min. Bay.	Faceted
147-805	.72	1 11/16"	G 3 1/2, T 3 1/2	Min. Bay.	Smooth
147-808	.73	1 11/16"	G 3 1/2, T 3 1/2	Min. Bay.	Colored Disc

In addition to smooth and faceted types, one inch jewels can be furnished with colored, plastic backing discs which impart color to the clear inside frosted jewel only when the lamp is lighted. This prevents external light from giving false indication of illumination. Where required, lettering, numerals or insignia can be printed on the backing disc and arranged to be visible either continuously or only after lamp is lit.

Standard jewel colors are clear, red, green, amber, blue and opal. Be certain to specify jewel color on all orders.

### 1" THREADED JEWEL HOLDER TYPES



Enclosed 1" light assemblies with candelabra screw bases; phenolic insulated sockets. Underwriters' Laboratories approved. Knurled brass threaded jewel holder polished chrome plated. Mounting hole size 1".

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Jewel	Terminals
147-1200	\$1.08	2 1/8"	S-6	Faceted	Solder
147-1201	1.08	2 1/8"	S-6	Smooth	Solder
147-1202	1.15	2 1/8"	S-6	Colored Disc	Solder
147-1209	1.25	2 1/8"	S-6	Faceted	Screw
147-1210	1.25	2 1/8"	S-6	Smooth	Screw
147-1211	1.31	2 1/8"	S-6	Colored Disc	Screw
147-1212	1.25	2 1/8"	T 4 1/2, NE45	Faceted	Screw
147-1213	1.25	2 1/8"	T 4 1/2, NE45	Smooth	Screw
147-1214	1.31	2 1/8"	T 4 1/2, NE45	Colored Disc	Screw

### WIDE ANGLE LENS TYPES



Good visibility from extremely wide angles. Lamp extends well into the internally ribbed, 1 1/2" glass bulbtype jewel providing diffused light of good intensity. Chrome plated brass bezel; phenolic or hard rubber insulated socket with screw terminals. Mounting hole 1". 147-1600 and 147-1605 Underwriters' Laboratories approved.

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Lamp Base
147-1600	\$1.31	2 1/8"	S-6	Cand. Screw
147-1604	1.31	1 1/2"	G-6	SC Cand. Bay.
147-1605	1.31	1 1/8"	G-6	DC Cand. Bay.

### WIDE ANGLE LUCITE LENS TYPES

For applications utilizing low powered light sources yet requiring good visibility. Designed for neon or low powered incandescent lamps. While jewels are furnished in all standard colors, only red, amber or clear are recommended for neon lamps. Underwriters' Laboratories approved.

1/8" JEWELS



The three types listed below have 3/8" threaded Lucite jewels, mounting hole required 1 1/8", length behind panel 1 1/8". Single contact miniature bayonet socket, phenolic socket body, solder terminals.

Cat. No.	Net Price	Bulb Shape	Bulb
147-1142	\$.72	T 3 3/4	47, 49, 1490
147-1143	.82	T 3 3/4	NE-51 Built in 200,000 ohm resistor
147-1144	.82	T 3 3/4	NE-51 Built in 100,000 ohm resistor

1" JEWELS



Lucite 1" jewels attached to chrome plated, threaded bezels. Hard rubber or phenolic insulation, screw terminals. Mounting hole required, 1".

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Lamp Base	Insulation
147-1217	\$1.25	1 1/8"	T 4 1/2	Cand. Screw	Phenolic
147-1218	1.05	1 1/2"	T 3 1/2	Min. Bayonet	Phenolic
147-1219	1.38	2 1/8"	T 4 1/2, G6	DC Cand. Bay.	Hard Rubber
147-1220	1.48	2 1/8"	T 4 1/2, G6	DC Cand. Bay.	Hard Rubber

has 30,000 ohm resistor for NE48



## 1" OPEN PILOT LIGHTS



One inch friction type jewels removable from front of panel. All parts heavily plated, jewel holder polished chrome. Requires 1" mounting hole. For use on panels up to 3/8" thick.

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Base	Jewel
147-100	\$ .52	1 1/2"	G 3 1/2, T 3 1/4	Min. Screw	Faceted
147-101	.52	1 1/2"	G 3 1/2, T 3 1/4	Min. Screw	Smooth
147-103	.56	2 1/4"	S-6	Cand. Screw	Faceted
147-104	.56	2 1/4"	S-6	Cand. Screw	Smooth
147-106	.56	1 1/2"	G 3 1/2, T 3 1/4	Min. Bay.	Faceted
147-107	.56	1 1/2"	G 3 1/2, T 3 1/4	Min. Bay.	Smooth

## 5/8" OPEN LIGHTS

SEE ILLUSTRATION ABOVE

Horizontal lamp bracket and jewel secured by single mounting nut. Mounting hole required 1 1/8" clearance size. For use on panels up to 3/8" thick. Polished chrome jewel holder.

Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Base	Jewel
147-700	\$ .39	1 1/4"	G 3 1/2	Min. Screw	Faceted
147-701	.39	1 1/4"	G 3 1/2	Min. Screw	Smooth
147-703	.43	1 1/4"	G 3 1/2	Min. Bay.	Faceted
147-704	.43	1 1/4"	G 3 1/2	Min. Bay.	Smooth

## 1/2" THREADED JEWEL OPEN LIGHTS



Jewel removable from front of panel. For use on panels up to 3/8" thick. Nickel plated jewel holder and bracket. Mounting hole clearance for 1 1/8" thread.

Cat. No.	Net Price	Length Behind Panel	Bulb	Base	Jewel
147-400	\$ .36	1 1/4"	G 3 1/2, T 3 1/4	Min. Screw	Faceted
147-401	.36	1 1/4"	G 3 1/2, T 3 1/4	Min. Screw	Smooth
147-403	.39	1 1/2"	G 3 1/2, T 3 1/4	Min. Bay.	Faceted
147-404	.39	1 1/2"	G 3 1/2, T 3 1/4	Min. Bay.	Smooth

## 5/8" LUCITE LENS OPEN LIGHTS



For efficient utilization of low powered light sources. Wide angle visibility; low cost. May be used with neon lamps or incandescent lamps with 3 watts or less dissipation. Mounting hole 1 1/8", length behind panel 1 1/4".

Cat. No.	Net Price	Bulb	Base
147-406	\$ .39	T 3 1/4	Min. Bay.
147-407	.46	NE51	Min. Bay. 200,000 resistor built in
147-408	.46	NE51	Min. Bay. 100,000 resistor built in

## PANEL LIGHT



For front panel illumination. Polished nickel plated hood, easily removable for lamp replacement; can be rotated to any position. Fits 3/2" mounting hole. Made for miniature bayonet or screw base T 3 1/4 or G 3 1/2 bulbs.

Cat. No.	Net Price
147-330	Miniature Screw Base. . . . . \$ .53
147-329	Miniature Bayonet Base. . . . . .59

## VERTICAL MOUNTING OPEN LIGHTS



Jewel holder and bracket heavily nickel plated. Brackets and nuts are steel, other metal parts brass.

### 3/8" JEWEL

Mounting Hole 3/8" Clearance.

Cat. No.	Net Price	Length Behind Panel	Bulb	Base	Jewel
147-500	\$ .23	1 1/4"	G 3 1/2	Min. Screw	Faceted
147-501	.23	1 1/4"	G 3 1/2	Min. Screw	Smooth
147-503	.24	1 1/4"	G 3 1/2	Min. Bay.	Faceted
147-504	.24	1 1/4"	G 3 1/2	Min. Bay.	Smooth

### 1/2" JEWEL

Mounting Hole 7/8" Clearance.

Cat. No.	Net Price	Length Behind Panel	Bulb	Base	Jewel
147-300	.26	1 1/4"	G 3 1/2	Min. Screw	Faceted
147-301	.26	1 1/4"	G 3 1/2	Min. Screw	Faceted
147-303	.29	1 1/4"	S-6	Cand. Screw	Faceted
147-304	.29	1 1/4"	S-6	Cand. Screw	Smooth
147-306	.29	1"	G 3 1/2	Min. Bay.	Faceted
147-307	.29	1"	G 3 1/2	Min. Bay.	Smooth

### 5/8" JEWEL

Mounting Hole 1 1/4" Jewel Holder Polished Chrome Plated.

Cat. No.	Net Price	Length Behind Panel	Bulb	Base	Jewel
147-200	.39	1 1/4"	G 3 1/2	Min. Screw	Faceted
147-201	.39	1 1/4"	G 3 1/2	Min. Screw	Smooth
147-203	.43	1 1/4"	S-6	Cand. Screw	Faceted
147-204	.43	1 1/4"	S-6	Cand. Screw	Smooth
147-206	.43	1"	G 3 1/2	Min. Bay.	Faceted
147-207	.43	1"	G 3 1/2	Min. Bay.	Smooth

## ENCLOSED LIGHTS WITH 1/2" JEWELS



Threaded jewel holder and bulb removable from front of panel. All brass construction heavily plated. Phenolic insulated miniature bayonet socket equipped with solder terminals. Furnished in two lengths for either T 3 1/4 or G 3 1/2 bulb. Mounting hole 1 1/8" diameter.

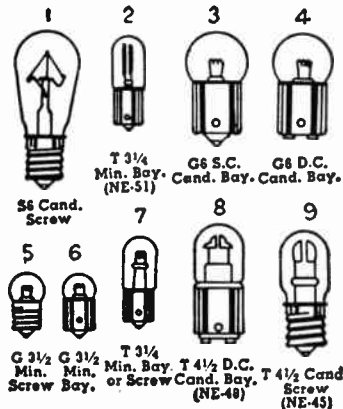
Cat. No.	Net Price	Length Behind Panel	Bulb Shape	Jewel
147-1110	\$ .75	1 3/8"	T 3 1/4	Faceted
147-1111	.75	1 3/8"	T 3 1/4	Smooth
147-1112	.75	1 3/8"	G 3 1/2	Faceted
147-1113	.75	1 3/8"	G 3 1/2	Smooth

Enclosed lights with 1/2" friction type jewel holders. Otherwise identical to those above.

147-1122	.75	1 3/8"	T 3 1/4	Smooth
147-1124	.75	1 3/8"	T 3 1/4	Faceted

## BULB SPECIFICATIONS

Bulbs used on all pilot lights may be identified from these illustrations, but are not included in prices.





## VARIABLE INTENSITY LIGHTS

**CAMERA SHUTTER TYPE.** Rotation of jewel head thru a small angle will open shutter disc completely illuminating lens uniformly or will close shutter and cut off all light. A pin hole can be placed in one shutter making the jewel faintly visible in the off position. Polished chrome plated jewel holder. See similar catalog number for further data.



1" Jewel  
(illus. A)



1/2" Jewel  
(illus. B)



1/2" Jewel  
(illus. C)

Cat. No.	Net Price	Illus.	Bulb Shape	Lamp Base	Jewel Dia.	Type	Similar Cat. No.
147-430	\$ .97	C	G3 1/2, T3 1/4	Min. Bay.	1/2"	Faceted	147-403
147-431	.97	C	G3 1/2, T3 1/4	Min. Bay.	1/2"	Smooth	147-404
147-1114	1.25	B	T 3 1/4	Min. Bay.	1/2"	Faceted	147-1110
147-1115	1.25	B	T 3 1/4	Min. Bay.	1/2"	Smooth	147-1111
147-1116	1.20	B	G 3 1/2	Min. Bay.	1/2"	Faceted	147-1112
147-1117	1.20	B	G 3 1/2	Min. Bay.	1/2"	Smooth	147-1113
147-1504	1.85	A	S-6	Cand. Screw	1"	Faceted	147-1209
147-1505	1.85	A	S-6	Cand. Screw	1"	Smooth	147-1210
147-1506	1.90	A	S-6	Cand. Screw	1"	Colored Disc	147-1211
147-1508	1.35	A	G3 1/2, T3 1/4	Min. Screw	1"	Faceted	147-800*
147-1509	1.35	A	D3 1/2, T3 1/4	Min. Screw	1"	Smooth	147-801*
147-1510	1.40	A	G3 1/2, T3 1/4	Min. Screw	1"	Colored Disc	.....
147-1511	1.35	A	G3 1/2, T3 1/4	Min. Bay.	1"	Faceted	147-804*
147-1512	1.35	A	G3 1/2, T3 1/4	Min. Bay.	1"	Smooth	147-805*
147-1513	1.40	A	G3 1/2, T3 1/4	Min. Bay.	1"	Colored Disc	.....
147-1514	1.35	A	S-6	Cand. Screw	1"	Faceted	147-802*
147-1515	1.35	A	S-6	Cand. Screw	1"	Smooth	147-803*
147-1516	1.40	A	S-6	Cand. Screw	1"	Colored Disc	.....
147-1518	1.85	A	G-6	D. C. Bay.	1"	Faceted	147-1053*
147-1519	1.85	A	G-6	D. C. Bay.	1"	Smooth	147-1054*
147-1520	1.90	A	G-6	D. C. Bay.	1"	Colored Disc	147-1055*

\*Shutter types have threaded jewels instead of friction holders.

## POLARIZED TYPE VARIABLE INTENSITY LIGHTS

Light passes thru two polarized discs. Rotation of jewel holder thru 90 degrees varies light from full intensity to near cut-off. Various graduations of light intensity may be obtained by varying the angle of rotation. Jewels all 1/2". See similar catalog numbers for further data.



Cat. No.	Net Price	Illus.	Bulb Shape	Base	Jewel Dia.	Type	Similar Cat. No.
147-420	\$1.15	C	T3 1/4, G3 1/2	Min. Bay.	1/2"	Faceted	147-403
147-421	1.15	C	T3 1/4, G3 1/2	Min. Bay.	1/2"	Smooth	147-404
147-1118	1.40	B	T3 1/4	Min. Bay.	1/2"	Faceted	147-1110
147-1119	1.40	B	T3 1/4	Min. Bay.	1/2"	Smooth	147-1111
147-1120	1.35	B	G3 1/2	Min. Bay.	1/2"	Faceted	147-1112
147-1121	1.35	B	G3 1/2	Min. Bay.	1/2"	Smooth	147-1113

## JEWEL ASSEMBLIES

Colors, all types: Red, Green, Amber, Blue, Opal, Clear.

### 1" JEWEL

Polished chrome bezel with panel bushing to fit 1" hole, fiber washer and nut.

Cat. No.	Net Price
147-110	Faceted Jewel \$ .46
147-111	Smooth Jewel .46
147-112	Colored Disc .52

### 5/8" JEWEL

Polished chrome holder fits 11/16" mounting hole. Furnished with nut.

147-210	Faceted Jewel \$ .26
147-211	Smooth Jewel .26

### 1/2" JEWEL

Nickel plated holder and nut, fits 1/16" mounting hole.

147-310	Faceted Jewel \$ .16
147-311	Smooth Jewel .16

### 3/8" JEWEL

Nickel plated holder and nut fits 3/16" mounting hole.

147-510	Faceted Jewel \$ .13
147-511	Smooth Jewel .13

### 1/2" JEWEL

Nickel plated internally threaded panel bushing fits 1/16" hole. Furnished with nut.

147-410	Faceted Jewel \$ .26
147-411	Smooth Jewel .26

## DIAL LIGHT BRACKETS

Both terminals insulated on all types. Many other styles and combinations including wire leads, can be furnished from available tools.

Cat. No.	Socket	Net Price
147-600	Min. Screw (Bracket down)	\$.09
147-601	Min. Screw (Bracket up)	\$.09
147-610	Min. Bay. (Bracket down)	.10
147-611	Min. Bay. (Bracket up)	.10
147-620	Cand. Screw (Bracket down)	.10
147-621	Cand. Screw (Bracket up)	.10
147-630	Min. Bayonet (Bracket down)	.11
147-631	Min. Bayonet (Bracket up)	.11
147-640	Min. Screw (Bracket down)	.09
147-641	Min. Screw (Bracket up)	.09

In view of the existing material situation, certain changes in materials may be made from time to time. These changes will not affect the suitability of parts or equipment.

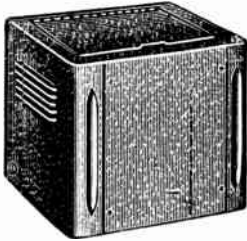
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# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

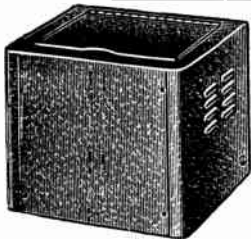
## ICA DE LUXE HINGED STEEL CABINETS



The cabinets have rounded corners with specially designed Chrome plated "Air-Gate" ventilators on sides; and vertical Chrome Plated Trim moulding on front. Modern grille type ventilators are provided on the back panels which also have an opening on the bottom to allow for leads, cable connections, etc.

Bottoms have 4 embossed feet. Finished in a beautiful Marine Gray Ripple Enamel.

No.	H.	W.	D.	Panel Size	Dealer Cost
3860	8"	10"	8"	8" x 8"	\$ 4.15
3861	8"	12"	8"	8" x 10"	4.67
3862	8"	14"	8"	8" x 12"	4.95
3863	12"	20"	12"	12" x 18"	10.66



## ICA STANDARD HINGED STEEL CABINETS

Designed in the same style and appearance as the De Luxe cabinets shown above except that the Chrome Trim is eliminated. Sides and backs have ventilating louvres. Backs have opening for cable connections, etc. Top panel hangs on full sized piano type hinge. Bottoms have 4 embossed feet. Finished in Marine Gray Ripple Enamel.

No.	H.	W.	D.	Panel Size	Dealer Cost
3925	8"	10"	8"	8" x 8"	\$3.60
3926	8"	12"	8"	8" x 10"	3.90
3927	8"	14"	8"	8" x 12"	4.58
3928	12"	20"	12"	12" x 18"	9.96

## CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Numbers	Dir. Cost
4024	7" x 7" x 2"	3860 and 3925	\$ .90
4004	7" x 9" x 2"	3861 and 3926	1.08
4005	7" x 11" x 2"	3862 and 3927	1.12
4033	10" x 17" x 3"	3863 and 3928	1.63

## ICA DE LUXE SLOPING PANEL CABINETS

The top corners are rounded and trimmed with an attractive striped chrome trim. The sides of the cabinets have the beautiful "Air-Gate" Chrome ventilators. The front panel is removable so that the chassis can be attached to it and used as one unit. Beautifully finished in Marine Gray Ripple Enamel.



No.	H.	W.	D.	Dealer Cost
3990	8"	8"	8"	\$4.88
3991	8"	10"	8"	5.75
3992	8"	14"	8"	7.00
3993	12"	18"	12"	9.41

## CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Number	Dir. Cost
4024	7" x 7" x 2"	3990	\$ .90
4004	7" x 9" x 2"	3991	1.08
4007	7" x 13" x 2"	3992	1.20
4033	10" x 17" x 3"	3993	1.63

## ICA DE LUXE SLOPING CHASSIS AMPLIFIER UNITS

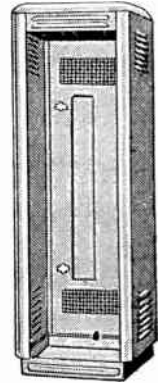


Chassis are sloped and are equipped with beautiful chrome trimmed handles. Slope provides ample space for mounting instruments. The top covers have beautiful Chrome Plated "Air-Gate" Ventilators with striped chrome trim. Supplied with ventilating louvres on sides and back. Have raised rectangular screen opening on the tops, embellished with chrome moulding. Marine Gray Ripple finish. Chassis Ht. 3 1/2"; Slope 4".

No.	Over-all Size	Chassis Bottom	Dealer Cost	Bottom Plate No.	Dealer Cost
3962	7" x 17" x 9 1/2"	10" x 17"	\$7.55	1681	\$ .85
3963	10" x 14" x 9 1/2"	13" x 14"	8.00	1683	.92
3964	10" x 17" x 9 1/2"	13" x 17"	8.30	1685	1.07

## ICA DE LUXE TRANSMITTER RACKS

New modern design, streamlined transmitter and public address racks. Removable vertical corner mouldings are rounded and completely cover panel edges and mounting screws. Chrome trim. Rack is made of 1/16" cold rolled steel. Panel mounting angles drilled for RMA, Amateur or Western Electric type panels. Screen ventilators on rear door and louvres afford ample ventilation. Easily assembled. Supplied in Marine gray ripple finish. Black ripple finish furnished only on specification.



No. 3865	Overall Size	Panel Space	Interior Width	Interior Depth	Shipping Weight
	43 1/4" x 22" x 18"	36 3/4" x 19"	17 3/8"	16 3/4"	110 Lbs.

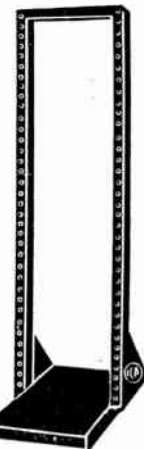
No. 3866	Overall Size	Panel Space	Interior Width	Interior Depth	Shipping Weight
	67 3/4" x 22" x 18"	61 1/4" x 19"	17 3/8"	16 3/4"	162 Lbs.

No. 3867	Overall Size	Panel Space	Interior Width	Interior Depth	Shipping Weight
	83 1/2" x 22" x 18"	77" x 19"	17 3/8"	16 3/4"	190 Lbs.

## TABLE MOUNT RELAY RACKS



Sturdily constructed heavy duty table rack with one piece base. Accurately drilled mounting holes universally spaced for RMA, Western Electric or Amateur panels. Finished in black ripple. Supplied "KNOCKED DOWN" with all necessary hardware.



No.	W.	H.	D.	Panel Space	Dir. Cost
3910	21"	25"	12"	21" x 19"	\$6.60
3911	21"	32"	12"	28" x 19"	8.25

## OPEN FACE RELAY RACK

For standard 19" Rack Panels. Black Ripple Finish. Rigidity assured with top cross-brace and vertical sections strongly welded. Designed for P.A. units, various types of transmitters, etc. Sturdily made of 1/8" thick steel. Base depth: 22". Accurately drilled mounting holes.

No.	Size Overall	Panel Space	Dir. Cost
3912	73 1/2" x 20" x 20 7/8"	71 3/4"	\$22.36
3913	38 3/4" x 20" x 18 3/8"	36 3/4"	19.14

## ICA RACK DOLLY

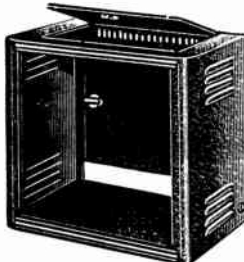


Especially designed to simplify the moving of heavy or large racks or cabinets of any type. Constructed of heavy gauge steel, all-welded with reinforcing corner gussets.

The Insuline rack dolly measures 21" x 22". Accommodates a wide range of cabinet sizes. Has sturdy heavy duty casters. Supplied in black wrinkle finish.

No. 4086 Dealer Cost \$9.60

## MULTI-USE METAL CABINETS



An ideal unit for public address systems, transmitters, receivers, test equipment, etc. Has rounded corners on front of Cabinet. Trimmed with handsome chrome trim moulding. Equipped with hinge doors, and nickel-plated snap locks. Completely assembled, ready for use. Finished in Black or Marine Gray Ripple Enamel. Black will be supplied unless Gray is specified. Accommodates RMA, W.E., or Amateur panels.

No.	Size	Panel Space	Dealer Cost
*3880	10 1/2" x 21" x 15"	8 3/4" x 19"	\$12.00
*3881	14" x 21" x 15"	12 1/4" x 19"	14.58
*3882	19 1/4" x 21" x 15"	17 1/2" x 19"	19.16
†3883	28" x 21" x 15"	26 3/4" x 19"	22.49
†3884	36" x 21" x 15"	35" x 19"	25.00

\*Door on top. †Doors on top and rear. ‡Door on rear panel.



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## ICA STANDARD AMPLIFIER FOUNDATION UNITS



Top covers have rounded corners. The front, sides and back are equipped with louvre ventilators. The tops have raised screen openings for additional ventilation.

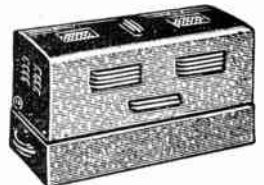
Finished in beautiful Marine Gray Ripple Enamel. Height of Chassis 3".

No.	Over-all Size	Dealer Cost	Bottom Plate No.	Dealer Cost
3980	5 1/2" x 10" x 9"	\$2.70	1677	\$.50
3981	8" x 12" x 9"	4.00	1679	.85
3982	7" x 17" x 9"	4.33	1681	.85
3983	10" x 14" x 9"	4.66	1683	.92
3984	10" x 17" x 9"	5.00	1685	1.07

## ICA DE LUXE AMPLIFIER FOUNDATION CHASSIS

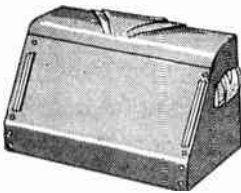
Top covers have rounded corners and fronts are embellished with the newly created Chrome plated "Air-Gate" Ventilators. Additional ventilation is obtained through the raised screen openings on the top as well as louvres on both sides and back.

Have beautiful Chrome mouldings and Chrome handles. Finished in Marine Gray Ripple Enamel. Height of Chassis 3".



No.	Over-all Size	Dealer Cost	Bottom Plate No.	Dealer Cost
3971	5 1/2" x 10" x 9"	\$3.90	1677	\$.50
3972	8" x 12" x 9"	5.00	1679	.85
3973	7" x 17" x 9"	5.50	1681	.85
3974	10" x 14" x 9"	5.67	1683	.92
3975	10" x 17" x 9"	6.33	1685	1.07

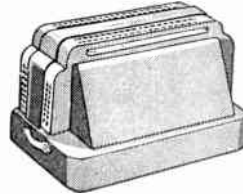
## FUTURA STREAMLINED SLOPING PANEL CABINETS



Can be used as instrument cases in studios, laboratories, etc. Raised "Futura" design — streamlined corners. Ventilator openings for cable connectors. Removable front panel. Finished in Marine Gray Ripple enamel with chrome moulding.

No.	H.	W.	D.	Dir. Cost
3840	8"	8"	8"	\$6.16
3841	8"	10"	8"	7.00
3842	8"	14"	8"	8.50
3843	8"	18"	8"	10.43
3844	12"	18"	12"	11.63

## "SUPER" STREAMLINED SLOPING-FRONT AMPLIFIER CHASSIS



New, modern design amplifier chassis. Front panel sloped with streamlined top cover. Removable front panel Marine Gray Ripple finish with Chrome trim. Bottom plates supplied. Top cover 6 1/2" high.

No.	Chassis Size	Dir. Cost
3930	10" x 12" x 3"	\$7.25
3931	10" x 17" x 3"	8.33
3932	13" x 17" x 3"	9.58

## ICA SLOPING PANEL CABINETS

Small—Compact



3905

New streamlined cabinets, rugged, small and compact, have various uses such as speaker cabinets, oscillator cases, input stages, small receivers, teletalk systems, monitors, etc.



3906

Beautifully designed, with rounded corners and finished in marine gray ripple.

No.	W.	H.	D.	Dir. Cost
3905	4 3/8"	4 1/2"	4 1/4"	\$1.00
3906	7 1/2"	4 1/2"	4 1/4"	1.67

## ICA PORTABLE STEEL CABINETS



Ideal for housing oscillators, transceivers, test equipment, etc. Both front and back panels are removable and are held with self-tapping screws which are supplied. Equipped with leather handle. Finished in black ripple.

No.	Size	Dir. Cost
No. 3850	Size 12" x 7 3/4" x 7"	\$2.90
No. 3851	Size 15" x 7 3/4" x 7"	3.63

## STREAMLINED METER CASES



Modern streamlined cases, with raised "futura" design on top of cabinet. Finished in Marine Gray Ripple Enamel and trimmed with chrome band.

No.	D.	W.	H.	Meter Hole	Dealer Cost
3997	4 1/4"	4 3/8"	4 1/2"	2 3/8"	\$1.98
3998	4 1/4"	4 3/8"	4 1/2"	2 1/8"	1.98

## ICA DE LUXE METER CASES

Finished in Marine Gray Ripple Enamel with rounded tops and trimmed with beautiful Chrome band. Available for 2" or 3" meters.



No.	D.	W.	H.	Meter Hole	Dealer Cost
3995	4 1/4"	4 3/8"	4 1/2"	2 3/8"	\$.95
3996	4 1/4"	4 3/8"	4 1/2"	2 1/8"	.95

## ICA HINGED COVER CABINETS



Supplied in knocked-down form for easy handling. Easily assembled. Finished in Black Ripple Enamel.

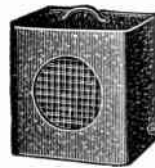
No.	W.	D.	H.	Dir. Cost
3825	9"	5"	6"	\$3.30
3826	10"	8"	7"	3.92
3828	15"	8"	7"	4.46
3829	19"	11"	8"	5.30
3830	14"	8"	9"	5.30
3831	18"	12"	9"	6.63

## CHASSIS FOR ICA CABINETS

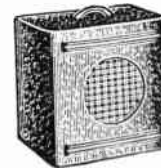
No.	W.	D.	H.	No. Dir. Cost
4000	8"	4 3/4"	1 1/2"	3825 \$ .77
4004	9"	7"	2"	3826 1.08
4005	11"	7"	2"	3828 1.12
4007	13"	7"	2"	3830 1.20
4023	17"	11"	3"	3831 2.20

## ICA STANDARD SPEAKER CABINETS

Finished in Black Ripple Enamel with plain black steel handles to match.



No.	Size	Hole Size	Speaker Size	Dir. Cost
3942	10" x 10"	4 3/4"	6"	\$3.42
3943	12" x 12"	6 1/2"	8"	4.33
3944	14" x 14"	8"	10"	5.58
3945	16" x 16"	8"	12"	7.33



## ICA DE LUXE SPEAKER CABINETS

Features rounded corners; neatly chrome trimmed front; equipped with chrome handle. Steel grille. Marine Gray Ripple finish.

No.	Size	Hole	Speaker Size	Dir. Cost
3935	10" x 10" x 6"	4 3/4"	6"	\$3.92
3936	12" x 12" x 7"	6 1/2"	8"	5.00
3937	14" x 14" x 8"	8"	10"	6.13
3938	16" x 16" x 8"	11"	12"	7.50

## MIDGET SPEAKER CASES

Especially designed for the smaller type speakers. Beautifully finished in gray ripple with attractively embossed grille. Speaker mounts on special removable internal chassis, punched for proper speaker opening. This unit fastens to side of cabinet with no visible screws to mar cabinet front. Facilitates ease of assembly. Measures 4 1/4" d. x 4 3/8" w. x 4 1/2" l.



No.	Description	Hole Dia.	Dir. Cost
3986	For 2" speakers	2 3/8"	\$1.60
3987	For 3" speakers	2 1/8"	1.60

## COMPOSITE SPEAKER CABINET



A neatly designed composite unit to house either a 4" or 5" speaker. Measures 7" w. x 4" d. x 7" h. Gray ripple finished steel with embossed grille. Removable back plate has key ways for easy hanging.

No.	Dir. Cost
No. 3988	\$3.33

## ICA SLOPING FRONT CHASSIS

Has a sloping front for mounting instruments. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Heavy Duty Steel, finished in Black Ripple Enamel.



No.	Top of Base	Bottom of Base	Hgt.	Size of Slope	Dir. Cost
3320	7x17"	10x17"	3 1/2"	4"	\$2.53
3321	10x14"	13x14"	3 1/2"	4"	2.83
3322	10x17"	13x17"	3 1/2"	4"	3.27

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## ALUMINUM . . . STEEL CABINETS



Popular utility cabinets now available in aluminum in gray hammetone and natural finish. Excellent for amplifiers, monitors, input stages, meters, transceivers, etc. Removable front and back covers may be fastened to cabinet with self-tapping screws provided. Also supplied in steel with black ripple finish.

Aluminum Natural	Dealer Cost	Aluminum Gray Hammetone	Dealer Cost	W.	Size L.	H.	STEEL Black Ripple	Dealer Cost
29840	\$1.00	29810	\$1.13	4"	4"	2"	3810	\$.85
29841	1.13	29811	1.30	4"	5"	3"	3811	.95
29842	1.47	29812	1.63	4"	6"	5"	3812	1.20
29843	1.53	29800	1.72	6"	6"	6"	3800	1.30
29844	2.20	29801	2.50	9"	6"	5"	3801	1.87
					10"	7"	3802	2.30
					10"	10"	3803	2.90
					12"	8"	3804	3.60

## SLIP COVER ALUMINUM BOXES



Suitable for a variety of electronic device housing needs. Slide cover permits easy accessibility to mounted parts; offers shielding and dust-proof protection. May be used for television strips; terminal barriers, special equipment, amplifier units, etc. Heavy aluminum in natural finish or gray hammetone.

Gray Hammetone No.	Dealer Cost	Natural Finish No.	Dealer Cost	W.	Size L.	H.
29130	\$3.62	29100	\$3.45	3 1/8"	13"	2 5/8"
29135	3.92	29105	3.75	5 1/8"	13"	2 5/8"
29140	3.75	29110	3.58	3"	17"	2 5/8"

## "FLEXI-MOUNT" ALUMINUM CASES

A two-piece case designed for maximum accessibility. Solves many problems demanding installation of numerous elements in limited space while assuring necessary shielding. Has wide application. Made of heavy aluminum—finished in gray hammetone or natural aluminum.



Cat. No. Gray H.	Dealer Cost	Cat. No. Natural	Dealer Cost	Dimensions W.	L.	H.
29435	\$.70	29335	\$.63	2 1/8"	2 3/4"	1 1/8"
29436	.70	29336	.63	2 1/2"	3 1/4"	1 1/8"
29437	.73	29337	.67	2 1/2"	4"	1 1/8"
29438	.97	29338	.87	2 1/4"	4"	2 1/4"
29439	1.00	29339	.93	2 1/4"	5"	2 1/4"
29441	1.07	29341	1.00	8"	5 1/4"	2 1/8"
29440	1.10	29340	1.03	4"	5"	3"
29442	1.37	29342	1.27	5"	6"	4"
29443	1.53	29343	1.40	5"	7"	8"
29447	3.83	29347	3.40	5"	17"	4"
29444	2.23	29344	2.10	6"	8"	8 1/2"
29445	2.75	29345	2.30	6"	10"	8 1/2"
29446	3.27	29346	2.93	7"	12"	4"

## CHASSIS MOUNTING BRACKETS

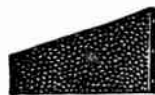
Designed for rack panels and chassis where additional strength is required for heavier units such as power supplies, etc. Heavy gauge steel, black ripple finish.



No.	Front	Back	Dealer Cost
4077	6 1/2" Ht. x 10" D. x 3" Ht.		\$1.13
4079	8 1/2" Ht. x 10" D. x 4" Ht.		1.80
4081	6 1/2" Ht. x 12" D. x 3" Ht.		1.50
4083	8 1/2" Ht. x 13" D. x 4" Ht.		1.92

## ICA CHASSIS MOUNTING BRACKETS

Made to fit on 17" relay rack chassis. Panels must be at least 7" high. Black ripple finish.



No.	Dir. Cost
3955—For 8" base	Per Pair \$ .85
3958—For 10" base	Per Pair 1.02
3956—For 11" base	Per Pair 1.20
3957—For 13" base	Per Pair 1.70

## ICA RELAY RACK BRACKETS

Black Ripple Finish. Used to reinforce racks and for mounting of panels, shelves, chassis, etc.



No.	Dir. Cost
3950—5" Base Brackets	Per Pair \$ .80
3951—8" Base Brackets	Per Pair .92
3952—11" Base Brackets	Per Pair 1.10

## CHANNEL-LOCK ALUMINUM BOXES

Latest two-piece box with special "channel-lock" feature for snug and firm fit. Makes all mounting space easily accessible. Ideal for oscillators, amplifiers, etc. Easily assembled: merely tighten the two set screws provided. These sturdy boxes made of heavy aluminum in black wrinkle, gray hammetone and natural aluminum finish.



Natural Aluminum No.	Dealer Cost	Black Wrinkle No.	Gray Ham. No.	Dealer Cost	W.	Size L.	H.
29200	\$.72	29300	29400	\$.83	4"	2 1/2"	1 1/8"
29205	1.00	29305	29405	1.12	5"	2 1/4"	2 1/4"
29210	1.10	29310	29410	1.23	5 1/4"	3"	2 1/8"
29215	.93	29315	29415	1.05	3"	4"	5"
29220	1.03	29320	29420	1.20	6"	4"	5"
29225	2.00	29325	29425	2.17	10"	4"	2 1/2"

## UTILITY CABINETS with built-in chassis

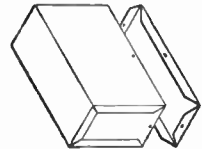
A multi-use small cabinet. Ideal for minor radio-television assemblies. The chassis is welded to front panel, making it a time-saving, convenient unit. Front and rear panels easily removable. Of sturdy steel in black ripple finish.



No.	Cabinet Size			Chassis Size			Dealer Cost
	W.	D.	H.	W.	D.	H.	
3816	4"	2"	4"	2 1/8"	1 1/8"	1"	\$1.05
3817	4"	3"	5"	2 1/8"	2 1/8"	1"	1.15
3818	5"	3"	4"	3 3/8"	2 1/8"	1 1/4"	1.15
3819	4"	5"	6"	2 1/8"	4 1/8"	1 1/4"	1.43
3821	6"	5"	4"	4 7/8"	4 7/8"	1 1/4"	1.43
3823	6"	0"	6"	4 7/8"	5 5/8"	1 1/4"	1.50

## CONTROL . . . SWITCH CASE

Strongly welded steel case; removable cover. Suitable for control or switch box; enclosing small assemblies, etc. Includes cover screws. Gray hammetone finish. Outside dimensions: 3 1/4" x 5 1/4" x 2 1/8".



No. 3797 ..... Dealer Cost \$1.00

## WEBSTER RECORD CHANGER BASES



Sturdy steel base in beautiful brown hammetone finish with protective, non-marring cork rubber cushion. Especially designed for the better known record changers. Grommeted holes provided for AC lead on rear apron; also punched for easy addition of Insuline No. 2385 phono plug-socket.

No.	Description	Dealer Cost
3308	For WEBSTER No. 100 Series changer models and similar sizes	\$4.17
3308-BP	Steel bottom plate in matching finish; rubber bumpers and mounting screws complete, for above base	1.25
3309	For WEBSTER No. 103 Series changer models and similar sizes	4.17
3309-BP	Steel Bottom Plate in matching finish; rubber bumpers and mounting screws complete, for above base	1.25

## GARRARD CHANGER BASE

Made for the new Garrard Model RC-80 3-way record changer. This steel base is finished in brown hammetone with protective cushions. Includes grommeted holes for AC lead. Complete with bottom plate. No. 3315 ..... Dealer Cost \$6.33

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1921



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## STEEL OR ALUMINUM CHASSIS BASES

For receivers, transmitters, etc. Bases are folded over on bottom for additional strength and drilled to permit attaching of bottom plates. Solidly constructed. **STEEL BASES**—one piece; heavy duty; zinc plated or black ripple finish. **ALUMINUM BASES**—First grade aluminum, electronically welded. Thickness: 16 gauge (.050).

## ICA CHASSIS BOTTOM PLATES



Designed to fit all ICA Chassis Bases and amplifier units listed to the left. Four raised bosses prevent marring or scratching. Supplied in steel or aluminum.

Steel—Zinc Plated Finish		Steel—Black Ripple Finish		Aluminum		
No.	Dir. Cost	No.	Dir. Cost	Gauge	Size	Dealer Cost
					W. L. H.	
1560*	\$.77	4000*	\$.77	20	4 1/2 x 8 x 1 1/2	29030 \$.93
1586	.88	4037	.88	20	5 x 7 x 3	29047 1.17
1530	.78	4001	.78	20	5 x 9 1/2 x 1 1/2	29033 1.10
1587	.93	4038	.93	20	5 x 9 1/2 x 2	29002 1.30
1565	1.08	4002	1.08	20	5 x 9 1/2 x 3	29048 1.33
1564	1.08	4042	1.08	20	5 x 10 x 3	29003 1.40
1566	1.33	4003	1.33	20	5 1/2 x 13 x 3	29004 1.58
1582	1.17	4032	1.17	20	5 1/2 x 10 x 3	29050 2.10
1526	.90	4024	.90	20	6 x 17 x 3	29005 1.10
1569	1.08	4004	1.08	20	7 x 7 x 2	29006 1.20
1570	1.12	4005	1.12	20	7 x 9 x 2	29007 1.33
1527	1.27	4006	1.27	20	7 x 11 x 2	29008 1.57
1571	1.20	4007	1.20	20	7 x 12 x 2	29009 1.40
1572	1.43	4008	1.43	20	7 x 12 x 3	29010 2.27
1528	1.57	4009	1.57	20	7 x 13 x 2	29011 2.20
1567	1.62	4013	1.62	20	7 x 15 x 3	29012 1.90
1573	1.45	4014	1.45	20	8 x 12 x 3	29013 2.10
1575	1.58	4035	1.58	20	8 x 17 x 3	29014 2.47
1588	1.65	4039	1.65	20	8 1/2 x 15 x 3	29037 2.30
1520	1.50	4016	1.50	20	10 x 12 x 3	29015 2.10
1568	1.58	4017	1.58	20	10 x 14 x 3	29016 2.67
1589	1.60	4040	1.60	20	10 x 17 x 2	29039 2.53
1583	1.63	4033	1.63	20	10 x 17 x 3	29017 2.87
1521	1.87	4018	1.95	18	10 x 17 x 3	29025 3.30
1580	2.03	4030	2.03	18	10 x 17 x 4	29018 3.32
1522	2.43	4019	2.33	18	10 x 23 x 3	29019 2.63
1577	2.17	4027	2.00	18	11 x 17 x 2	29020 3.33
1519	2.20	4023	2.20	18	11 x 17 x 3	29021 3.00
1574	1.77	4020	1.77	18	12 x 17 x 2	29022 3.53
1578	2.03	4028	2.03	18	12 x 17 x 3	29023 3.13
1579	2.35	4029	2.47	18	13 x 17 x 2	29024 3.73
1524	2.55	4021	2.55	18	13 x 17 x 3	29026 4.27
1581	3.00	4031	3.00	18	13 x 17 x 4	

\*Open ends.

## MINIATURE OPEN END ALUMINUM CHASSIS



Of first grade aluminum for less weight but long service. Base flange permits attaching of bottom plate or fastening down of chassis. Ideal where limited space is factor. Suitable for all small unit assemblies.

No.	W.	L.	H.	Dealer Cost	No.	W.	L.	H.	Dealer Cost
29076	1 3/4	x 3 1/2	x 1	\$.37	29084	4	x 5 1/2	x 1	\$.47
29075	2 3/8	x 2 3/4	x 1 1/4	.33	29043	4	x 6	x 2	1.13
29078	2 3/8	x 4 1/8	x 1 1/2	.40	29044	4	x 6	x 3	1.13
29080	3	x 6 1/2	x 1 1/4	.47	29085	4	x 6 1/2	x 1	.50
29077	3 1/4	x 4 1/2	x 2	.40	29027	4	x 17	x 3	2.03
29079	3 3/4	x 4 1/2	x 1 1/2	.40	29000	4 1/2	x 8	x 1 1/2	1.00
29082	4	x 3 1/8	x 1	.40	29001	5	x 9 1/2	x 1 1/2	1.10
29083	4	x 4 1/8	x 1	.43	29081	5 3/4	x 4 7/8	x 1 1/2	.50

\*Closed ends.

## OPEN END STEEL CHASSIS



Permits easier wiring of the smaller assemblies. Has wide variety of applications. Made of sturdy steel with zinc plated finish.

No.	W.	L.	H.	Dealer Cost	No.	W.	L.	H.	Dealer Cost
1547	5	x 7	x 1 1/2	\$.60	1596	7	x 10	x 2	\$.90
1559	5 1/2	x 9	x 1 1/2	.70	1597	7	x 11	x 1 1/2	1.00
1546	7	x 6	x 2	.68	1595	7 1/2	x 9	x 1 1/2	.95
1548	7	x 7	x 1 1/2	.78	1599	7 3/4	x 15	x 2	1.38
1556	7	x 8	x 2	.85	1598	10 3/4	x 14	x 2	1.43

## STANDARD RELAY RACK PANELS



ICA standard relay rack panels are slotted to fit any standard 19" relay rack. ICA relay rack panels are supplied in 1/8" thickness. Notched according to RMA specifications. If Western

Electric notching is desired, add "WE" to catalog numbers. Made of steel (in black ripple or gray finish) or aluminum (in black ripple or gray wrinkle; also in gray hammertone on request).

STEEL				ALUMINUM			
Black	Gray	Dir. Cost	Size	Black	Gray	Dir. Cost	Size
*3600RS	*3612RS	\$.67	1 3/4"	*8600RS	*8620RS	\$.83	1 3/4"
*3601RS	*3613RS	.75	3 1/4"	*8601RS	*8621RS	1.20	3 1/4"
*3602RS	*3614RS	.93	5 1/4"	*8602RS	*8622RS	1.37	5 1/4"
*3603RS	*3615RS	1.08	7"	*8603RS	*8623RS	2.00	7"
*3604RS	*3616RS	1.32	8 3/4"	*8604RS	*8624RS	2.33	8 3/4"
*3605RS	*3617RS	1.58	10 1/4"	*8605RS	*8625RS	2.77	10 1/4"
*3606RS	*3618RS	1.88	12 1/4"	*8606RS	*8626RS	3.17	12 1/4"
*3607RS	*3619RS	2.17	14"	*8607RS	*8627RS	3.53	14"
*3608RS	*3620RS	2.40	15 3/4"	*8608RS	*8628RS	4.00	15 3/4"
*3609RS	*3621RS	2.70	17 3/4"	*8609RS	*8629RS	4.43	17 3/4"
*3610RS	*3622RS	3.00	19 1/4"	*8610RS	*8630RS	4.83	19 1/4"
*3611RS	*3623RS	3.30	21"	*8611RS	*8631RS	5.17	21"

\*RMA and "WE" notching specifications are identical.

## ICA MASONITE RELAY RACK PANELS



Made of Tempered Masonite—a non-magnetic material, sturdy and tough yet easily drilled and worked with ordinary wood-working tools and punches. Finish-

ed in Black or Gray. Supplied in Black Ripple finish unless Gray is specified. RMA notching. If Western Electric notching is desired, add "WE" to catalog No.

No.	Size	Dir. Cost	No.	Size	Dir. Cost
*3662RS	1 3/4" x 19"	\$.67	3668RS	12 1/4" x 19"	\$1.67
*3663RS	3 1/2" x 19"	.83	3669RS	14" x 19"	1.83
*3664RS	5 1/4" x 19"	.97	3670RS	15 3/4" x 19"	2.03
*3665RS	7" x 19"	1.10	3671RS	17 1/2" x 19"	2.37
3666RS	8 3/4" x 19"	1.33	*3672RS	19 1/4" x 19"	2.57
*3667RS	10 1/2" x 19"	1.50	3673RS	21" x 19"	2.87

\*RMA and "WE" notching specifications are identical.

## SPECIAL SIZES OF RACK PANELS AVAILABLE ON ORDER

Insuline Corporation of America is geared to supply rack panels in various sizes, thicknesses and finishes. Materials include Steel, Aluminum, or Masonite in any thickness from 1/8" to 1/4". Any finish according to specifications.

SINCE  
1921

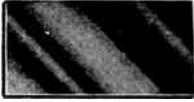


# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## ICA BAKELITE RADIO PANELS

Black, Polished Mirror Finish



Black, Mirror Finish. Laminated Indestructible Material. For Panels and general use where low moisture absorption, good electrical properties and fine surface finish are required. Tensile strength 8,000 lbs. per square inch.

1/8" Thickness			3/16" Thickness		
No.	Size	Dealer Cost	No.	Size	Dealer Cost
832	7" x 10"	\$1.17	842	7" x 10"	\$1.73
833	7" x 12"	1.42	843	7" x 12"	2.10
834	7" x 14"	1.53	844	7" x 14"	2.50
835	7" x 18"	2.30	845	7" x 18"	2.97
836	7" x 21"	2.40	846	7" x 21"	3.33
837	7" x 24"	2.70	847	7" x 24"	4.17
840	7" x 30"	3.67	850	7" x 30"	5.16
860	10" x 12"	2.10	863	10" x 12"	3.17
861	10" x 18"	2.90	864	10" x 18"	4.35

## ICA FULL SIZE BAKELITE SHEETS

Black Glossy Finish

No.	Size	Thickness	Approx. Wt.	Dealer Cost
852	38" x 49"	1/8"	6 lbs.	\$16.35
853	38" x 49"	3/16"	9 lbs.	20.56
854	38" x 49"	1/4"	12 lbs.	33.49
857	38" x 49"	5/16"	18 lbs.	41.73
858	38" x 49"	3/4"	24 lbs.	50.11

Prices on other sizes or thicknesses quoted on request.

## ICA STEEL . . . MASONITE . . . ALUMINUM PANELS



Steel panels are made in 1/16" thickness, black ripple finish. Masonite panels are 3/16" thick, black ripple finish. Aluminum panels have bright silver finish, 1/16" thick.

Steel No.	Dealer Cost	Size	Masonite No.	Dealer Cost	Alum. No.	Dealer Cost
3175	\$.72	7" x 10"	810	\$.77	1194	\$1.00
3176	.80	7" x 12"	811	.85	1195	1.17
3177	.93	7" x 14"	812	.97	1196	1.27
3178	1.20	7" x 18"	813	1.17	1198	1.53
		7" x 21"	814	1.27	1199	2.17
		7" x 24"			1200	2.70
3183	1.03	8" x 12"	815	1.00		
3184	1.10	8" x 14"	816	1.10		
		8" x 16"	817	1.28		
3186	1.23	8" x 18"	818	1.37		
		10" x 12"			3157	2.00
3191	1.60	10" x 14"			3158	2.27
3192	1.87	10" x 18"			3159	4.00
3194	2.17	10" x 24"				

## ICA METER PANELS

Notched to RMA specifications ("WE" notching identical). Will fit all standard racks. Finished in Baked Black or Gray Ripple. Size 5 1/4" x 19".

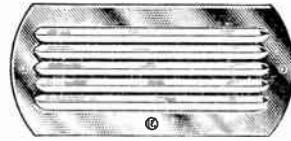
Black will be shipped unless Gray is specified.



STEEL PANELS				
No.	No. Holes	Meter Size	Hole	Dealer Cost
3651	5	2"	2 3/16"	\$1.85
3652	3	2"	2 1/8"	1.30
3653	5	3"	2 1/8"	1.85
3654	3	3"	2 1/8"	1.30

MASONITE PANELS				
No.	No. Holes	Meter Size	Hole	Dealer Cost
3641	3	2 1/4"	2 1/4"	\$1.32
3642	4	2 1/4"	2 1/4"	1.45
3643	3	2 3/8"	2 3/8"	1.32
3644	4	2 3/8"	2 3/8"	1.45

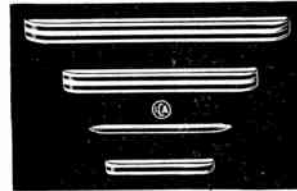
## CHROME VENTILATING LOUVRES



Adds the attractive touch to any receiver, amplifier, transmitter, etc. A polished chrome finished steel "Air-Gate," consisting of 5 ventilating louvres. Over-all size: 5 1/2" long—3" wide. Distance between mounting hole centers: 4 3/4". Diameter of holes: 5/16". Length of louvres: 4 1/4". Air space between louvre plates: 5/16".

No. 3525 ..... Dealer Cost \$ .67

## ICA CHROME TRIM MOULDING



Beautiful chrome trim mouldings to dress up any cabinet, chassis, receiver, speaker cabinet, transmitter, etc. All moulding furnished with mounting tracks or clips.

No.	Dealer Cost
3510—Chrome Moulding, with single Stripe. Size: 1/2" wide by 4" long	\$.67
3513—Chrome Moulding, with double Stripe. Size: 3/4" wide by 8" long	1.07
3514—Chrome Moulding, with double Stripe. Size: 3/4" wide by 12" long	1.23
3515—Chrome Moulding, with double Stripe. Size: 3/4" wide by 17" long	1.50
3505—Bullet Shape all Chrome Moulding. Size 1/4" wide by 6" long	.67

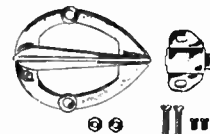
## CHROME HANDLES . . . PLASTIC HANDLES



A neatly styled adornment for any cabinet, amplifier chassis transmitter, etc. Furnished with mounting screws. Supplied in gleaming chrome or attractive plastic.

No.	Dealer Cost
3500—Chrome. 4" L.; 1 1/8" w. Mounting centers: 2 3/4" apart	\$.58
3502—Plastic. 4" L.; 5/8" w. Mounting centers: 2 3/4" apart	.48
3501—Chrome. 6 1/4" L.; 5/8" w. Mounting centers: 4 1/8" apart	.77

## HANDLE . . . LOCK SET



A complete, attractive handle and lock set that will dress up a variety of cabinets. Streamlined handle of zinc with nickel-plated finish; spring snap lock of durable steel for long service. Includes screws and nuts.

No. 3532 ..... Dealer Cost \$ .60

# PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

## TYPE "C" CABINET RACKS—for 19" Rack Panels

These are professional type racks that have been used on many commercial installations, and make a DeLuxe job of any amateur or broadcast transmitter. The racks are of all-steel construction, welded into an integral unit, to give a lifetime of service.

All panel mounting screws are concealed by means of a full length corner trim on each side at the front. In keeping with modern design, this front trim is rounded on the vertical corners. The rear corners are finished with regular angle trim. The front of the rack is trimmed with chrome moulding top and bottom. The door has a grille at top and bottom, and is hung on sturdy loose-joint hinges; it is held closed by two flush snap-action catches. Additional ventilation is provided

by louvres at the side. The panel mounting angle irons are 3/16" thick, with mounting holes accurately drilled and tapped 12/24 thread on multiple 1 1/4"-1 1/2" spacings. The rack is made from 1/16" thick cold rolled steel, rigidly braced and reinforced throughout; the bottom is 7/64" thick steel. A rectangular opening is provided in the bottom for conduits, leads, etc. A duplex receptacle and outlet box are provided in the back under the door.

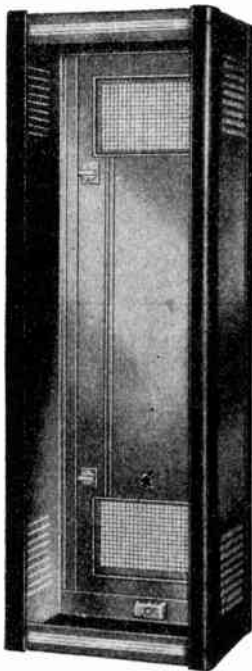
**FINISHES:** Black ripple with corner trims finished in dull black. Slate grey ripple with corner trims finished in slate grey. Prime coat only is optional in place of ripple enamel finish at no extra cost.

**QUICK DETACHABLE CORNER TRIMS:** All racks have new, improved corner trims which are fastened to front of rack with two "captive screws."

**RACKS WITHOUT LOUVRES:** To permit racks to be set up in gangs or rows of two or more, the louvres at sides are omitted. Racks may be joined by a flat trim fastened to front of adjacent racks, overlapping both racks. Where specified, front joining trim will be sub-

stituted in place of adjacent corner trim at same price. Front joining Trims cannot be used on racks with front doors. Roller Truck No. RT-415 may be used for all 15 1/4" deep racks. Use No. RT-418 for all 18" deep racks. Standard shelves are available for all racks listed.

### WITH LOUVRES



Model R-6625

#### \*BLACK RIPPLE ENAMEL

##### 15 1/4" Deep Racks

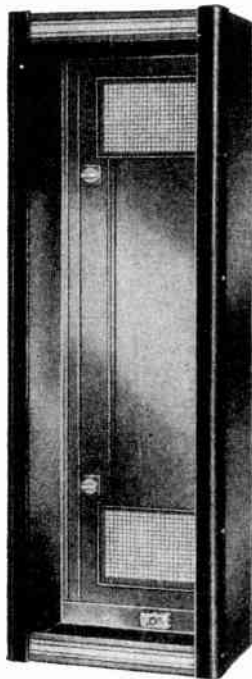
Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
R-3675	42 7/8 x 22 x 15 1/4"	36 3/4"	150	\$54.00
R-6625	67 3/8 x 22 x 15 1/4"	61 1/4"	210	72.00
R-8325	83 1/8 x 22 x 15 1/4"	77"	240	93.00

##### 18" Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
R-3618	42 7/8 x 22 x 18"	36 3/4"	160	60.00
R-6618	67 3/8 x 22 x 18"	61 1/4"	230	78.00
R-8318	83 1/8 x 22 x 18"	77"	280	99.00

\*If slate grey ripple enamel is required substitute letters "RG" instead of "R" when ordering.

### WITHOUT LOUVRES



Model P-6625

#### \*BLACK RIPPLE ENAMEL

##### 15 1/4" Deep Racks

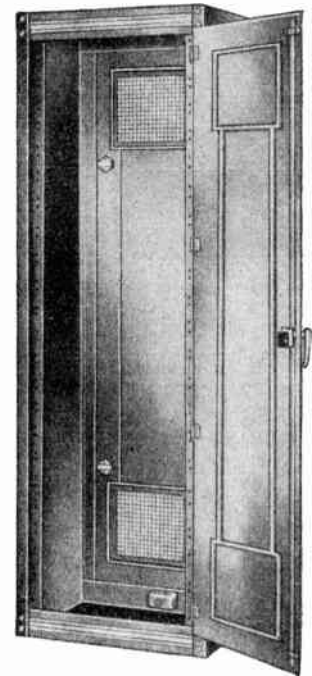
Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
P-3675	42 7/8 x 22 x 15 1/4"	36 3/4"	150	\$54.00
P-6625	67 3/8 x 22 x 15 1/4"	61 1/4"	210	72.00
P-8325	83 1/8 x 22 x 15 1/4"	77"	240	93.00

##### 18" Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
P-3618	42 7/8 x 22 x 18"	36 3/4"	160	60.00
P-6618	67 3/8 x 22 x 18"	61 1/4"	230	78.00
P-8318	83 1/8 x 22 x 18"	77"	270	99.00

\*If slate grey ripple enamel is required, substitute letters "PG" instead of "P" when ordering.

### WITH FRONT DOORS



Model F-6618

#### \*BLACK RIPPLE ENAMEL

Racks are 22" wide, 18" deep. Panels mount 2" from front allowing 14" clear inside depth behind panels to rear door.

The 2" dimension may be modified without charge.

	Catalog F-6618	Number F-8318
Overall Height	67 3/8"	83 1/8"
Available panel space	61 1/4"	77"
Clear inside width (front)	19 1/2"	19 1/2"
Clear inside width (rear)	17 3/8"	17 3/8"
Net Price	\$105.00	\$129.00

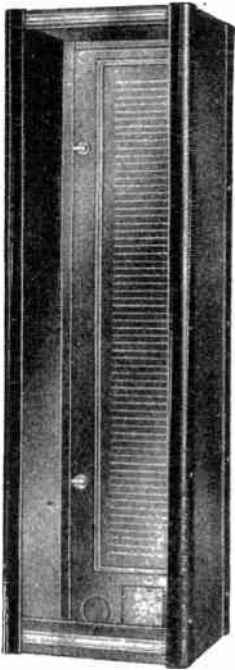
\*If slate grey ripple enamel is required, substitute letters "FG" instead of "F" when ordering.

# PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

## TYPE "C" TRANSMITTER RACKS

STANDARD TYPE—for 19" & 30" Rack Panels

### 18" and 24" Deep



Model G-2218

Similar to standard type "C" racks listed on page J-88 except that they have been reinforced at rear corners for use with heavier apparatus. At the rear, knockouts are provided for conduit and 4" square duct, as well as a double convenience outlet with receptacle. Knockouts are also supplied at sides for conduit, suitable for entry of cables when units are ganged. The rear door, which is removable, has ample louvers for ventilation, which are covered on the inside with mesh screening. Front trim rounded on vertical corners. Racks are regularly supplied with corner trim for use as a single unit, but will be furnished with suitable front connecting strips for ganging in rows of two or more without additional charge.

**SHELVES:** Shelf No. R-2219 is designed to fit racks G-2218 and G-2219

**ROLLER TRUCKS:** Roller truck No. RT-412 is designed to fit racks G-2218 and G-2219.

**PANELS:** Type "C" panels to fit the G-2218 and G-2219 racks are listed on page J-91. For cost of 30" blank panels to fit the G-3024 rack, add 100% to prices of 19" panels on page J-91.

**FINISHES:** Black ripple with corner trims finished in dull black. Slate grey ripple with corner trims finished in slate grey. Prime coat only is optional in place of ripple enamel finish at no extra cost.

**QUICK DETACHABLE CORNER TRIMS:** All racks have new, improved corner trims which are fastened to front of rack with two "captive screws."

Catalog No.	Overall Size	Panel Space	Clear Depth	Ship. Wt. Lbs.	Net Price
G-2218	76 $\frac{1}{8}$ x 22 x 18"	70 x 19"	16 $\frac{3}{8}$ "	270	\$104.52
G-2219	83 $\frac{1}{8}$ x 22 x 18"	77 x 19"	16 $\frac{3}{8}$ "	290	115.44
G-3024	76 $\frac{1}{8}$ x 33 x 24"	70 x 30"	22 $\frac{3}{8}$ "	450	171.60

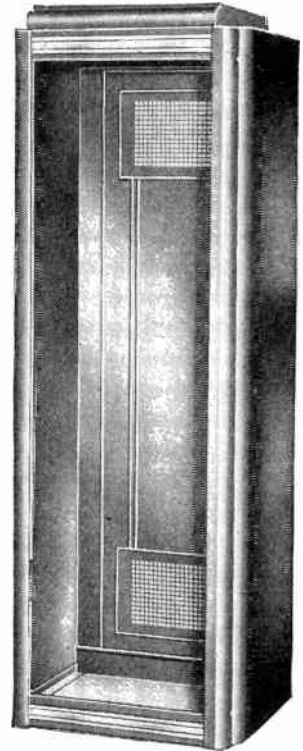
DELUXE TYPE—for 19" Rack Panels

### 18 $\frac{1}{2}$ " and 24" Deep

These new enclosed type racks combine rugged construction with modern styling and improved design. Made from  $\frac{1}{8}$ " steel, rigidly braced and reinforced throughout. Bottom is  $\frac{3}{16}$ " thick. Panel mounting angles are  $\frac{3}{16}$ " steel, drilled and tapped 12/24 thread on standard 1 $\frac{1}{4}$ - $\frac{1}{2}$ " spacings. Front vertical trims to cover panel screws are quick detachable type. Racks may be grouped without front joining trims. Rear door is hung on slip-joint hinges; door held closed with locking type chrome plated handle; keys supplied. Large opening in bottom for conduits, etc.

**SHELVES:** Shelf No. R-2218 is designed for 18 $\frac{1}{2}$ " racks and R-2224 for 24" racks.

**ROLLER TRUCKS:** Use RT-418 for all 18 $\frac{1}{2}$ " deep racks. Use RT-424 for all 24" deep racks.



Model P-6918

**FINISHES:** Black ripple with corner trims finished in dull black. Slate grey ripple with corner trims finished in slate grey. Prime coat only is optional in place of ripple enamel finish at no extra cost.

**QUICK DETACHABLE CORNER TRIMS:** All racks have new, improved corner trims which are fastened to front of rack with two "captive screws".

**NOTE:** Clear inside width at front and rear of all racks is 17 $\frac{3}{4}$ ". Clear inside depth of 18 $\frac{1}{2}$ " racks is 16 $\frac{1}{2}$ "; clear inside depth of 24" racks is 22".

#### 18 $\frac{1}{2}$ " Deep Racks

Catalog No.	Finish	Overall Size	Panel Space	Shpg. Wt. Lbs.	Net Price
P-6918	Black Ripple	69 $\frac{5}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	61 $\frac{1}{4}$ x 19"	230	\$ 94.50
PG-6918	Slate Grey Ripple	69 $\frac{5}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	61 $\frac{1}{4}$ x 19"	230	94.50
P-7818	Black Ripple	78 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	70 x 19"	255	103.50
PG-7818	Slate Grey Ripple	78 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	70 x 19"	255	103.50
P-8518	Black Ripple	85 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	77 x 19"	280	117.00
PG-8518	Slate Grey Ripple	85 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 18 $\frac{1}{2}$ "	77 x 19"	280	117.00

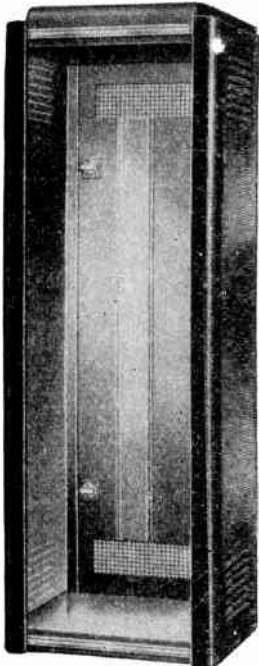
#### 24" Deep Racks

P-6924	Black Ripple	69 $\frac{5}{8}$ x 23 $\frac{5}{8}$ x 24"	61 $\frac{1}{4}$ x 19"	260	\$111.00
PG-6924	Slate Grey Ripple	69 $\frac{5}{8}$ x 23 $\frac{5}{8}$ x 24"	61 $\frac{1}{4}$ x 19"	260	111.00
P-7824	Black Ripple	78 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 24"	70 x 19"	290	120.00
PG-7824	Slate Grey Ripple	78 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 24"	70 x 19"	290	120.00
P-8524	Black Ripple	85 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 24"	77 x 19"	320	135.00
PG-8524	Slate Grey Ripple	85 $\frac{3}{8}$ x 23 $\frac{5}{8}$ x 24"	77 x 19"	320	135.00

Export Dept.: Rocke International Corp., 13 E. 40th St., New York 16, N. Y.

# PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

## TYPE "A" ENCLOSED RELAY RACKS DELUXE TYPE—18" DEEP RACK PANELS



**Model ER-225**

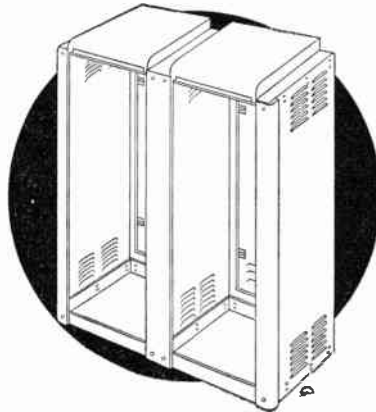
The removable vertical corner trims are rounded and cover the panel mounting screws, the same as is used on our Type "C" commercial racks. The top, which has also been "streamlined," is perforated at the back to provide additional ventilation. The top and bottom are trimmed with chrome finished mouldings.

Models ER-223, ER-225 and ER-227 as illustrated above may now be "ganged" together in a row in double or multi units. When so ordered, racks are supplied with common intermediate sides which are joined to adjacent tops and bottom. These intermediate sides are supplied with solid walls or open type walls, to facilitate wiring between racks where needed.

### SINGLE TYPE ER-225 RACK

Quick Detachable Corner Trims. All Type "A" racks have new improved corner trims which are fastened to front of rack with two stud clips.

Where racks are set up on "multiple" units center joining trims are supplied. If trim strips are not required, stud clips may be removed and replaced with regular screws. Panels are recessed and edges of panels are not visible with or without trim strips.



**Optional "Multirack" Assembly**

When ordering specify number of racks per gang, such as "double units" for a gang of 2 racks, "triple units" for a gang of 3 racks, etc. Solid wall intermediate sides will be supplied unless otherwise specified. Pieces for each rack remain unchanged; double racks being twice the size of a single rack, triple racks being three times the size of a single rack, etc.

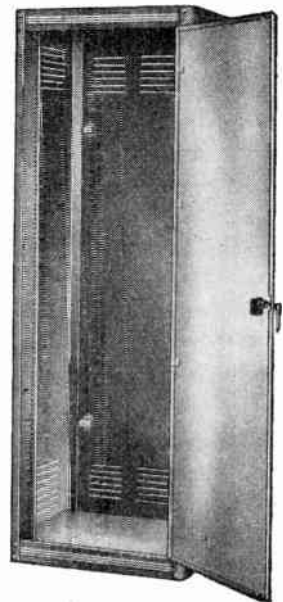
### \*SLATE GREY RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER223	43 1/4 x 22 x 18"	36 3/4"	90	\$42.12
ER225	67 3/4 x 22 x 18"	61 1/2"	135	54.60
ER227	83 1/2 x 22 x 18"	77"	165	69.52

\*Black ripple is optional.

May be mounted on Roller Truck No. RT-412. Shelf available is No. ER-2212.

### ROUNDED CORNER TYPE WITH FRONT DOORS



**Model FD-215  
For 19" Wide Panels**

Equipped with hinged front and rear doors, with chrome plated handles and locks. Front panel mounting angles are recessed 2" to allow clearance for dials, knobs, etc. May be mounted on Roller Truck No. RT-411. Shelf available is R-2215.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. Lbs.	Net Price
FD-215	66 1/2 x 22 x 16 1/2"	61 1/4"	160	\$62.40
FD-217	82 1/4 x 22 x 16 1/2"	77"	165	74.88

### TABLE TYPE RELAY RACKS

Useful where floor type heavy duty rack is not required. Mounting holes accurately drilled on universal centers. Tapped for 10/32 screws. Finished in black ripple enamel and shipped "knocked-down" with all necessary screws. Shipping weight of rack is 20 pounds.



Cat. No.	Overall Size	Panel Space	Net Price
TR-2520	25x21x12"	21x19"	\$6.09
TR-3220	32x21x12"	28x19"	7.62

### ROLLER TRUCKS FOR RACKS DeLuxe Type

Designed for use on our racks. Overall size 3" wider than racks for better distribution of weight.



Has rubber composition wheels. Finished in slate grey ripple, with chrome trim.

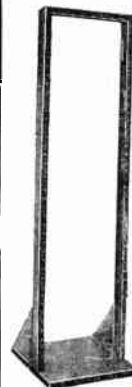
Cat. No.	Will Fit Rack No.	Net Price
RT-401	ER-203, ER-205, ER-207	\$7.80
RT-410	DL-2613, DL-3513	8.58
RT-411	ER-213, ER-215, ER-217	9.66
RT-412	All 18" deep racks	10.98
RT-415	All 15 1/4" deep racks	11.07

### CHANNEL RELAY RACKS

#### FOR STANDARD 19" RACK PANELS

#### Black Ripple Finish

Constructed of 1/4" pressed steel. Vertical members and top securely welded together. Base 22" deep on RR-195 rack; it is 19" deep on RR-193 rack. Panel mounting holes drilled on universal centers for "Amateur" or type "C" panels, tapped 10/32 machine screws.



Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
RR-195	73 1/4 x 20 x 20 1/4"	71 3/4"	85	\$19.02
RR-193	38 1/4 x 20 x 18 3/4"	36 3/4"	57	15.90

# PAR-METAL RACKS · CHASSIS · CABINETS for ELECTRONIC APPARATUS

## DESK PANEL CABINET RACKS

For Standard 19" Rack Panels  
Black Ripple Finish

Streamlined styling. The vertical front corners are rounded and top and bottom trimmed with mouldings. Panels fit into a recess, so that the edges are not exposed. Panel mounting holes drilled on universal centers, for "Amateur" or type "C" panels; holes are tapped 10/32. May be used with any chassis up to 13" x 17" in size. Louvers provide ample ventilation. Panel mounting screws and washers furnished. Black ripple enamel is standard. Slate grey is optional at same price.

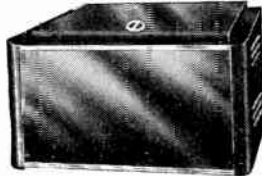


Cat. No.	Overall Size	Panel Space	Net Price
With door in top only			
DL128	10 1/2 x 21 1/2 x 15" deep	8 3/4"	\$10.38
DL1210	12 1/4 x 21 1/2 x 15" deep	10 1/2"	12.24
DL1225	14 x 21 1/2 x 15" deep	12 1/4"	12.66
DL1413	15 3/4 x 21 1/2 x 15" deep	14"	14.28
With door in top and door on rear panel			
DL1713	19 1/4 x 21 1/2 x 15" deep	17 1/2"	17.61
DL2613	28 x 21 1/2 x 15" deep	26 1/4"	19.95
DL3513	36 3/4 x 21 1/2 x 15" deep	35"	22.47

## HINGED STEEL CABINETS

De Luxe Type

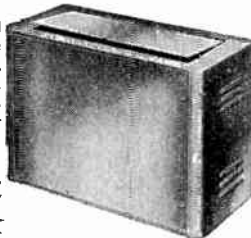
Has rounded front corners. New type formed top door, hinged at back for full access to interior. Chrome finished mouldings, modern handle at top and bottom opening at rear for leads. Gray ripple enamel. Prices do not include chassis.



Cat. No.	H. L. D.	Panel Size	For Chassis	Net Price
CA-300	8 1/2 x 12 3/4 x 8"	8 1/2 x 10"	7 x 9 x 2"	\$4.95
CA-301	8 1/2 x 16 3/8 x 8"	8 1/2 x 14"	7 x 13 x 2"	5.70
CA-302	9 1/2 x 17 3/8 x 11"	9 1/2 x 15"	10 x 14 x 3"	8.19
CA-303	9 1/2 x 20 3/4 x 9"	9 1/2 x 18"	8 x 17 x 3"	8.19
CA-304	12 1/2 x 20 3/4 x 12"	12 1/2 x 18"	10 x 17 x 3"	8.94

## HINGED STEEL CABINETS

Front vertical corners are streamlined, and a panel type door is provided. Rear opening allows for necessary leads, etc. Slate grey ripple finish. Prices do not include chassis.



Cat. No.	H. L. D.	Panel Size	For Chassis	Net Price
CA-200	8 x 10 x 8"	8 x 8"	7 x 7 x 2"	\$3.39
CA-201	8 x 12 x 8"	8 x 10"	7 x 9 x 2"	3.62
CA-202	8 x 16 x 8"	8 x 14"	7 x 13 x 2"	4.77
CA-203	9 x 17 x 11"	9 x 15"	10 x 14 x 3"	7.41
CA-204	12 x 20 x 12"	12 x 18"	10 x 17 x 3"	8.64

## STANDARD TYPE BLANK STEEL CHASSIS BASES

Stamped from one piece of cold rolled steel and have four solid sides with welded corners. Bottom edges flanged in to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from No. 20 gauge steel, except those marked (\*) which are stamped from 1/8" steel.

Zinc Plated		Net Price
Cat. No.	Size	
C-4500	5 1/2 x 9 1/4 x 1 1/2"	\$ .68
C-4507	5 x 7 x 2"	.65
C-4508	5 x 10 x 3"	1.00
C-4509	6 x 14 x 3"	1.11
C-4510	7 x 7 x 2"	.74
C-4511	7 x 9 x 2"	.90
C-4512	7 x 11 x 2"	.96
C-4513	7 x 13 x 2"	1.05
C-4514	7 x 15 x 3"	1.37
C-4518	4 x 17 x 3"	1.17
C-4515	7 x 17 x 3"	1.31
C-4502	8 x 12 x 3"	1.31
C-4531	8 x 17 x 2"	1.43
C-4532	8 x 17 x 3"	1.49
C-4525	10 x 12 x 3"	1.43
C-4524	10 x 14 x 3"	1.49
C-4528	10 x 17 x 2"	1.49
C-4529	10 x 17 x 4"	1.95
C-4526	10 x 17 x 3"	1.49
C-4533*	11 x 17 x 2"	2.01
C-4534*	11 x 17 x 3"	2.37
C-4516	12 x 17 x 2"	1.68
C-4517	12 x 17 x 3"	1.80
C-4530	12 x 17 x 4"	2.10
C-4535*	13 x 17 x 2"	2.30
C-4536*	13 x 17 x 3"	2.58
C-4537*	13 x 17 x 4"	3.15

Bottom plates available for all above chassis.

## CHASSIS MOUNTING BRACKETS

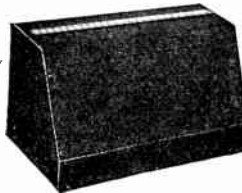
These brackets will fit any of the chassis listed above, as the mounting holes are drilled to match. Panels must be at least 7" high. Finished in black enamel.



Cat. No.	Dimensions	Shpg. Wt.	Net Price
SB-78	For 8" Base	2 lbs.	\$ .78
SB-711	For 11" Base	3 lbs.	1.12
SB-713	For 13" Base	3 lbs.	1.31
SB-717	For 17" Base & larger	5 lbs.	1.92

## SLOPING FRONT CABINETS

Adaptable as instrument cases for studios, laboratories, etc. Top corner rounded and trimmed with chrome moulding. Slate grey ripple finish. A chassis may be mounted to front panel and removed as a unit. Rear of case ventilated, with opening for connections. Prices do not include chassis.



Cat. No.	H. W. D.	Size of Chassis	Net Price
SF-500	8 x 8 x 8"	7 x 7 x 2"	\$3.59
SF-501	8 x 10 x 8"	7 x 9 x 2"	3.90
SF-502	8 x 14 x 8"	7 x 13 x 2"	4.35
SF-503	9 x 18 x 8"	7 x 17 x 3"	6.39
SF-504	12 x 18 x 12"	10 x 17 x 3"	8.19

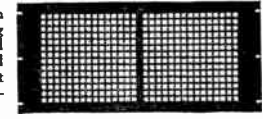
## BLANK PANELS 1/8" ALUMINUM



Cat. No. Black	Cat. No. Grey	Height	Net Price
6675	G-6675	1 3/4"	\$ .71
6676	G-6676	3 1/2"	1.02
6677	G-6677	5 1/4"	1.49
6678	G-6678	7"	1.80
6679	G-6679	8 3/4"	2.18
6680	G-6680	10 1/2"	2.73
6681	G-6681	12 1/4"	3.18
6682	G-6682	14"	3.57
6683	G-6683	15 3/4"	4.05
6684	G-6684	17 1/2"	4.50
6685	G-6685	19 1/4"	4.92
6686	G-6686	21"	5.25

## GRILLE PANELS 1/8" STEEL

This modern type ventilating grille is stamped into the panel itself; it is not a pieced assembly.

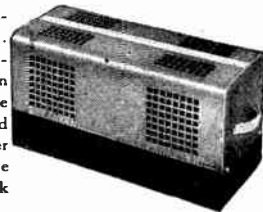


Cat. No. Black	Cat. No. Grey	Panel Size	Grille Size	Net Price
P-661	G-661	5 1/4" x 3 3/8"	14 3/8"	\$2.40
P-662	G-662	7" x 4 7/8"	14 3/8"	2.55
P-663	G-663	8 3/8" x 6 7/8"	14 3/8"	3.12
P-664	G-664	8 3/8" x 8 3/8"	14 3/8"	2.79
P-665	G-665	10 1/2" x 8 3/8"	14 3/8"	3.42
P-666	G-666	10 1/2" x 10 1/2"	14 3/8"	3.12
P-667	G-667	12 1/4" x 7 7/8"	14 3/8"	3.57

\*Allows 3 1/2" space at bottom for chassis mounting.

## ROUNDED CORNER TYPE Amplifier Foundation Chassis

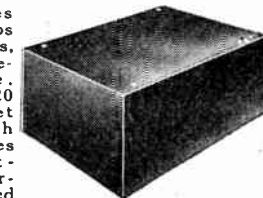
Modern professional type. Rounded corners on screen cover. Chrome mouldings and handles. Cover finished in slate gray, with black ripple chassis.



Cat. No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
DF510	5 x 10 x 3"	6"	9 lbs.	\$3.66
DF615	6 x 14 x 3"	6"	10 lbs.	4.20
DF717	7 x 17 x 3"	6"	11 lbs.	4.83
DF1012	10 x 12 x 3"	6"	11 lbs.	4.83
DF1017	10 x 17 x 3"	6"	13 lbs.	5.76
DF1317	13 x 17 x 3"	6"	15 lbs.	6.87

## STEEL UTILITY CASES

These cases have flat tops and bottoms, which are removable. Made from 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in black ripple enamel.



Cat. No.	Overall Size	Shpg. Wt. Lbs.	Net Price
MC-442	4 x 4 x 2"	2	\$ .74
MC-453	4 x 5 x 3"	3	.84
MC-654	6 x 5 x 4"	3	.99
MC-596	5 x 9 x 6"	5	1.65
MC-666	6 x 6 x 6"	3	1.11
MC-8101	8 x 10 x 10"	7	2.58
MC-1128	11 x 12 x 8"	9	2.79
MC-8107	8 x 10 x 7"	6	2.16



# CABINETS CHASSIS



MIDDLETOWN IN CONNECTICUT

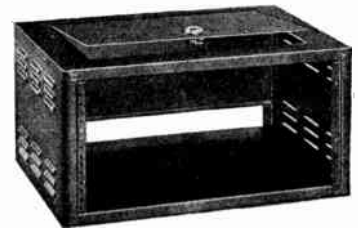
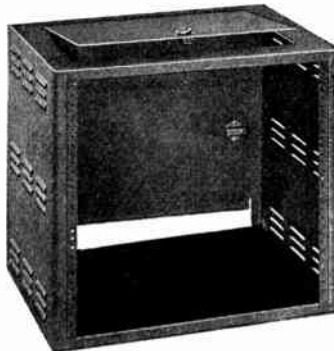
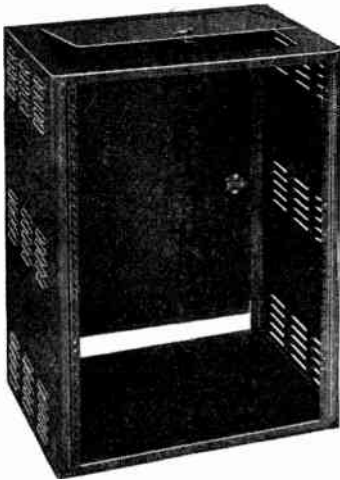
# CASES PANELS

## D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

### FEATURES

- ★ Constructed of heavy gauge 1/16" steel, electrically welded.
- ★ Adequate ventilation is provided by sufficient louvres in sides, and ventilation in back.
- ★ Front Vertical posts rounded.
- ★ Flush panel mounting (recessed).
- ★ Drilled and tapped for 10/32" screws on universal centers.
- ★ Flush door in top fitted with flush snap-lock and piano hinges.
- ★ Black Wrinkle finish. \*Grey Wrinkle if desired.\*



Cat. No.	Panel Size	Size of Cabinet	Dealer Cost	Cat. No.	Panel Size	Size of Cabinet	Dealer Cost
D.C. 108	8 3/4" x 19"	10 1/2" x 21 1/2" x 15"	\$13.20	D.C. 1917	17 1/2" x 19"	19 1/4" x 21 1/2" x 15"	\$22.08
D.C. 1412	12 1/4" x 19"	14" x 21 1/2" x 15"		D.C. 2826	20 1/4" x 19"	28" x 21 1/2" x 15"	
D.C. 1514	14" x 19"	15 3/4" x 21 1/2" x 15"	16.02	D.C. 3635	35" x 19"	36 3/4" x 21 1/2" x 15"	25.89
			17.82				28.65

### BLANK STEEL CHASSIS Heavy Duty

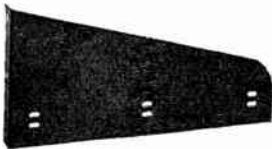
Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and drilled to match bottom plates. Ends are drilled to fit standard Middletown brackets. Bottom plates are supplied with these Chassis.

#### Stock Sizes Black Wrinkle

Cat. No.	Size	Dealer Cost
H.D. 8172	8 x 17 x 2"	\$3.03
H.D. 8173	8 x 17 x 3"	3.30
H.D. 11172	11 x 17 x 3"	3.45
H.D. 11173	11 x 17 x 3"	3.69
H.D. 13172	13 x 17 x 3"	3.84
H.D. 13173	13 x 17 x 3"	4.26
H.D. 13174	13 x 17 x 4"	4.68

### CHASSIS BRACKETS Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.



Cat. No.	Size	Shipping Weight	Dealer Cost
C.B. 8	For 8" Base	2 lbs.	\$0.87
C.B. 11	For 11" Base	3 lbs.	1.26
C.B. 13	For 13" Base	3 lbs.	1.47

### BLANK CHASSIS Standard Type

Middletown Chassis are made from one piece of No. 20 gauge steel spot-welded at all 4 corners—bottom edges are folded over on four sides for additional rigidity and drilled to match bottom plates.

Bottom plates are drilled to match holes on flange of chassis and have pressed bumpers at corners. Material No. 20 gauge steel.

#### Standard Chassis Steel Black Wrinkle

Cat. No.	Size	Dealer Cost
B.S. 442	4 x 4 x 2"	\$0.81
B.S. 591	5 1/2 x 9 1/2 x 1 1/2"	.87
B.S. 5103	5 x 10 x 3"	1.20
B.S. 4173	4 x 17 x 3"	1.44
B.S. 6143	6 x 14 x 3"	1.41
B.S. 772	7 x 7 x 2"	.99
B.S. 792	7 x 9 x 2"	1.20
B.S. 7112	7 x 11 x 2"	1.23
B.S. 7132	7 x 13 x 2"	1.32
B.S. 7153	7 x 15 x 3"	1.59
B.S. 7173	7 x 17 x 3"	1.44
B.S. 8172	8 x 17 x 2"	1.59
B.S. 8173	8 x 17 x 3"	1.74
B.S. 10123	10 x 12 x 3"	1.65
B.S. 10143	10 x 14 x 3"	1.77
B.S. 10172	10 x 17 x 2"	1.77
B.S. 10173	10 x 17 x 3"	1.83
*B.S. 11172	11 x 17 x 2"	2.49
*B.S. 11173	11 x 17 x 3"	2.55
B.S. 12172	12 x 17 x 2"	1.89
B.S. 12173	12 x 17 x 3"	2.25
B.S. 12174	12 x 17 x 4"	2.49
*B.S. 13172	13 x 17 x 2"	2.73
*B.S. 13173	13 x 17 x 3"	3.15
*B.S. 13174	13 x 17 x 4"	3.57

#### Aluminum Chassis

Cat. No.	Dealer Cost
†ABC 591	\$1.05
†ABC 5103	1.26
†ABC 4173	1.92
†ABC 6143	1.98
†ABC 772	1.05
†ABC 792	1.15
†ABC 7112	1.26
†ABC 7132	1.32
†ABC 7153	2.16
†ABC 7173	1.92
†ABC 8172	1.98
†ABC 8173	2.34
†ABC 10123	1.98
†ABC 10143	2.52
†ABC 10172	2.40
†ABC 10173	2.73
†ABC 11172	2.49
†ABC 11173	3.15
†ABC 12173	3.36
†ABC 13172	2.97
†ABC 13173	3.54
†ABC 13174	4.05



#### Bottom Plates Black Wrinkle

Cat. No.	Size	Dealer Cost
B.P. 59	5 1/2 x 9 1/2"	\$0.39
B.P. 510	5 x 10"	.45
B.P. 417	4 x 17"	.57
B.P. 614	6 x 14"	.60
B.P. 77	7 x 7"	.42
B.P. 79	7 x 9"	.45
B.P. 711	7 x 11"	.57
B.P. 713	7 x 13"	.63
B.P. 715	7 x 15"	.69
B.P. 717	7 x 17"	.72
B.P. 817	8 x 17"	.72
B.P. 1012	10 x 12"	.72
B.P. 1014	10 x 14"	.78
B.P. 1017	10 x 17"	.96
B.P. 1117	11 x 17"	.99
B.P. 1217	12 x 17"	1.05
B.P. 1317	13 x 17"	1.14

# CABINETS CHASSIS



# CASES PANELS

MIDDLETOWN IN CONNECTICUT

## AMPLIFIER FOUNDATIONS—DeLuxe Models

This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrinkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately. Covers all have a depth of 6".



Cat. No.	Size	Dealer Cost
A.F.-5103	5 x 10 x 8"	\$2.97
A.F.-6143	6 x 14 x 8"	3.30
A.F.-7173	7 x 17 x 8"	4.20
A.F.-10123	10 x 12 x 8"	4.14
A.F.-10173	10 x 17 x 8"	4.95
A.F.-13173	13 x 17 x 8"	5.94

## SLOPING FRONT PANEL CABINETS



Sloping front panel cabinets have a wide application in the electronic field since they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat. No.	H.W.D.	Chassis Size	Dealer Cost
S.F.-888	8 x 8 x 8"	7 x 7 x 2"	\$4.23
S.F.-8108	8 x 10 x 8"	7 x 9 x 2"	4.71
S.F.-8128	8 x 10 x 8"	7 x 9 x 2"	4.89
S.F.-8148	8 x 14 x 8"	7 x 13 x 2"	5.07
S.F.-121812	12 x 18 x 12"	10 x 17 x 3"	9.24

## STEEL UTILITY CANS



These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

Cat. No.	Size	Weight	Dealer Cost
U.C. 565	5 1/2 x 6 x 5 1/2"	3 lbs.	\$1.38
U.C. 596	5 x 9 x 6"	5 lbs.	1.86
U.C. 8107	8 x 10 x 7"	6 lbs.	2.70
U.C. 81010	8 x 10 x 10"	7 lbs.	3.45
U.C. 11128	11 x 12 x 8"	9 lbs.	4.35

## STEEL RACK PANELS — 19" LONG

These panels are made from 1/8" steel and are slotted for standard W.E. mounting. Twelve standard sizes. Furnished in black or grey wrinkle finish. These panels are also supplied with commercial standard slotting. When ordering commercial type indicate by adding 8 to our catalog number below.



Cat. No.	Width	Weight	Dealer Cost
R.P. 1	1 3/4"	2 lbs.	\$0.99
R.P. 3	3 1/2"	5 lbs.	1.11
R.P. 5	5 1/4"	7 lbs.	1.38
R.P. 7	7"	8 lbs.	1.62
R.P. 8	8 3/8"	9 lbs.	1.98
R.P. 10	10 1/2"	10 lbs.	2.37
R.P. 12	12 1/4"	12 lbs.	2.85
R.P. 14	14"	13 lbs.	3.24
R.P. 15	15 3/4"	14 lbs.	3.69
R.P. 17	17 1/2"	15 lbs.	4.05
R.P. 19	19 1/4"	16 lbs.	4.50
R.P. 21	21"	17 lbs.	4.95

When Ordering Specify Black or Grey.

## METER PANELS



Middletown Meter Panels are made 5 1/2" high and are made to the same specifications as our Rack Panels — are available to fit 3" meters.

Cat. No.	Holes	Hole Size	Dealer Cost
R.P.M. 33	3	2 3/8"	\$1.95
R.P.M. 35	5	2 3/8"	2.70

## METER CASES



These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	Dealer Cost
M.C. 13	Single 3"	2 1/8"	4 1/2 x 4 x 4	\$1.26
M.C. 33	3-3" Meters	2 1/8"	4 1/2 x 11 1/4 x 4	3.06

## STEEL CASES — STANDARD



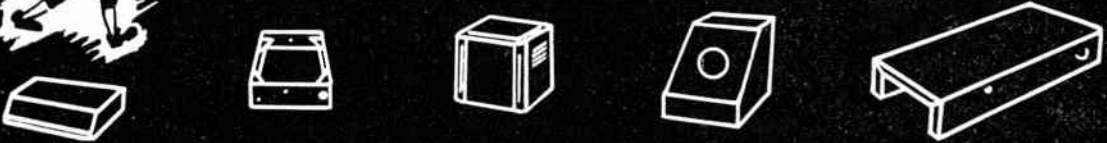
These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

Cat. No.	Size	Weight	Dealer Cost
S.C. 442	4 x 4 x 2"	2 lbs.	\$0.84
S.C. 453	4 x 5 x 3"	3 lbs.	.96
S.C. 666	6 x 6 x 6"	3 lbs.	1.32
S.C. 1276	12 x 7 x 6"	5 lbs.	2.49
S.C. 1597	15 x 9 x 7"	9 lbs.	3.39
S.C. 1287	12 x 7 3/4 x 6 1/2"	9 lbs.	2.88
S.C. 1576	15 x 7 3/4 x 6 1/2"	11 lbs.	2.97



# MINUTE MAN Chassis

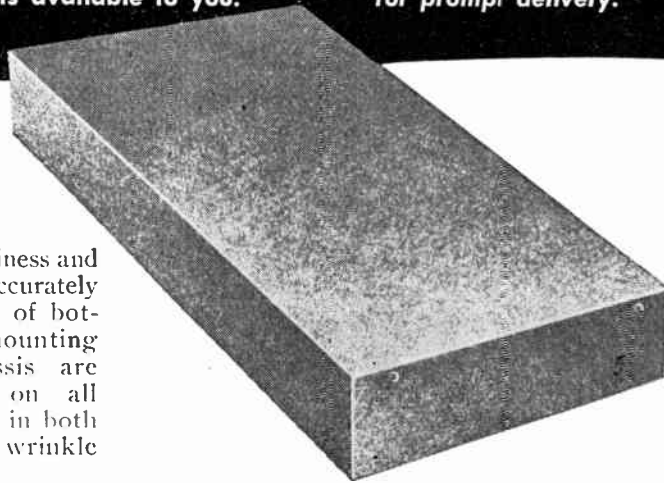
**SPECIALISTS IN METAL PARTS FOR ELECTRONICS**



Noted nationally as a fabricator of metal parts to the top-flight manufacturers of Radio, Television and Electronic Equipment, MINUTE MAN now makes its high-quality, precision products available to you.

Nothing has been stinted to make this expanding line of metal parts the finest you could want. All parts are interchangeable, all parts are adaptable, all parts are ready for prompt delivery.

MMS chassis are made from one piece, heavy gauge, prime steel; folded at the bottom for sturdiness and rigidity. Holes are accurately drilled for attaching of bottom plates and mounting brackets. The chassis are electro-spot-welded on all four sides. Available in both plated and black wrinkle finishes.



MMA chassis are designed for use where aluminum chassis are required. Construction meets government standards and is similar to that of our steel chassis. All aluminum chassis are fused by specially designed welders and are caustic-dipped for brightness and finish.

## CHASSIS

Catalogue No.	STEEL Dealer's Cost			ALUMINUM Dealer's Cost	
	Plated	Black Wrinkle		Catalogue No.	Cost
MMS-5072	\$.95	\$.95	5 x 7 x 2	MMA-5072-2	\$1.00
MMS-5103	1.10	1.15	5 x 10 x 3	MMA-5103-2	1.50
MMS-5133	1.30	1.35	5 x 13 x 3	MMA-5133-2	1.60
MMS-7072	.95	1.00	7 x 7 x 2	MMA-7072-2	1.20
MMS-7092	1.10	1.15	7 x 9 x 2	MMA-7092-2	1.30
MMS-7112	1.15	1.20	7 x 11 x 2	MMA-7112-2	1.40
MMS-7132	1.25	1.30	7 x 13 x 2	MMA-7132-2	1.50
MMS-7153	1.50	1.55	7 x 15 x 3	MMA-7153-2	2.30
MMS-7173	1.55	1.60	7 x 17 x 3	MMA-7173-2	2.35
MMS-8172	1.50	1.55	8 x 17 x 2	MMA-8172-2	2.35
MMS-8173	1.55	1.60	8 x 17 x 3	MMA-8173-2	2.50
MMS-8153	1.55	1.60	8 1/2 x 15 x 3	MMA-8153-2	2.30
MMS-10123	1.50	1.60	10 x 12 x 3	MMA-10123-2	2.20
MMS-10143	1.60	1.70	10 x 14 x 3	MMA-10143-2	2.70
MMS-10172	1.65	1.75	10 x 17 x 2	MMA-10172-2	2.60
MMS-10173	1.75	1.85	10 x 17 x 3	MMA-10173-2	2.90
MMS-10233	2.55	2.65	10 x 23 x 3	MMA-10233-2	3.40
MMS-11172	2.00	2.10	11 x 17 x 2	MMA-11172-2	2.75
MMS-11173	2.25	2.35	11 x 17 x 3	MMA-11173-2	3.35
MMS-12172	1.90	2.00	12 x 17 x 2	MMA-12172-2	3.10
MMS-12173	2.10	2.20	12 x 17 x 3	MMA-12173-2	3.55
MMS-13172	2.35	2.45	13 x 17 x 2	MMA-13172-2	3.15
MMS-13173	2.45	2.55	13 x 17 x 3	MMA-13173-2	3.75

# MINUTE MAN PRODUCTS, INC.

430 EAST 102nd ST., NEW YORK, N. Y. EN 9-5150



# MINUTE MAN ACCESSORIES

## CHASSIS BOTTOM PLATES

Engineers and designers recommend these bottom plates for protection of wiring and components under the chassis. Four spherical domes are formed on each plate to prevent marring of surfaces. Available in black.



### STEEL

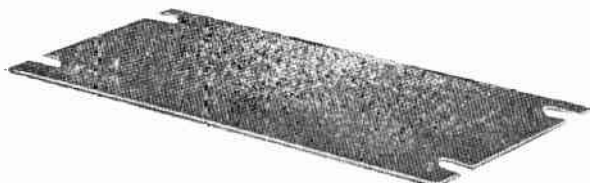
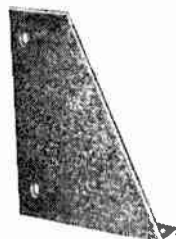
Catalogue No.	Size	Dealer's Cost
MMBPS-0507	5 x 7	\$ .46
MMBPS-0510	5 x 10	.46
MMBPS-0513	5 x 13	.48
MMBPS-0707	7 x 7	.54
MMBPS-0709	7 x 9	.56
MMBPS-0711	7 x 11	.64
MMBPS-0713	7 x 13	.68
MMBPS-0715	7 x 15	.75
MMBPS-0717	7 x 17	.78
MMBPS-0817	8 x 17	.82
MMBPS-8515	8½ x 15	.80
MMBPS-1012	10 x 12	.82
MMBPS-1014	10 x 14	.85
MMBPS-1017	10 x 17	1.00
MMBPS-1023	10 x 23	1.40
MMBPS-1117	11 x 17	1.00
MMBPS-1217	12 x 17	1.08
MMBPS-1317	13 x 17	1.28

## CHASSIS MOUNTING BRACKETS

Recommended for panel and chassis assemblies where weight is involved. Panels to be minimum of 8". Will fit any chassis. Mounting holes are drilled to match. Finished in black wrinkle.

### STEEL

Catalogue No.	Size	Dealer's Cost
MMMMB-8	8"	\$ .85 pr.
MMMMB-10	10"	1.05 pr.
MMMMB-11	11"	1.25 pr.
MMMMB-13	13"	1.70 pr.



## RELAY RACK PANEL

Minute Man Rack Panels are 19" wide and are available in double thick steel or aluminum. Slotted for easy mounting per "W. E. spacing", these panels are finished in lustrous black or gray wrinkle.

### STEEL

Catalogue No.	Size	Dealer's Cost
MMRPS-525	5¼"	\$ .95
MMRPS-7	7"	1.10
MMRPS-875	8¾"	1.35
MMRPS-105	10½"	1.60
MMRPS-1225	12¼"	1.90
MMRPS-14	14"	2.20
MMRPS-1575	15¾"	2.45
MMRPS-175	17½"	2.70
MMRPS-1925	19¼"	3.00
MMRPS-21	21"	3.30

### ALUMINUM

Catalogue No.	Size	Dealer's Cost
MMRPA-525-2	5¼"	\$1.35
MMRPA-7-2	7"	2.00
MMRPA-875-2	8¾"	2.25
MMRPA-105-2	10½"	2.70
MMRPA-1225-2	12¼"	3.15
MMRPA-14-2	14"	3.50
MMRPA-1575-2	15¾"	3.90
MMRPA-175-2	17½"	4.35
MMRPA-1925-2	19¼"	4.75
MMRPA-21-2	21"	5.05

In addition to our standard line, the complete MINUTE MAN facilities are available to you for the manufacture to your particular specifications of long short and medium runs of any metal bases, chassis, panels, housings and brackets.

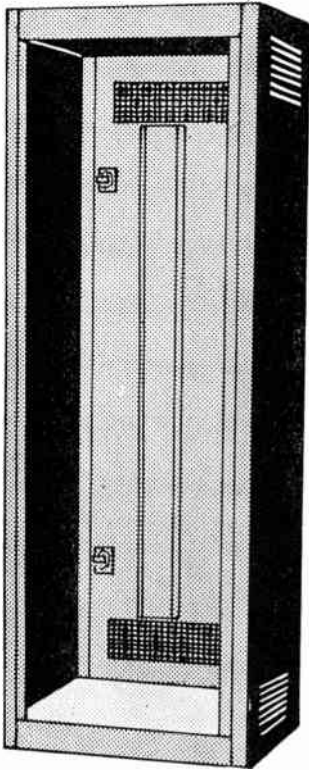
Our wide experience is geared for the most exacting specifications in both government and civilian work.

# MINUTE MAN PRODUCTS, INC.

430 EAST 102nd ST., NEW YORK, N. Y. EN 9-5150

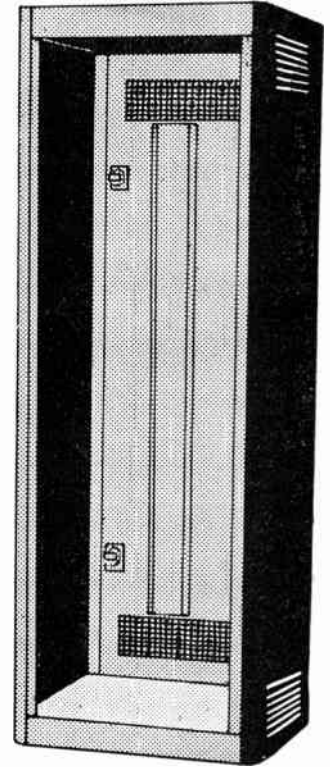
# PREMIER PRECISION BUILT METAL HOUSINGS

## ENCLOSED RELAY RACKS



STANDARD TYPE

- Rigidly constructed of #16 gauge cold rolled sheet steel.
- The panel mounting angles are of #12 gauge steel and are tapped for 10/32 machine screws on Western Electric spacings.
- Panels fit into a recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Rear doors are hung on sturdy loose-jointed hinges, and closed by a flush snap catch.
- Cabinets finished in either Black or Grey wrinkle.
- **ROUNDED TYPE** have front vertical rounded corners.



ROUNDED TYPE

### STANDARD TYPE

Catalog No.

RS-3619

Overall Dimensions:  
41<sup>7</sup>/<sub>8</sub> x 22 x 18"

List Price  
\$54.50

Panel Space: 36<sup>3</sup>/<sub>4</sub> x 19"

RS-6119  
\$81.00

Overall Dimensions:  
66<sup>3</sup>/<sub>8</sub> x 22 x 18"  
Panel Space: 61<sup>1</sup>/<sub>4</sub> x 19"

RS-7719  
\$97.50

Overall Dimensions:  
82<sup>1</sup>/<sub>8</sub> x 22 x 18"  
Panel Space: 77 x 19"

### ROUNDED TYPE

Catalog No.

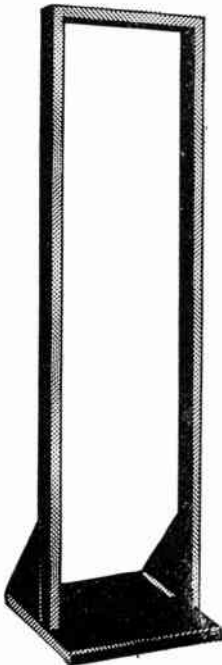
R-3619

List Price  
\$54.50

R-6119  
\$81.00

R-7719  
\$97.50

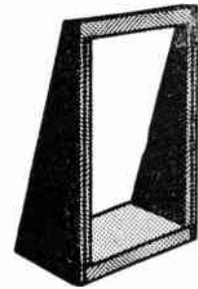
## CHANNEL RELAY RACKS



- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Vertical members and top cross-brace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on Western Electric Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat No.	Overall Dimensions	Available Panel Space	List Price
RR-80C	38 <sup>1</sup> / <sub>4</sub> " x 20" x 18 <sup>3</sup> / <sub>8</sub> "	36 <sup>3</sup> / <sub>4</sub> "	\$29.00
RR-801	73 <sup>1</sup> / <sub>4</sub> " x 20" x 20 <sup>7</sup> / <sub>8</sub> "	71 <sup>3</sup> / <sub>4</sub> "	34.50

All prices F.O.B., Bronx, N. Y.



## TABLE TYPE RELAY RACKS

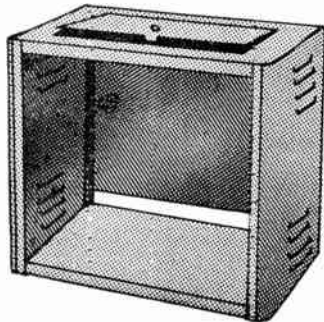
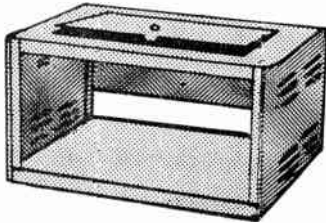
- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on Western Electric Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Space Panel	List Price
TR-2119	25"	21"	12"	21 x 19"	\$11.00
TR-2819	32"	21"	12"	28 x 19"	13.75

# PREMIER METAL PRODUCTS COMPANY

# PREMIER PRECISION BUILT METAL HOUSINGS

## DELUXE DESK PANEL CABINET RACKS FOR STANDARD 19" RACK PANELS



- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome finished moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10/32 machine screws on Western Electric Spacings.
- Piano type hinges are used on the top doors, which are provided with flush snap catches.
- Cabinets finished in either Black or Grey Wrinkle.

### SINGLE UNIT (with door in top only)

Cat. No.	Cabinet Size	Available Panel Space	List Price
DCR-80	10 1/2 x 21 3/4 x 15 1/4" deep	8 3/4" x 19"	\$20.00
DCR-100	12 1/4 x 21 3/4 x 15 1/4" deep	10 1/2" x 19"	22.50
DCR-120	14 x 21 3/4 x 15 1/4" deep	12 1/4" x 19"	24.25
DCR-140	15 3/4" x 21 3/4 x 15 1/4" deep	14" x 19"	27.00

### DOUBLE UNIT (with door in top and door on rear panel)

DCR-170	19 1/4 x 21 3/4 x 15 1/4" deep	17 1/2" x 19"	32.00
DCR-190	21 x 21 3/4 x 15 1/4" deep	19 1/4" x 19"	33.50
DCR-210	22 3/4 x 21 3/4 x 15 1/4" deep	21" x 19"	34.75

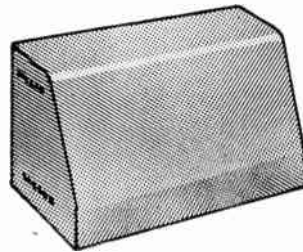
### TRIPLE UNIT (with door in top and door on rear panel)

DCR-260	28 x 21 3/4 x 15 1/4" deep	26 1/4" x 19"	37.50
DCR-310	33 3/4 x 21 3/4 x 15 1/4" deep	31 1/2" x 19"	39.50

### QUAD UNIT (with door in top and door on rear panel)

DCR-350	36 3/4 x 21 3/4 x 15 1/4" deep	35" x 19"	41.50
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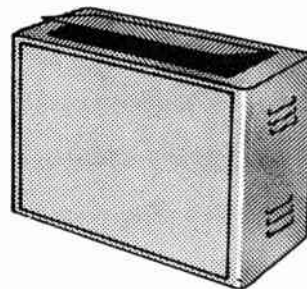
## CABINETS



### SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Finished in Grey Wrinkle.

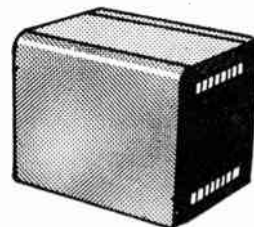
Cat. No.	H. W. D.	For Chassis	List Price
SFC-500	8 x 8 x 8"	7 x 7 x 2"	\$6.40
SFC-501	8 x 10 x 8"	7 x 9 x 2"	7.10
SFC-502	8 x 14 x 8"	7 x 13 x 2"	7.65
SFC-503	9 x 18 x 8"	7 x 17 x 3"	11.00
SFC-504	12 x 18 x 12"	10 x 17 x 3"	14.00



### HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Finished in Grey Wrinkle.

Cat. No.	H. W. D.	Panel Size	For Chassis	List Price
HTC-200	8 x 10 x 8"	8 x 8"	7 x 7 x 2"	\$6.00
HTC-201	8 x 12 x 8"	8 x 10"	7 x 9 x 2"	6.50
HTC-202	8 x 16 x 8"	8 x 14"	7 x 13 x 2"	8.45
HTC-203	9 x 17 x 11"	9 x 15"	10 x 14 x 3"	13.15
HTC-204	12 x 20 x 12"	12 x 18"	10 x 17 x 3"	15.50



### HINGED TOP STANDARD TYPE

Front Panel has a rounded corner on top and is removable. Top door has a piano hinge. Finished in Black Wrinkle.

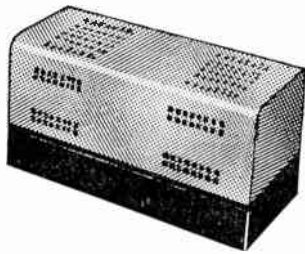
Cat. No.	H. W. D.	For Chassis	List Price
HTC-100	7 1/4 x 10 1/2 x 6 1/2"	5 1/2 x 9 1/2 x 1 1/2"	\$4.80
HTC-101	7 1/4 x 8 x 8"	7 x 7 x 2"	4.80
HTC-102	7 1/4 x 10 x 8"	7 x 9 x 2"	5.50
HTC-103	7 1/4 x 14 x 8"	7 x 13 x 2"	6.25
HTC-104	9 x 15 x 10 3/4"	10 x 14 x 3"	10.25
HTC-105	12 x 18 x 12"	10 x 17 x 3"	12.00

All prices F.O.B., Bronx, N. Y.

# PREMIER METAL PRODUCTS COMPANY

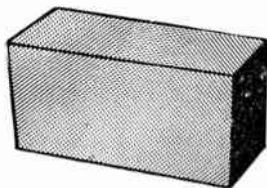
# PREMIER PRECISION BUILT METAL HOUSINGS

## AMPLIFIER FOUNDATION CHASSIS



Top cover has grille perforations and rounded corners. Finished in Grey Wrinkle. Chassis are constructed of one piece with corners spot-welded. Finished in Black Wrinkle.

Cat. No.	Size	Depth of Cover	List Price
AF-510	5 x 10 x 3"	6"	\$6.25
AF-615	6 x 14 x 3"	6"	7.25
AF-717	7 x 17 x 3"	6"	8.25
AF-1012	10 x 12 x 3"	6"	8.25
AF-1017	10 x 17 x 3"	6"	9.75
AF-1317	13 x 17 x 3"	6"	11.75

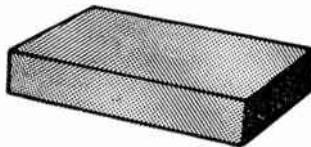


## STEEL UTILITY CASES

Constructed of #20 gauge sheet steel with flanged edges, spot-welded corners, and two removable flat covers. Finished in Black Wrinkle.

Cat. No.	Size	List Price
C-442	4 x 4 x 2"	\$1.25
C-453	4 x 5 x 3"	1.45
C-596	5 x 9 x 6"	2.75
C-666	6 x 6 x 6"	2.00
C-8101	8 x 10 x 10"	4.50
C-8107	8 x 10 x 7"	3.70
C-1128	11 x 12 x 8"	5.00
C-1576	15 x 7 3/4 x 6 1/2"	4.50
C-1597	15 x 9 x 7"	5.15
C-1276	12 x 7 x 6"	3.75

## BLANK CHASSIS

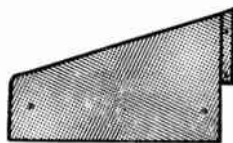


Constructed from one piece of #20 gauge cold rolled steel, except those marked \* which are of #16 gauge. Corners are spot-welded. Bottom edges are flanged in on four sides and punched for bottom plates. Finished in either Black Wrinkle or Zinc Plated.

Cat. No.	Size	List Price
CH-400	5 1/2 x 9 1/2 x 1 1/2"	\$1.20
CH-401	5 x 10 x 3"	1.80
CH-402	6 x 14 x 3"	2.10
CH-403	7 x 7 x 2"	1.50
CH-404	7 x 9 x 2"	1.80
CH-405	7 x 11 x 2"	1.85
CH-406	7 x 13 x 2"	2.00
CH-407	7 x 15 x 3"	2.40
CH-408	4 x 17 x 3"	2.15
CH-409	7 x 17 x 3"	2.60
CH-410	8 x 17 x 2"	2.40
CH-411	8 x 17 x 3"	2.60
CH-412	10 x 12 x 3"	2.50
CH-413	10 x 14 x 3"	2.65
CH-414	10 x 17 x 2"	2.65
CH-415	10 x 17 x 3"	2.75
CH-416	10 x 17 x 4"	3.40
CH-417*	11 x 17 x 2"	3.75
CH-418*	11 x 17 x 3"	4.10
CH-419	12 x 17 x 2"	2.85
CH-420	12 x 17 x 3"	3.40
CH-421	12 x 17 x 4"	3.75
CH-422*	13 x 17 x 2"	4.10
CH-423*	13 x 17 x 3"	4.75
CH-424*	13 x 17 x 4"	5.40

\* Made from #16 gauge steel.

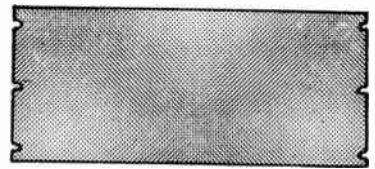
## CHASSIS MOUNTING BRACKETS



These brackets will fit any of the above chassis because the mounting holes are drilled to match. Panels must be at least 7" high. Notched for 3" chassis. Finished in black enamel.

Cat No.	Dimensions	List Price
CB-78	For 8" Base	\$1.30
CB-710	For 10" Base	1.75
CB-711	For 11" Base	1.90
CB-713	For 13" Base	2.20
CB-717	For 17" Base and larger	3.40

All prices F.O.B., Bronx, N. Y.

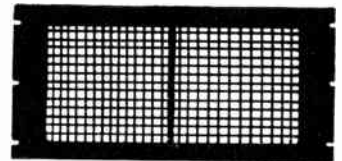


## BLANK RACK PANELS—19" WIDE

For Racks with Multiple 1/4"—1/2" Spacings

Made of #12 Gauge Steel

Cat No.	Width	List Price
RP-119	1 3/4"	\$1.10
RP-319	3 1/2"	1.25
RP-519	5 1/4"	1.55
RP-719	7"	1.80
RP-819	8 3/4"	2.20
RP-1019	10 1/2"	2.65
RP-1219	12 1/4"	3.15
RP-1419	14"	3.60
RP-1519	15 3/4"	4.10
RP-1719	17 1/2"	4.50
RP-1919	19 1/4"	5.00
RP-2119	21"	5.50



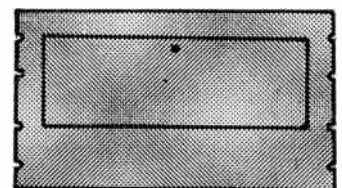
## GRILLE PANELS—19" WIDE

Made of #12 Gauge Steel

Finished in either Black or Grey Wrinkle

Cat. No.	Panel Size	Grille Size	List Price
GRP-601	5 1/4"	3 7/8 x 13 3/8"	\$4.40
GRP-602	7"	3 7/8 x 13 3/8"	4.75
GRP-603	8 3/4"	5 7/8 x 13 3/8"	5.75
GRP-604	8 3/4"	*3 7/8 x 13 3/8"	5.25
GRP-605	10 1/2"	7 7/8 x 13 3/8"	6.25
GRP-606	10 1/2"	*5 7/8 x 13 3/8"	5.75
GRP-607	12 1/4"	*7 7/8 x 13 3/8"	6.50

\* Allows 3/2" space at bottom for chassis mounting.



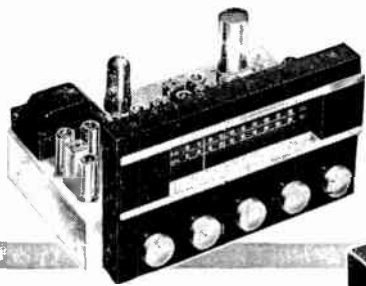
## DOOR PANELS—19" WIDE

Made of #12 Gauge Steel

Finished in either Black or Grey Wrinkle Panels have flush hinged doors with piano hinges, and are equipped with a chrome knob and concealed snap catch. All doors are located 1" from top to allow space for chassis at bottom.

Cat. No.	Panel Size	Door Size	List Price
DRP-700	8 3/4"	4 1/2 x 15 3/8"	\$7.00
DRP-701	10 1/2"	6 x 15 3/8"	7.50
DRP-702	12 1/4"	7 1/2 x 15 3/8"	8.25

# PREMIER METAL PRODUCTS COMPANY



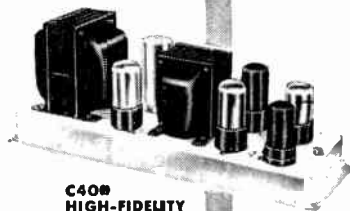
**C10  
FM-AM  
TUNER**



**C300  
EQUALIZER  
PREAMPLIFIER**



**C500  
ULTRA-FIDELITY  
AMPLIFIER**



**C400  
HIGH-FIDELITY  
AMPLIFIER**

HERE ARE

## craftsmen HIGH-FIDELITY COMPONENTS FOR EVERY CUSTOM INSTALLATION...

**C10 FM-AM tuner**, rated highest by several independent testing organizations has become famous for its non-drifting FM circuits. Fly-wheel tuning and automatic-frequency control FM tuning enables quick and accurate station selection. Compensated pre-amplifier for variable-reluctance phono cartridge, cathode-follower output, bass and treble controls (provide either boost or cut) all use low-distortion triode tubes. Includes AM whistle filter, FM-AM antenna, 11 tubes plus rectifier. Size  $13\frac{1}{2} \times 9\frac{1}{2} \times 7$ -ins. high. Shipping weight, 16 lbs. Net ..... **\$131<sup>50</sup>**

**C300 Equalizer-Preamplifier** for remote control of all tone compensation, phono equalization, and audio channel switching. Self-powered unit can be used up to 50 ft. from other chassis. Features continuously variable *loudness control*, multi-position record equalization, four-position noise reducing filter, five separate inputs each with level adjustment. Easily adapted to custom panel installation. 4 dual-triode tubes plus rectifiers. Net ..... **\$89<sup>50</sup>**

**C500 Ultra-Fidelity Amplifier**—finest made at any price. Based on famous Williamson all-triode circuit with 20db. inverse feedback. 10 watts output at less than 1/10% har. or 1/4% I.M. distortion; 1 watt at 1/100% har. or 1/20% I.M. distortion. Freq. response: 5 to 100,000 cps.  $\pm 2$  db. Hum: -90 db. Damping factor: 32:1. Matched push-pull KT66 output tubes provide lowest possible distortion. Size:  $13\frac{1}{2} \times 8 \times 7\frac{1}{2}$ -ins. Shipping weight, 25 lbs. Net ..... **\$99<sup>50</sup>**

**C400 High-Fidelity Amplifier**—for less-costly applications. New convenient size fits many mounting arrangements. 10 watts output at less than 1% har. or 5% I.M. distortion. Freq. response: 10 to 30,000 cps.  $\pm 1$  db. Hum: -70 db. Damping factor: 4:1. Tubes: 6J5, 6SN7GTA, push-pull 6V6GT's, 5Y3GT rect. Size:  $14 \times 4\frac{1}{2} \times 5\frac{1}{4}$ -inches high. Shipping weight, 12 lbs. Net. .... **\$42<sup>90</sup>**

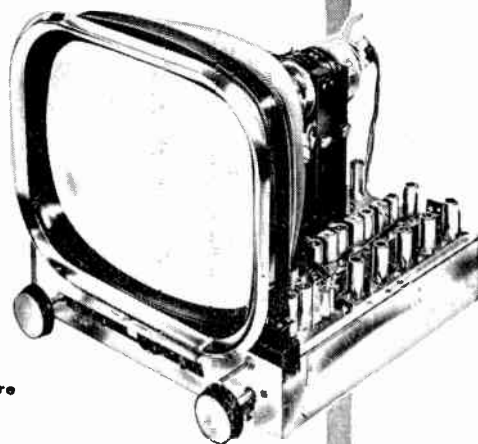
**C201 High-Fidelity Television** includes 5 watt (at less than 2% distortion) push-pull audio amplifier (response: 20-20,000 cps.  $\pm 1$  db.) Standard-Coil turret tuner adaptable to UHF. Features keyed AGC, 16 kv. anode supply, 4 mc. video response, separate sound IF including cascade limiters and Foster-Seely discriminator. Output connection for use with any of above units. 27 tubes plus 5 rect. Overall size including escutcheon and knobs with 20CP4, 21 x 23 x 21-ins. high; with 24AP4 ..... **\$252<sup>50</sup>**  
26 x 26 x 29-ins. high. Shipping weight, 60 lbs. Net .....

Accessory kits include escutcheon, mask, safety glass, and mounting accessories.

217R for 17BP4 picture tube. Net .....	<b>\$15.40</b>
220R for 20CP4 picture tube. Net .....	<b>\$21.40</b>
224M for 24AP4 picture tube (incl. polyethylene ring and sleeve). Net .....	<b>\$42.50</b>

C10, C300, C201 are designed to work equally well with either of above amplifiers or in any combination.

All chassis finished in polished chromium and shipped complete with all hardware and instructions necessary to complete a professional custom installation.

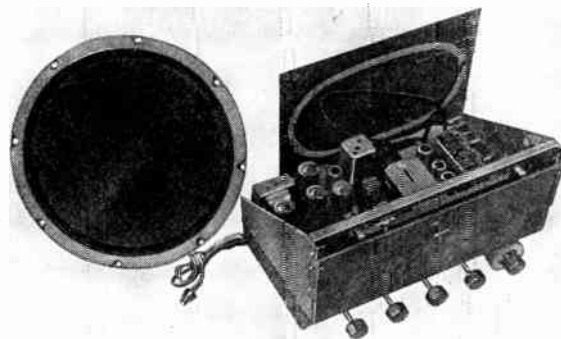


**C201  
TELEVISION**

THE RADIO  
craftsmen INC.

Chicago 40, Ill.



**ESPEY**MANUFACTURING CO. INC  
NEW YORK 21, NEW YORK  
ESTABLISHED 1928**Model 511C—AM-FM RADIO CHASSIS**ALL MODELS CONTAIN NEW  
PRE-AMP PICKUP TUBE 6SC7DEALER - SERVICEMAN . . . . **Net \$118.50**  
(With Speaker)

I. Model 511-C is a Superheterodyne AM-FM Radio Receiver chassis designed to operate on: 105/125 volts AC; 50/60 cycles. Power consumption: 105 watts.

II. FEATURES: 1. AC Superheterodyne AM-FM receiver. — 2. Improved Frequency Modulation Circuit, Drift Compensated. — 3. 12 Tubes plus Rectifier and Pre-amp Tube. — 4. 4 Dual Purpose Tubes give added performance. — 5. Treble Tone Control. — 6. 6-Gang Tuning Condenser. — 7. Full-range Bass Tone Control. — 8. High-Fidelity AM-FM Reception. — 9. Automatic Volume Control. — 10. 10-watt (maximum) Push-Pull Beam Power Audio Output. — 11. 12-inch PM Speaker with Alnico V Magnet. — 12. Indirectly Illuminated "Slide-Rule" Dial. — 13. Antenna for AM and Folded Dipole Antenna for FM Reception. — 14. Provisions for external antennas. — 15. Wired for Phonograph Operation, high and low impedance pick-ups. — 16. Licensed under RCA and Hazeltine patents. — 17. RTMA listed. — 18. Multi-tap Output Transformer, 3.2, 8 and 500 ohms.

III. DESCRIPTION: Model 511-C receiver features the latest in postwar engineering design. The FM circuit includes a tuned RF Amplifier stage, 2 stages of high gain Intermediate Frequency Amplification and an advanced design Ratio Detector circuit which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satisfactory operation with an indoor antenna in most urban locations. The AM circuit includes a Tuned RF Amplifier for improved selectivity and freedom from spurious responses. High Fidelity reproduction on FM and AM is insured through well-engineered circuits and the use of high quality parts. The tuning ranges are: Standard Broadcast — 535 to 1720 Kc. FM Band — 88 to 108 Mc.

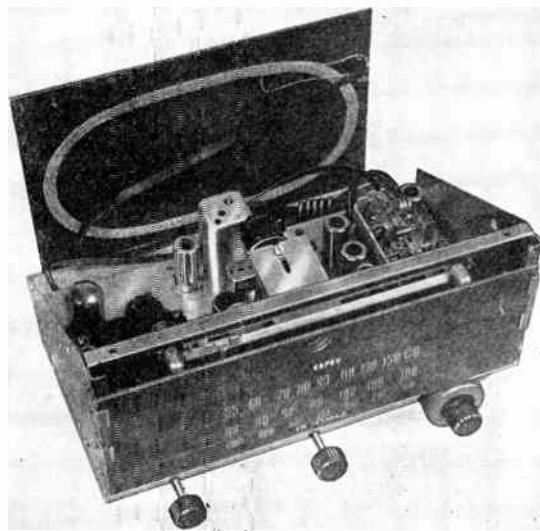
The large easy-to-read "slide-rule" type dial is illuminated by two pilot lights which also provide illumination for the red plastic dial pointer. A high ratio flywheel drive on the tuning condenser provides smooth tuning throughout the range of the receiver.

The receiver has two antennas; a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM band. Provision is made for connecting an external Phonograph Pickup to the high-fidelity audio amplifier system of the receiver. The Multi-tap output transformer will permit the use of Most Popular Type Hi-Fidelity Speakers and dividing networks, or to match a standard 500-ohm line for Remote installations.

IV. TUBE COMPLEMENT: 1 AM-RF Amplifier tube. — 1 FM-RF Amplifier tube. — 1 AM Oscillator, Mixer tube. — 1 IF Amplifier tube. — 1 FM Detector Driver tube. — 1 FM Detector tube. — 1 FM Oscillator tube. — 1 FM Mixer tube. — 1 AM Detector, Audio Amplifier tube. — 1 Audio Amplifier-Inverter tube. — 2 Push-Pull Power Amplifier tubes. — 1 Rectifier tube. — 1 Pre-amp Pickup tube.

V. ACCESSORIES: The Model 511-C chassis is supplied ready to operate, complete with tubes, antennas, speaker and all necessary hardware for mounting in a table cabinet or console.

VI. CHASSIS DIMENSIONS AND WEIGHT: Chassis Dimensions: 13½" wide x 8½" high x 10" deep. Carton Dimensions: (2 units) 20" x 14¼" x 10¾". Net Weight: 17½ lbs. each.

**Model 512C—AM-FM TUNER**Outstanding AM-FM TUNER, self-powered  
for use with all types of Audio Amplifiers.DEALER - SERVICEMAN . . . . **Net \$99.95**

I. Model 512-C Superheterodyne AM-FM Radio Tuner chassis is designed to operate on: 105/125 volts AC; 50/60 cycles. Power consumption: 75 watts.

II. FEATURES: 1. AC Superheterodyne AM-FM tuning circuit — 2. Improved Frequency Modulation Circuit, drift compensated. — 3. 9 Tubes plus Rectifier and Pre-amp Tube and Electronic Tuning Eye. — 4. 3 Dual Purpose Tubes give added performance. — 5. Automatic Volume Control. — 6. 6-Gang Tuning Condenser. — 7. High-Fidelity AM-FM Reception. — 8. Indirectly Illuminated "Slide-Rule" Dial. — 9. Antenna for AM and Folded Dipole Antenna for FM Reception. — 10. Provisions for external antennas. — 11. Wired for Phonograph Operations. — 12. Licensed under RCA and Hazeltine patents. — 13. RTMA listed. — 14. High and Low Level Audio Output.

III. DESCRIPTION: Model 512-C Tuner features the latest in post-war engineering design. The FM circuit includes the tuned RF Amplifier stage, 2 stages of high-gain Intermediate Frequency Amplification, and an advanced design Ratio Detector circuit which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satisfactory operation with an indoor antenna. The AM circuit includes a Tuned RF Amplifier for improved selectivity and freedom from spurious responses. High-Fidelity reproduction on FM and AM is insured through well-engineered circuits and high-quality parts.

Line Voltage is made available at two outlets at the rear of the tuner; these are actuated by the tuner on-off switch to facilitate custom installations. B+ and Heater Voltages are made available at a utility socket mounted in the tuner. This is suitable for powering auxiliary pre-amplifiers as used with variable reluctance type pickups. Holes for 2 additional controls are available for the convenience of the user. The tuning ranges are: Standard Broadcast — 535 to 1720 Kc. FM Band — 88 to 108 Mc. The receiver has two antennas: a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM Band.

Provision is made for connecting an external phonograph pick-up to the tuner audio system, for use with all types of amplifier installations. Two audio output channels are provided, one at high level, the other at low level; both are controlled by the tuner volume control.

IV. TUBE COMPLEMENT: 1 AM-RF Amplifier tube. — 1 FM-RF Amplifier tube. — 1 AM Oscillator, Mixer tube. — 1 FM Detector Driver tube. — 1 IF Amplifier tube. — 1 FM Detector tube. — 1 FM Oscillator tube. — 1 FM Mixer tube. — 1 AM Detector, Audio Amplifier tube. — 1 Rectifier tube. — 1 Pre-amp Pickup tube. — 1 Electronic tuning eye.

V. ACCESSORIES: Model 512-C chassis is supplied ready to operate, complete with tubes, antennas, and all necessary hardware for mounting in a table cabinet or console.

VI. CHASSIS DIMENSIONS AND WEIGHT: Chassis Dimensions: 13½" wide x 8½" high x 9" deep. Carton Dimensions: (2 units) 20" x 14¼" x 10¾". Net Weight: 14 lbs.

**ESPEY**MANUFACTURING CO. INC.  
NEW YORK 21, NEW YORK  
ESTABLISHED 1928**Lowest Priced  
on the Market DeLuxe AM - FM UNIT****Model 513C—AM-FM DeLuxe TUNER**  
Dealer-Serviceman . . . . .Net \$ 96.50**Model 514C—DeLuxe Audio  
Amplifier, 20 Watts**  
Dealer-Serviceman . . . . .Net \$ 41.95**Alnico V PM Speaker, 12",  
20 Watts**  
Dealer-Serviceman . . . . .Net \$ 10.35**TOTAL—Dealer-Serviceman Net \$148.80****Model 513C****I. FEATURES:**

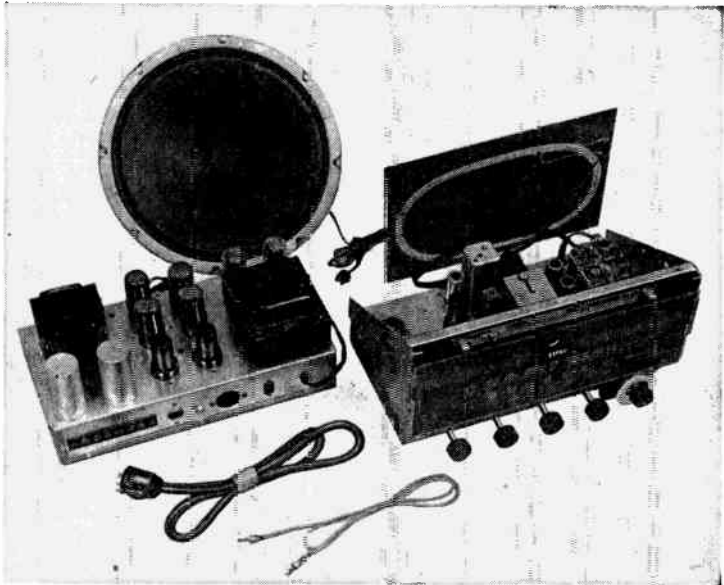
1. Superheterodyne AM-FM circuit.
2. Improved Frequency Modulation Circuit, stabilized against drift.
3. 10 Tubes plus Pre-amp Tube and Electronic Tuning Eye.
4. Tuned RF Circuits on AM and FM.
5. 6-Gang Variable Tuning Condenser.
6. Automatic Volume Control.
7. Full Range Bass Boost Control.
8. Full Range Treble Control.
9. Indirectly Illuminated "Slide-Rule" Dial.
10. Fly Wheel Tuning Drive.
11. Antenna for AM and Folded Dipole Antenna for FM.
12. Provision for external antennas.
13. Wired for Phonograph Operation, High and Low Impedance Pick-up.
14. Licensed under RCA and Hazeltine.
15. RTMA listed.

**II. Model 513C AM-FM Tuner** employs 10 tubes plus a pre-amp tube and electrical tuning eye in a superheterodyne circuit. It is designed to operate from an external power supply and feed into an external audio amplifier. (Model 514C DeLuxe Power Supply-Audio Amplifier is specifically designed to work in conjunction with the Model 513C Tuner). The power requirements for the tuner are 6.3 volts AC or DC at 3.5 amperes, and 200 volts DC at 60 milliamperes.

**III. DESCRIPTION:** The Model 513C Tuner incorporates the latest development in engineering design. It is intended for the discriminating listener. Separate, Tuned RF stages are employed on both the AM and FM bands to provide extreme sensitivity and minimize spurious responses. The FM circuit also includes two stages of high-gain intermediate frequency amplification to drive a ratio detector circuit of advanced design. AM: 535 Kc. to 1720 Kc. — FM: 88 Mc. to 108 Mc.

**IV. TUBE COMPLEMENT:** 1 6BA6 AM-RF Amplifier tube. — 1 6BA6 FM-RF Amplifier tube. — 1 6BE6 AM Converter tube. — 1 6BE6 FM Mixer tube. — 1 6C4 Oscillator tube. — 1 6SG7 AM-FM IF Amplifier tube. — 1 6SH7 FM-Ratio Detector Driver tube. — 1 6J5 AM-Detector AVC tube. — 1 6SQ7 AM-FM 1st Audio tube. — 1 6AL5 FM Ratio Detector tube. — 1 6SC7 Pre-amp Pickup tube. — 1 Electronic tuning eye 6U5.

**V. CHASSIS DIMENSIONS:** 13½" wide x 8½" high x 9" deep. Weight: 10 lbs.



Model 514C Amplifier &amp; Power Supply.

Model 513C AM-FM Tuner

**ALL MODELS CONTAIN NEW PRE-AMP  
PICKUP TUBE 6SC7****Model 514C**

**I. Model 514C DeLuxe Power Supply and Audio Amplifier** contains 6 tubes, plus 2 rectifiers in a high gain push-pull amplifier circuit. It is designed specifically for use in conjunction with the Model 513C Tuner, but may be used wherever a high quality audio amplifier may be required. Power requirements are: 105/125 volts AC; 50/60 cycles; power consumption: approximately 150 watts.

**II. FEATURES:**

1. Parallel Push-Pull Beam Power Output Circuit.
2. Self-Balanced  $\pi$ -Phase Inverter System.
3. Extended Range High-Fidelity Response.
4. Inverse Feedback Circuit.
5. 6 Tubes plus 2 Rectifiers.
6. Output Impedance selective for any speaker requirement (4 to 500 ohms).
7. License under RCA.
8. RTMA listed.

**III. DESCRIPTION:** The Model 514C Power Supply-Audio Amplifier employs the best proven engineering design. Six tubes are incorporated in a balanced phase inverter parallel push-pull amplifier. By the use of an inverse feedback circuit, high-fidelity performance is obtained.

**IV. TUBE COMPLEMENT:** 2 6J5 Audio Driver tubes. — 4 6V6 Beam Power Audio Output tubes. — 2 5Y3 Rectifier tubes.

**V. 13½" wide x 7½" high x 7" deep. Weight 18 lbs.**



# TECH-MASTER

## Deluxe TV Chassis and Kits

The World's Most Powerful, Most Dependable TV Receiver

### Gold Medal Series

#### CUSTOM BUILT DELUXE TV CHASSIS

Tech-Master's Gold Medal Series Chassis is no ordinary mass-produced "commercial" set. It is truly custom-built, carefully, precisely, painstakingly — custom-built to provide your most quality-minded customers with the ultimate in sight and sound and value!

Tech-Master design and custom-construction are as fine as human hands and technical know-how can produce. The most advanced engineering methods, the finest components, rigid alignment and test standards and the pledged determination to produce the OPTIMUM in Television . . . these and other Tech-Master features add up to the finest in a TV Chassis that the industry has to offer. In fringe areas as well as normal range areas, the Gold Medal Series brings modern motion picture brilliance and clarity to the TV screen.

#### Compare These Features

- ★ **TECH-MASTER 630 TYPE CIRCUIT:** Of all the circuits known to the TV industry, the RCA-630 type is still acclaimed the finest. But, even the 630 is only as good as the Engineering, the Components and the Workmanship that go into it. These three factors are inherent in every Tech-Master Custom-Built Chassis.
- ★ **ADVANCED standard TURRET TUNER, Adaptable to UHF Without Tools:** Employs a Cascode RF amplifying stage, affords a high signal-to-noise output resulting in a sharper picture, with a minimum of "snow", even in weak signal areas. UHF channel strips may be inserted at any time, without the use of tools.
- ★ Full 4 Mc Band Width for better picture definition.
- ★ Quick-Action Keyed AGC Circuit assures stabilized control.
- ★ New Hi-Sweep Auto Transformer System for outstanding brilliance.
- ★ 5 Microvolt Sensitivity . . . Excellent for Fringe Areas
- ★ Full Horizontal and Vertical blanking.



for Picture Tubes from 16" to 24"

**Model 2430:**—Designed specifically for all picture tubes requiring 60 to 70 degrees horizontal deflection. Has quality PM speaker, Universal picture tube mounting brackets, Phono-input jack. **\$189.50**

**Model 2431P:**—Same as Model 2430, but with Push-Pull Audio, True Fidelity Output. **\$199.95**

**Dimensions:** 21 $\frac{3}{4}$ " wide, 16 $\frac{1}{4}$ " deep.

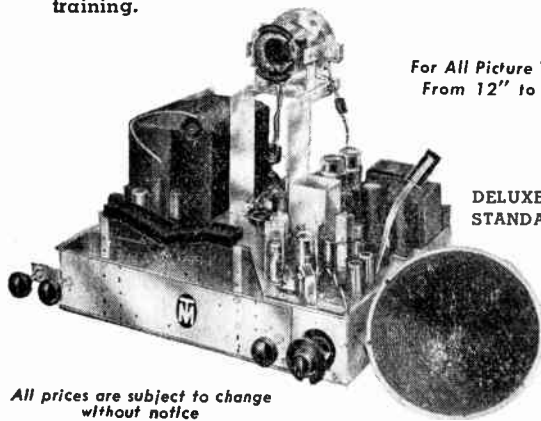
**Shipping Weight:** 70 lbs.

Chassis is beautifully plated in gleaming nickel finish . . . comes completely wired, aligned and tested . . . with all tubes, (less picture tube).

### America's Finest TV Kit—Model 630-D

Tech-Master Model 630-D is acknowledged by the entire industry as the finest TV Kit available! Tech-Master engineers have again demonstrated their skill by developing new and better features for the world famous RCA-630 type circuit. All components used are the best available . . . rigid factory test standards are your assurance of years of trouble-free performance.

With a minimum of tools you will have a TV receiver with unsurpassed picture quality . . . at a cost considerably less than a manufactured set. Special Tech-Master schematic and pictorial diagrams guide every move and make assembly utterly simple and enjoyable! **MODEL 630-D IS USED BY LEADING SCHOOLS all over the country!** Established multiple tube circuits, rather than compromise economy circuits, make this Tech-Master TV Kit ideal for comprehensive television training.



For All Picture Tubes From 12" to 24"

All prices are subject to change without notice

**Also available factory wired, assembled and aligned. See below.\***

#### No Other TV Kit

#### Offers All Of These Important Features

- ★ **ADVANCED standard TURRET TUNER, Adaptable to UHF Without Tools:** High signal-to-noise ratio results in a sharper picture, with a minimum of "snow" even in weak signal areas.
- ★ AFC horizontal synchronization employing 6AL5 phase detector, 6AC7 Reactance tube, and Sync. Discriminator Transformer in a Hartley Oscillator circuit assures optimum noise immunity and horizontal stability.
- ★ 3 Stage Sync. Amplifier, Clipper and Separator circuit provides unexcelled interlace characteristics and the finest picture detail.
- ★ Noise saturation circuits utilized throughout minimize effect of external interference.
- ★ 4 Stage stagger tuned Video IF system produces full 4 MC band width and complete picture definition.
- ★ Adjacent Channel Traps.
- ★ 2 Stage Video Amplifier.
- ★ Direct Coupling Used for Keyed AGC Circuit.
- ★ Improved Picture Brilliance — Due to New "Hi-Sweep" Voltage Multiplier System.
- ★ Shielded High Voltage Supply for Maximum Protection.

**Chassis Dimensions:** 21 $\frac{3}{4}$ " wide x 15 $\frac{3}{4}$ " deep. **Shipping Weight:** Approximately 70 lbs.

**DELUXE KIT,** all principal components mounted: **MODEL 630D24**.....\$159.50

**STANDARD KIT,** same as above but unassembled: **MODEL 630S24**.....\$154.50

Kits supplied complete with all components, picture tube mounting brackets, speaker, and all tubes (less kine, wire and solder).

#### \*MODEL 1930, Deluxe TV CHASSIS:

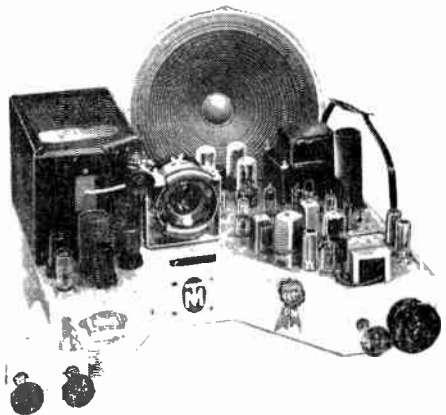
Similar to TV Kit 630D24 described above but completely factory wired, tested and aligned, ready for installation.....**\$179.50**

# TECH-MASTER Economy TV Chassis and Kits

## MODEL C-30 TV, WIRED CHASSIS

For Picture Tubes Up To 24"

Here again is Top TV Performance attained through skilled engineering and finest set-tested components embodied in a completely factory-wired chassis, pre-aligned, pre-adjusted and ready for use. MODEL C-30 has been designed for the utmost in value, retaining every important feature necessary for quality of image and sound.



MODEL C-30: completely wired, aligned and tested . . . with quality PM speaker, and all tubes (less picture tube).....\$149.50

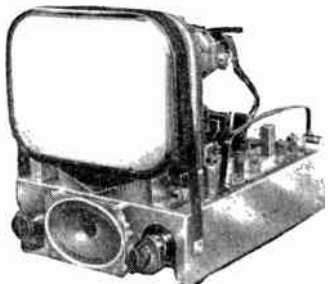
- ★ Basic 630-Type Circuit Features Include:
  - Full 4 mc bandwidth reception
  - 4-Stage Video IF
  - 3-Stage Audio IF
  - 2-Stage Video Amplifier
- ★ 30 Tubes, including picture tube and rectifiers.
- ★ Advanced, improved 12 channel turret tuner, adaptable to UHF without tools.
- ★ 4-Stage Synchronizing Amplifier and Separator.
- ★ 9 Microvolt Sensitivity.
- ★ 16 kv 2nd Anode Voltage
- ★ New, Automatic Horizontal Stabilizer.
- ★ Automatic Background Control.
- ★ Retrace Blanking Circuit.
- ★ Permanent Dynamic Focusing System.
- ★ Double-time Constant AGC.

## UNIVERSAL TELEVISION KIT

Tech-Master brings high quality television within reach of the most economy-minded customer, with the lowest price ever for a top-performing, precision-engineered, AC/DC kit.

Tech-Master's development of the IF "Synchro-Strip" cuts in half the amount of work required to assemble and wire the kit! It comes mounted in place, on the main chassis, together with the tuner, and is completely wired, aligned and tested. The newest engineering advancements have been utilized in the design of the horizontal and vertical sync circuits to assure excellent stability and noise immunity characteristics. Complete step by step instructions and diagrams (both pictorial and schematic) permit complete wiring and assembly over a week-end!

IDEAL FOR SCHOOLS: Requires minimum bench equipment; affords maximum opportunities for comprehensive TV training.

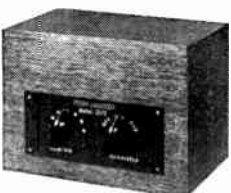


MODEL 5116: "UNIVERSAL" Kit complete with set of 16 Circuit Tested Tubes, all hardware, instructions and picture tube mounting brackets, (less kine, wire and solder) .....\$99.95

- ★ Compact, light-weight easily portable unit, operates on both AC and DC, for use with picture tubes up to 17" rectangular.
- ★ Advanced and improved 12 channel turret tuner, adaptable to UHF without tools!
- ★ Latest type hi-gain stagger-tuned IF system incorporating bi-filar coils — for excellent picture definition.
- ★ New AGC system, utilizing special delay network — for steady pictures regardless of varying transmission conditions.
- ★ High efficiency beam power amplifier and ceramic core horizontal output transformer provide clear, bright pictures and full horizontal deflection.
- ★ Two-knob control on front panel provides automatically synchronized picture and sound.

### BOOSTER KIT

Precision-designed and tested to reduce noise from 3 to 5 db. Signals are boosted to such proportions that you receive outdoor antenna results with an indoor antenna. Amplifies signals in weak or fringe areas!



**SPECIFICATIONS:** Fixed grid, variable plate tuning. Separate coils for low and high channels. Matches 300 or 72 ohm line. High channel input coil may be tuned for any desired channel. Complete with 6AK5 tube, cabinet, and pre-aligned coils.  
**MODEL 3375** .....\$9.95

### MIGHTY VERSATILE MIDGET

3 Instruments in One!

- (1)—A Complete AM Superhet Receiver which connects to any speaker system.
- (2)—A Sensitive AM Tuner with output connections for any external amplifier and speaker system.
- (3)—A Complete Audio Amplifier with input connections for high-impedance microphone or phono-pickup and output connection for any speaker system.



This compact, versatile 3-in-one chassis affords the most economical method of adding radio, phono or P.A. operation to any TV receiver, speaker system or record player.  
**SPECIFICATIONS:** Quadruple-tuned IF circuit ★ Ferrite-core, omnidirectional antenna ★ 2 Watts audio output ★ AVC for both RF and IF circuits ★ Simple, 2-point suspension mounting ★ Electrically isolated chassis, safe to handle ★ Fits into 630-type chassis front opening ★ AC (105-125V., 50-60 cycles) and DC operation ★ Supplied complete with tubes: 12BE6, 12BA6, 12AV6, 50C5, 35W4 ★ Weighs only 1 1/4 lbs. ★ Dimensions: Length 7 1/8", Height: 3 3/8", Depth: 3 1/8".  
**MODEL B-15** .....\$19.95

### Complete Line of Quality 630 Replacement Parts and Conversion Kits

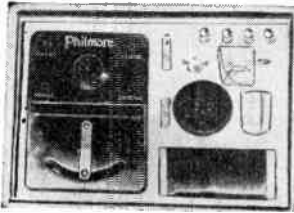
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|---------------------------|------------------------------|--|
| TRANSFORMERS              | FOCUS COILS                  | PLASTIC SLEEVE and RING SETS             |
| I.F. TRANSFORMERS         | CONTROLS                     | KEYED A.G.C. KITS                        |
| VIDEO PEAKING COILS       | ELECTROLYTIC CONDENSERS      | for 630-TYPE CHASSIS                     |
| HORIZONTAL OUTPUT and     | BLEEDER RESISTORS            | HI-SWEEP                                 |
| H.V. TRANSFORMERS         | DEFLECTION YOKES             | VOLTAGE MULTIPLIER KITS                  |
| WIDTH and LINEARITY COILS | KNOBBS and ESCUTCHEON PLATES | UNIVERSAL PICTURE TUBE MOUNTING BRACKETS |

Detailed, illustrated literature and listing available upon request.

# Philmore GUARANTEED RADIO PRODUCTS

## RADIO KITS

### "SUPERTONE" RADIO CRYSTAL SET KIT



These kits are a great hit with youngsters and adults the world over. Complete in every detail for quick and simple assembly. Consists of moulded bakelite base with contact slider, crystal holder, crystal detector and cover, cats-whisker support, spring, cats-whisker, ready wound tuning coil, binding posts, plus all necessary wire, hardware, and "easy-to-follow" instructions.

Cat. No. 7001-A

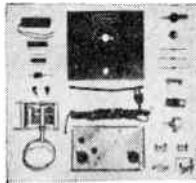
List Price \$4.90\*

\*Plus Federal Excise Tax

### ONE TUBE (Plus Rectifier Tube) AC-DC RADIO KIT

Purposely designed for easy construction, using most efficient circuits. Anyone, without previous knowledge or skill, can obtain excellent results by following simple instructions and diagrams. Attractively packaged, parts fitted inside, making presentable display. Complete less tubes and headset.

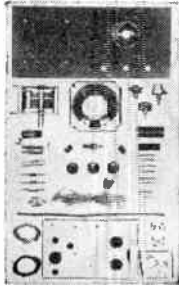
No. 7001B List Price \$12.50  
Uses 1 each 35Z5GT and 12SJ7 Tube.



### TWO TUBE (Plus Rectifier Tube) AC-DC RADIO KIT

More elaborate than one-tube kit, greater signal strength, permitting use of 4" PM speaker. Speedily assembled, following simple instructions with pictorial and schematic diagrams. Completed you have a Two-Band set, covering standard broadcast (550-1700 Kc) and Short-Wave (6-18 Mc).

Cat. No. 7001C—Complete with speaker, less tubes. List Price \$20.00  
Uses 1 each 35Z5GT, 50L6GT and 12SJ7 Tube.  
(NOTE: Wire and solder not included with 7001B and 7001C.)



## RADIO SETS

### "Little Wonder" and "Supertone" RADIO SETS Have These Outstanding Features!

- Glass enclosed dust-proof detector, which is adjustable (Supertone).
- Specially designed hook-up assuring reception within a radius of twenty-five (25) miles from a broadcasting station.
- Under favorable climatic conditions reception may be received as far as one hundred (100) miles from broadcasting station.
- Costs nothing for upkeep.
- No batteries, tubes or expensive accessories required.
- Manufactured in Genuine BAKELITE in various colors. The advantages of bakelite are well-known for its beauty and cleanliness. It will retain its color and can be kept clean for the life of the set which is practically infinite.

### "Little Wonder" RADIO RECEIVING SET

Compact in size but big in results. The open type detector permits adjustments to be made to the finest degree. This set includes the Philmore Super-sensitive Crystal which assures quick results when "looking" for a station, because the entire surface of the crystal is sensitive.



Cat. No. 7000 List Price \$1.75  
Plus Federal Excise Tax

### "Supertone" RADIO RECEIVING SET

A remarkable Radio Receiving Set built to give everlasting service. This set will bring in broadcasting loud and clear without distortion or noise. The Supertone Crystal Set is equipped with a Philmore Supersensitive Crystal which will give excellent results over an indefinite period of time.

Cat. No. 7001 List Price \$2.25  
Plus Federal Excise Tax

## CRYSTAL DETECTORS and ACCESSORIES

### Open Type CRYSTAL DETECTOR

Universal joint on swivel arm provides quick, accurate adjustment on any point of crystal. Completely assembled.

Cat. No. 7003 List Price \$0.45



### Fixed CRYSTAL DETECTOR

Will give renewed action to reflex or crystal sets. Sensitivity is determined by laboratory methods and fixed permanently. Enclosed in a bakelite case.

Cat. No. 7002 List Price \$0.90



### Glass Enclosed CRYSTAL DETECTOR

Ideal for Crystal Reflex circuits. Dust-proof. Fixed at factory but delicately adjustable at all times. Includes Supersensitive Crystal.

Cat. No. 700B List Price \$0.65



### METER TESTED CRYSTAL

Laboratory tested. Mounted Galena Crystal.

Cat. No.	List Price
7004 Galena Crystal Indiv. box	\$0.20
7005 Galena Crystal Display Card	\$0.20



### CAT WHISKERS

Set of two on a display card.

Cat. No. 7006—Set of 2 List Price \$0.20



### Unmounted DETECTOR

Includes stand, crystal cup, arm with cats-whisker and screws and nuts necessary for mounting.

Cat. No. 7010 List Price \$0.25



### PHILMORE HEADPHONES

Accurately matched headphone set. Each unit consists of "double high flux" magnets. Ruggedly constructed of lightweight metal — with highly polished bakelite ear caps. Concealed terminal type. Equipped with braid covered adjustable headband and cord 4½ feet long.



Cat. No.	List Price
2260—Philmore Double Phone 2000 ohm Impedance	\$4.40
2261—Philmore Single Phone 1000 ohm Impedance	\$2.50

NOTE: The Single Phone is the same construction as the Double with exception that the headband is of spring steel.

### Junior MICROPHONE

For home broadcasting; will operate efficiently from any radio set. It will help turn any dull house party into hilarious, enjoyable entertainment.



Equipped with push button switch for cutting off radio programs and bringing in the home broadcaster's voice very clearly. Sensitive, with excellent volume, and is shock-proof. Easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.

Cat. No. 500 List Price \$1.90

### AERIAL KIT

A complete kit of parts for assembly of a professional antenna. Attractively packaged in a multi-colored display box.

- 1 coil 7-26-50 ft. stranded copper aerial wire.
- 1 coil 25 ft. rubber covered lead-in wire.
- 1 Ground Clamp.
- 1 Lead-in Strip.
- 2 Porcelain insulators.
- 2 Nail-it Knobs.
- 1 Instruction sheet.

Cat. No. 2103 List Price \$1.50



### HAND MICROPHONE

Ideal novelty for home parties. Cut in on broadcasts and permits person to talk or sing through the radio speaker. Button switch cuts mike in and out of broadcast. Simple to install. Equipped with 9 ft. of cord.

Cat. No. 500H List Price \$2.90



# ARGOS PRODUCTS



## NEW CABINETS FOR TV CHASSIS

Mahogany or Blonde

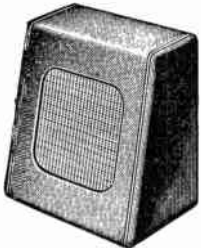
### Takes All Popular TV Chassis, Tube Sizes 16 to 27 inch

Convert your TV chassis into a complete set with a minimum of cost. Exceptionally well built Argos Products cabinets look better than similar cabinets used in complete sets. Richly grained pyroxylin coated leatherette in Mahogany or Blonde finish—no extra charge for blonde. Smart plastic beading around front panel and along sides. Rugged construction with 3/8-in. 3-ply sides and 1/2-in. 5-ply bottom. Two wire mesh panels in bottom provide extra ventilation. Speaker grilles (on both sides of cabinet) are woven plastic. Cabinets for Radio Craftman and 630-type chassis have all holes cut, ready for chassis to slide right in. Cabinets TV-24RC and TV-24PT have picture opening to accommodate either 24" round or 27" rectangular tube; tuning knob holes are cut in position. Cabinets TV-3PT and TV-24PTU have completely blank (uncut) front panels.

ARGOS #	Tube Size	Type Chassis	Ship. wt.	Dir. Net*
TV-1RC	16 - 17"	Radio Craftman	25 lbs.	\$25.50
TV-3PT	16 - 20"	630 lineat Panel	28 lbs.	27.00
TV-2RC	20 - 21"	Radio Craftman	28 lbs.	28.50
TV-4PT	20 - 21"	630 Type	28 lbs.	28.50
TV-24RC	24 - 27"	Radio Craftman	40 lbs.	39.00
TV-24PT	24 - 27"	630 Type	40 lbs.	39.00
TV-24PTU	24 - 27"	630 lineat Panel	40 lbs.	37.50

\*Plus Fed. Excise Tax

## WALL BAFFLES



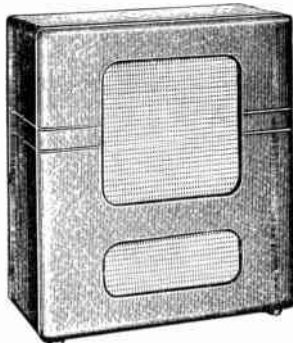
Heavy wood construction gives deep, rich tone. Reinforced for extra strength at speaker mounting and at corners. Smart plastic beading along edges. Attractive two-tone woven plastic grille cloth, harmonizing with cabinet.

Richly grained, pyroxylin coated leatherette gives long, durable service. Made by Argos Products Co. Mailable.

Mahogany or Blonde  
No Extra Charge for Blonde

ARGOS #	Speaker	Width, Height, Depth	List Price	Dir. Net
WB-4/5	4-5 in.	6x6 1/8 x3 3/4 in.	\$3.90	\$2.34
WB-6	6 in.	7 1/4 x8 1/2 x5 in.	4.40	2.64
WB-8	8 in.	9 1/4 x10 1/4 x5 3/8 in.	4.90	2.94
WB-10	10 in.	11 3/8 x12 1/2 x6 7/8 in.	5.80	3.46
WB-12	12 in.	13 1/2 x14 1/4 x9 in.	7.75	4.65

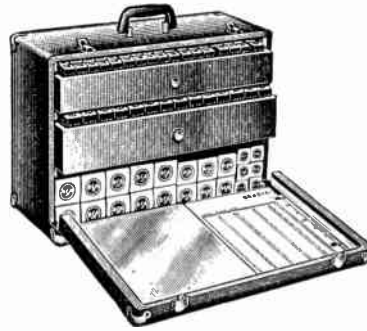
## BASS REFLEX CABINETS



Scientifically designed and engineered for high fidelity reproduction in studios, schools, homes and offices. Vibrationless construction of 1/2-in. plywood, plus reinforcing blocks to insure ruggedness. Beautiful scuff-proof brown mahogany leatherette with gold beading. One piece, no-sew woven plastic grille. Lined with heavy sound-absorbing padding.

ARGOS BR-12. 20 x 30 x 12 1/2 in. Ship. wt. 31 lbs. List \$44.50. Net .....\$26.70

ARGOS BR-15. 25 x 30 x 12 1/2 in. Ship. wt. 35 lbs. List \$49.50. Net .....\$29.70



THE ORIGINAL

Television tube caddy

\$13.50 NET

## COUNTS and CARRIES your TUBES

Specially designed for the television serviceman. Makes work easier and quicker—and YOU more efficient. Holds up to 249 receiving-type tubes—without a single inch of wasted space!

You take INVENTORY AT A GLANCE because each space is designed for a certain number of tubes, and missing cartons are easily spotted. You carry a complete assortment of tubes as easily as you could carry just a few. And since most calls involve some receiving tube replacements, this professional-looking case lets you render maximum service in the home quickly and efficiently.

Shop owners say the Tube Caddy PAYS FOR ITSELF in 3 WEEKS time. They check their men in and out faster—and they always arrive on the job with the tubes they need. They make more calls per day with lower cost per call. Customers recognize that their service is up-to-the-minute, with every aid available for better, faster, more efficient repair.

Brown leatherette-wood cabinet with brass finish hardware. Sturdily built for long service. Thin, easy-to-carry size—20" long, 13 1/2" high, by 9" deep. Carrying weight 12 lbs. 9 oz. Two trays at top have removable partitions to adjust space if desired to accommodate small TOOLS and METER. Cover has slip-out hinges with clips inside for holding price sheets and/or 9" x 12" mirror (not furnished) to use in adjusting TV picture.

ARGOS PRODUCTS TC-1B. Ship. wt. 16 lbs. Mailable .....\$13.50 Net



## TUBE CADDY "JUNIOR" \$8.95 Net

Made by the originators of the "Tube Caddy" and similar to it in all respects except size. Holds up to 143 receiving-type tubes.

An excellent companion-piece to the larger "Tube Caddy." "Offers the same famous work-saving features in roughly 2/3rds the size and weight. Same construction with

removable partitions in drawers, and same slip-out hinges on cover with clips inside for price list or mirror. Although drawers are considerably shorter in width, they are almost the same depth, so that TOOLS or METER may still be easily carried.

Brown leatherette-wood cabinet with brass finished hardware. Professional-like appearance lets you render maximum service in the home. Easy-to-carry size only 15 1/2" long, 13" high and 8" deep. Carrying weight only 8 lbs. 2 oz.

ARGOS PRODUCTS TC-2. Ship. wt. 11 lbs. Mailable .....\$8.95 Net

## SOUND CADDY



New, highly serviceable portable case. Accommodates two 12-in. speakers with ample space at bottom for most popular amplifiers up to 30 watts. Amplifier bolts to mounting board, slips out when case is opened. Brackets for hook up wire. Heavy plywood construction, with steel corner angles. Size 22" wide by 23" high by 13" deep.

ARGOS PRODUCTS SC-1 .....\$19.50 Net

## RECORD CHANGER CASE

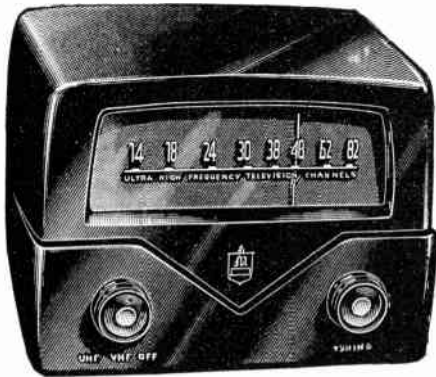


Designed for long dependable service. Heavier and more sturdily built than other carrying cases selling for the same price. Handsome brown leatherette-wood with brass-finish hardware. Clearance above mounting board 6 1/2 in. Takes any standard record changer. Size 16 1/2" square by 11 1/2" high. Inside dimensions 3/4" less. Ship. wt. 16 lbs. Mailable.

ARGOS PRODUCTS PC-1A .....\$12.95 Net

ALL ARGOS PRODUCTS equipment is sold only through Parts Jobbers. The name Argos stands for craftsmanship in cabinetry. Prices slightly higher West of Rockies.

**MALLORY TV-101 UHF CONVERTER\***



The Mallory TV-101 UHF Converter expands the receiving capability of any conventional VHF television set to include reception of all UHF stations located within the signal range.

Designed for continuous tuning, this UHF converter insures a compatible balance of inductance and capacitance over the entire, tuning spectrum from 470 to 890 megacycles with a single control.

The smooth and easy operation of the TV-101 Converter is the result of many years of Mallory research in the field of variable inductance tuning devices. This program has resulted in the successful combination of modern circuit techniques required for converting conventional UHF signals to intermediate channels. The TV-101 will result in added television entertainment, through wider program selection, from the conventional television receiver.

The TV-101 Converter is equipped with a built-in UHF antenna which permits installation without the need for special tools or technical skills.

To simplify the operation of this unit even further, a 3-position, "master control" switch is located on the panel to assure rapid selection of:

- (a) UHF station tuning.
- (b) Normal operation of the VHF set.
- (c) Switching VHF set and converter off and on.

Complete installation and operating instructions and warranty are included with each unit.

\*Pat. Pending

Catalog No. TV-101

List Price \$42.50

**D E T A I L E D   S P E C I F I C A T I O N S**

**Tuning Range:** The tuning range of the TV-101 extends from 470 to 890 megacycles in a continuous, unbroken sweep of the tuning dial. This permits accurate tuning of all UHF TV channels without the addition of strips, coils, or band switches. The Mallory Converter is constantly tuned for operation in all areas of television reception.

**Tube Complement:** 6AF4 Oscillator; 6BQ7 I.F. Amplifier; 6X4 Power Rectifier; and a 1N72 UHF Diode Detector.

**Circuitry:** Three tuned circuits are employed in the UHF range to provide antenna pre-selection as well as the oscillator-mixer tuning function. These circuits are controlled manually by means of a single shaft actuated from the front panel of the converter. A 6BQ7 dual triode, connected as a low noise cascode amplifier operating at a mean of 82 megacycles, is part of the TV-101. It provides additional amplification at the converter I.F. (either VHF channel 5 or 6). A combination change-over and AC on-off switch is provided to permit quick selection of either VHF or UHF stations from the front panel of the instrument.

**Antenna Input Impedance:** 300 ohms nominal. Either balanced or unbalanced line may be used.

**Output Impedance:** 300 ohms.

**Stability:** Oscillator drift and instability in the TV-101 are reduced to a negligible factor by the omission of all mechanically unstable parts, such as; air-tuned condensers, long leads, switches, and coil strips. Thermal sensitive parts are mounted away from heat producing components such as the I.F. and power supply tubes. The TV-101 stabilizes after approximately 1 minute when used with inter-carrier VHF TV sets, and after 3 to 5 minutes when employed with split-circuit sets.

**Dial Mechanism:** The dial is a slide-rule type, calibrated linearly in TV channels 14 through 82. Full coverage of the entire tuning range is accomplished with approximately 9.75 turns of the tuning knob. Dial lighting is indirect. Numerals indicating calibration are in gold on glass, and extend approximately 4 3/4" across the face of the instrument.

**Power Supply:** The TV-101 is designed for 117 volt, 60 cycle operation. The power supply consists of a transformer, a 6X4 rectifier, and a 3-section resistance-capacitance filter. Approximately 25 watts of power are required for operation.

**Cabinet:** Cabinet is attractive molded plastic in modern design. Measures 9" wide, 6 1/2" deep, and 6 3/4" high. Bottom of cabinet has felt pads to prevent marring of furniture.

**Weight:** Approximately 6 1/2 lbs.

**THE MALLORY UHF CONVERTER KIT**

The Mallory UHF Converter Kit, Catalog No. TVK-101, is ideal for the engineer, amateur, experimenter or advanced student who wishes to learn the fundamentals of UHF circuitry. The professional serviceman will find this kit entirely satisfactory for the construction of a deluxe converter for use in a custom installation or for conversion of a set presently capable of receiving VHF only.

Model TVK-101 Converter Kit is similar in circuit detail to the complete Mallory TV-101 UHF Converter described above. It is constructed with many of the same components used in the TV-101, including the special Mallory UHF Inductuner.\* When assembled according to instructions, operating results comparable to the factory-made TV-101 may be expected.

Construction by means of ordinary radio tools is quick, simple and trouble-free. All critical com-

ponents, such as difficult-to-obtain capacitors, are supplied.

The RF sub-chassis, consisting of a 3-gang, UHF Inductuner, a 6AF4 oscillator, a UHF crystal mixer and miscellaneous resistors and choke coils, is supplied completely assembled, wired, aligned and fastened to the main chassis. Input and output transformers are furnished, but not installed. Dial mechanism parts are provided as a part of the kit, and are partially assembled. A 3-section electrolytic filter capacitor and an antenna changeover switch are included.

The main chassis is supplied completely punched for I.F. and rectifier tubes, as well as for the I.F. and power transformers.

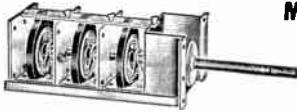
\* Reg. U.S. Pat. Off.

Catalog No. TVK-101

Mallory Page 1

# SPIRAL TUNERS • GRID BIAS CELLS

P. R. MALLORY & CO., INC. • INDIANAPOLIS



## Mallory Spiral Inductuner\*

The two, three and four gang Spiral Inductuners\* are variable inductance tuning devices designed to provide efficient front-end tuning in deluxe television and FM receivers and boosters. When used in conjunction with suitable tubes and a minimum of circuit wiring, these Inductuners assure accurate, noise-free and continuous tuning of the entire frequency spectrum from 52 through 216 megacycles. The Inductuner eliminates the need for hand switches, plug-in coils, turret coil assemblies or complicated circuit wiring when used for this purpose.

Tuning is accomplished in all models by means of a single 1/4" shaft to vary the inductance of each of the inductors simultaneously from the front of the equipment using the Inductuner. Automatic stops at the maximum and minimum inductance positions are provided to prevent damage to the inductors.

The individual coils have a maximum inductance of .985 uh and a minimum inductance of .025 uh. Total shaft turns are 5.925 ± .060-.000. Each Inductuner has a 2 1/2" shaft—1/4" diameter.

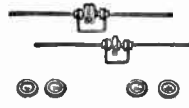
Model 8302 is ideal for use in a TV booster (see schematic diagram below). Models 8303 or 8304 are suitable for TV front-end service.

Model 8302 is ideal for use in a TV booster (see schematic diagram below). Models 8303 or 8304 are suitable for TV front-end service.

Catalog No.	No. of Gangs	Dimensions†	List Price
8302	2	3 9/16 x 2 x 2 1/2	\$12.00
8303	3	4 1/16 x 2 x 2 1/2	15.00
8304	4	5 7/8 x 2 x 2 1/2	18.00

† Excluding lugs and shaft.

\* Inductuner—Registered trade mark for Mallory variable inductance tuning devices. Manufactured and sold under one or more of the following Paul Ware and Mallory patents: 2,163644, 2,163645, 2,163646, 2,163647, 2,260877, 2,377789, 2,377790, 2,399060, 2,405890, 2,443020, 2,443822, Other patents applied for.



## Grid Bias Cells

Mallory Grid Bias Cells are small acorn-shaped, self-contained devices. The metal container or cup is the negative electrode. The black disc is the positive electrode.

The principal use of Mallory Grid Bias Cells is in the biasing of the first audio amplifier tube in modern high-gain receivers. The bias cell does not need to be by-passed to ground.

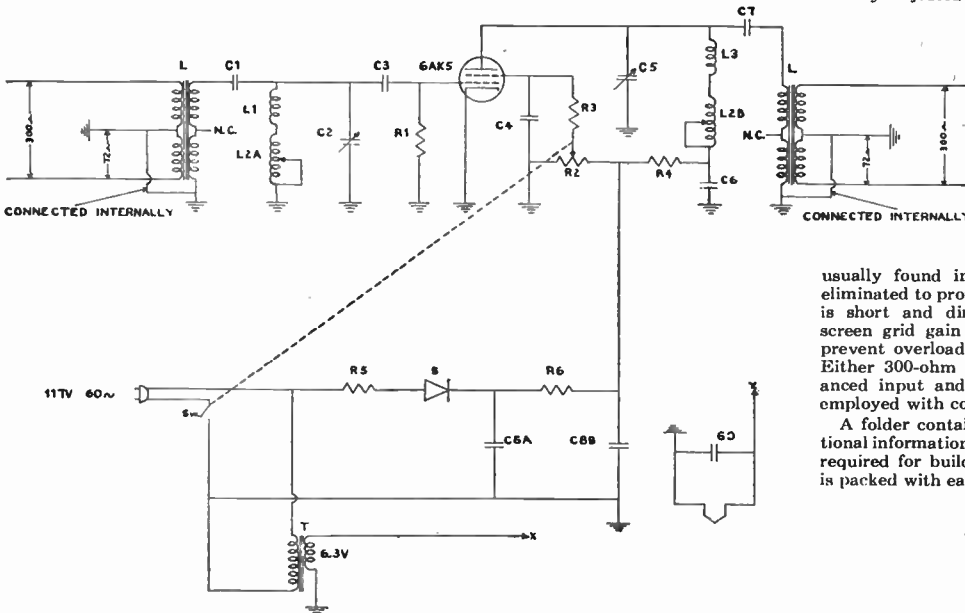
The no-current potential of the cells is within plus or minus 10% of their rated voltage. The cells are strictly potential or voltage cells for biasing class "A" amplifier tubes and should not be used for biasing power tubes or oscillators, or for any circuit where direct current may flow through, or be drawn from, the cells.

The cells may be used at temperatures from 0°F to 140°F. The voltage of the cells remains reasonably constant throughout this wide temperature range. Whenever possible, place the bias cells in the coolest location. The cells exhibit no change in characteristics when exposed to a relative humidity of 90% at 120°F.

Mallory Grid Bias Cells are non-reactive at audio frequencies. The DC resistance of the cell ranges between 10,000 and 40,000 ohms. The cells do not cause noise.

Cat. No.	Description	List Price
BC-3	1 1/2-volt Grid Bias Cell (packed 10 to box)	\$0.45
BC-4	1 1/2-volt Grid Bias Cell (packed 10 to box) With mounting stud	
BC-5	1 3/4-volt Grid Bias Cell (packed 10 to box)	.70
BC-6	1 3/4-volt Grid Bias Cell (packed 10 to box) With mounting stud	
BC-7	1 1/4-volt Grid Bias Cell (packed 10 to box)	.45
BC-8	1 1/4-volt Grid Bias Cell (packed 10 to box) With mounting stud	
GB15	Cell Clip, 1-cell capacity for BC-2 or 2-cell holding capacity for BC-3 or BC-5	.15
GB16	Cell Clip, 2-cell capacity for BC-2 or 4-cell holding capacity for BC-3 or BC-5	.15
GB17	Cell Clip, 1-cell capacity for BC-3	.15

## Two-Gang Spiral Inductuner Booster for TV, FM and General Purpose Tuning Continuous Range: 54 to 216 Mc.



At the left is a schematic diagram of a full-coverage, TV booster employing the Mallory No. 8302 2-gang Spiral Inductuner. This TV booster is entirely practical and suitable for home-shop construction by the average technician. The Inductuner supplies all the essentials required for tuning in one, compact, factory-adjusted unit, thus providing simplified construction. No tuning condensers, band switches or plug-in coils are needed. Possible errors usually attendant with hand-wound coils and unknown tolerances of tuning condensers are completely avoided.

The proven efficiency and high gain of a 6AK5 tube has been utilized to the fullest extent. The antenna changeover switch usually found in booster circuits has been eliminated to provide vital R.F. wiring, which is short and direct. An infinitely variable screen grid gain control has been added to prevent overloading by strong, local signals. Either 300-ohm balanced or 72-ohm unbalanced input and output feed lines may be employed with comparable results.

A folder containing detailed and constructional information, plus a listing of components required for building an Inductuner booster, is packed with each No. 8302 Inductuner.





# RCA ELECTRONIC COMPONENTS

## TELEVISION PARTS

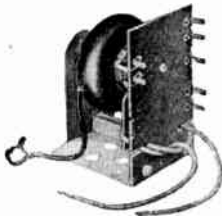
### TV POWER TRANSFORMERS



RCA Power Transformer Type 201T6

Type No.	Description
201T6	Power Transformer (30 tube) 385 volts 295 ma Sugg'd List: \$26.00
201T7	Power Transformer (24 tube) 385 volts 230 ma Sugg'd List: \$21.00
201T8	Power Transformer (21 tube) 360 volts 250 ma Sugg'd List: \$19.00
201T9	Power Transformer (27 tube) 390 volts 260 ma Sugg'd List: \$21.00
201T10	Power Transformer (27 tube) 390 volts 260 ma Sugg'd List: \$21.00

### HORIZONTAL OUTPUT & HIGH VOLTAGE TRANSFORMERS



RCA Horizontal Deflection Output and High Voltage Transformer Type 225T1

Type No.	Description
204T1	Hor. Defl. Output Transformer for 5TP4, 5820, 5WP15. Sugg'd List: \$20.00
204T3	Hor. Defl. Output Transformer for 7GP4 and 10BP4. Sugg'd List: \$12.00
211T1	Hor. Defl. Output & HV Transformer for 10BP4 (50°-57°) Sugg'd List: \$6.10
211T2	Hor. Defl. Output & HV Transformer for 5TP4 proj. Sugg'd List: \$19.00
211T3	Hor. Defl. Output & HV Transformer for 10BP4 (50°-57°) Sugg'd List: \$6.10
211T5	Hor. Defl. Output & HV Transformer for 16AP4 (18KV, Doubler) Sugg'd List: \$9.50
217T1	Hor. Defl. Output & HV Transformer for 10BP4 & 12LP4 (50°-57°) Sugg'd List: \$6.10
218T1	Hor. Defl. Output & HV Transformer for 16GP4 (70°) Sugg'd List: \$6.10
223T1	Hor. Defl. Output & HV Transformer for 16GP4 (70°) Sugg'd List: \$7.65
224T1	Hor. Defl. Output & HV Transformer for 14EP4 & 17CP4 (66°-70°) Sugg'd List: \$7.65
225T1	Hor. Defl. Output & HV Transformer for 17CP4 & 20CP4 (66°-70°) Sugg'd List: \$7.65
230T1	Hor. Defl. Output & HV Transformer for 21AP4 (66°-70°, 16-18KV) Sugg'd List: \$8.00

### DEFLECTING YOKES



RCA 211D1 "Anastigmatic" Deflecting Yoke

Type No.	Description
201D2	Deflecting Yoke for 5TP4 Sugg'd List: \$14.00
201D12	Deflecting Yoke for 10BP4 and 16AP4 (50°-57°) Sugg'd List: \$7.50
205D1	Deflecting Yoke for 10BP4 and 12LP4 (60°) Sugg'd List: \$7.50
206D1	Deflecting Yoke for 16GP4 (70°) Sugg'd List: \$9.00
207D1	Deflecting Yoke for 10BP4, 12LP4, and 16AP4 (60°) Sugg'd List: \$7.50
209D1	Deflecting Yoke for 16GP4 (Ferrite Core 70°) Sugg'd List: \$9.00
211D1	Deflecting Yoke "Anastigmatic" (66°-70°) Sugg'd List: \$9.00

### WIDTH & LINEARITY COILS



RCA Width Control Type 201R4

Type No.	Description
201R1	Width Control (54-245 mh) Sugg'd List: \$0.75
201R2	Width Control (85-240 mh) Sugg'd List: \$2.30
201R3	Hor. Linearity Control (5.5-20 mh) Sugg'd List: \$0.85
201R4	Width Control (0.17-0.61 mh) Sugg'd List: \$1.05
201R5	Hor. Linearity Control (0.55-2.30 mh) Sugg'd List: \$1.25
206R1	Width Control (0.47-1.7 mh) Sugg'd List: \$1.05
207R1	Hor. Linearity Control 1.3-4.3 mh) Sugg'd List: \$1.25
208R1	Width Control (.51-1.7 mh) Sugg'd List: \$1.05
209R1	Hor. Linearity Control (1.3-4.1 mh) Sugg'd List: \$1.25
211R1	Width Control (1.65-9.2 mh) Sugg'd List: \$1.30
212R1	Width Control (2.9-16 mh) Sugg'd List: \$1.33
213R1	Hor. Linearity Control (1.5-8.3 mh) Sugg'd List: \$1.25

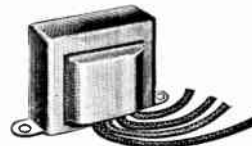
### HORIZONTAL OSCILLATOR & SYNC COILS



RCA Horizontal Oscillator and Sync Control Coil Type 203R1

Type No.	Description
203R1	Hor. Osc. and Sync. Control Coil Sugg'd List: \$1.90
205R1	Hor. Osc. and Sync. Stab. Coil Sugg'd List: \$2.40
208T8	Hor. Sync. Discr. Transformer Sugg'd List: \$2.45

### HORIZONTAL BLOCKING—OSCILLATOR TRANSFORMERS



RCA Horizontal Blocking-Oscillator Transformer Type 208T3

Type No.	Description
208T1	Hor. Blocking Osc. Transformer Sugg'd List: \$3.90
208T3	Hor. Blocking Osc. Transformer Sugg'd List: \$2.75

### VERTICAL BLOCKING—OSCILLATOR TRANSFORMERS



Vertical Blocking-Oscillator Transformer Type 208T2

Type No.	Description
208T2	Vert. Blocking Osc. Transformer Sugg'd List: \$2.75
208T9	Vert. Blocking Osc. Transformer Sugg'd List: \$2.50

# RCA ELECTRONIC COMPONENTS

## TELEVISION PARTS



### VERTICAL OUTPUT TRANSFORMERS



RCA Vertical Deflection Output Transformer Type 204T2

Type No.	Description
204T2	Vert. Output Transformer for 10BP4 and 16AP4 10:1 Sugg'd List: \$5.00
204T9	Vert. Output Transformer for 10BP4 and 16AP4 10:1 Sugg'd List: \$4.50
222T1	Vert. Output Transformer for 16GP4 (use with 206D1) 11.4:1 Sugg'd List: \$3.00
226T1	Vert. Output Transformer (use with 209D1, 211D1) 18:1 Sugg'd List: \$5.65

### VIDEO PEAKING COILS & TRAPS



Type No.	Description
*203L1	Video Series Peaking Coil (180 Microhenries) Sugg'd List: \$0.45
*203L2	Video Shunt Peaking Coil (250 Microhenries) Sugg'd List: \$0.45
*203L3	Video Series Peaking Coil (120 Microhenries) Sugg'd List: \$0.45
*203L4	Video Shunt Peaking Coil (93 Microhenries) Sugg'd List: \$0.45
203L5	Video Circuit Trap (4.5 MC) Sugg'd List: \$0.95

### ION TRAPS



RCA Ion-Trap Magnet Type 203D3

Type No.	Description
203D1	Ion-Trap Magnet (Double Pole, Field Coil Type) Sugg'd List: \$6.50
203D3	Ion-Trap Magnet (Double Pole, PM Type) Sugg'd List: \$2.10

### IF TRANSFORMERS



RCA Converter Transformer Type 202K5

Type No.	Description
*201K1	1st and 2nd Sound IF Transformer (21.25 MC) Sugg'd List: \$2.30
*202K1	Converter Transformer (21.8 MC) Sugg'd List: \$2.30
*202K2	1st Picture IF Transformer (25.3 MC) Sugg'd List: \$2.50
*202K3	2nd Picture IF Transformer (22.3 MC) Sugg'd List: \$1.90
*202K4	Cathode Circuit Trap (21.5 MC) Sugg'd List: \$2.30
202K5	Converter Transformer (24 MC) Sugg'd List: \$1.40
202K6	1st Picture IF Transformer (24.6 MC) Sugg'd List: \$2.25
202K7	2nd Picture IF Transformer (25.5 MC) Sugg'd List: \$1.75
202K8	3rd Picture IF Transformer (22.0 MC) Sugg'd List: \$1.90
202K9	4th Picture IF Transformer (24.6 MC) Sugg'd List: \$1.65
202K10	5th Picture IF Transformer (22.7 MC) Sugg'd List: \$2.05
202K11	Cathode Circuit Trap (21.25 MC) Sugg'd List: \$1.50
*202L1	3rd (25.2 MC) or 4th (23.4 MC) Picture IF Transformer Sugg'd List: \$0.70
*203K1	Sound Discriminator Transformer (21.25 MC) Sugg'd List: \$2.95
204X1	Picture and Sound IF & Video Coil Kit Sugg'd List: \$20.65
206K1	Sound IF Transformer (21.25 MC) Sugg'd List: \$2.05
207K1	Sound Discriminator Transformer (21.25 MC) Sugg'd List: \$2.15

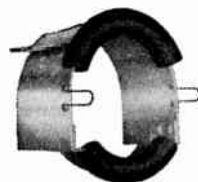
### FOCUSING COILS



RCA Focusing Coil Type 202D2

Type No.	Description
202D1	Focusing Coil for 10BP4 Sugg'd List: \$7.50
202D2	Focusing Coil for 16AP4, 16GP4, and 17CP4 (14KV) Sugg'd List: \$11.00

### MISCELLANEOUS



RCA Yoke Mounting Hood Type 201X1

Type No.	Description
201X1	Yoke Mounting Hood Sugg'd List: \$1.40
202P1	Projection Screen (20" x 15") Sugg'd List: \$40.00
204L1	Filament Choke (Standard Package 5) Sugg'd List: \$0.20 ea.

\*Included in Kit 204X1.

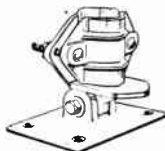
# PENN TELEVISION PRODUCTS

ARE ENGINEERED FOR BETTER, LONGER LASTING  
ANTENNA INSTALLATIONS



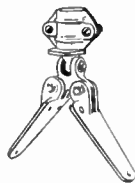
**BMA-138**

Sturdy Universal Base Mount, made of "PENNALLOY"—strong, weather-resistant. Patented bearing locks in any position with turn of Hex Head Bolt. Patented tongue supports masts from 1" to 2" O.D. Individually boxed 12 to master carton. Shipping Wt. 22 lbs. List Price \$4.25 ea. Set of 1 1/2" wood screws \$.25 additional



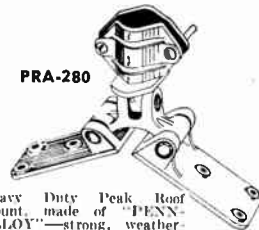
**BMA-136**

Universal Base Mount, made of "PENNALLOY"—strong, weather-resistant. Patented bearing locks in any position with turn of Hex Head Bolt. Patented tongue supports masts from 1" to 1 1/2" O.D. Individually boxed 24 to master carton. Shipping Weight 22 lbs. List Price \$3.55 ea. Set of 1 1/2" wood screws \$.17 additional



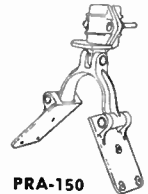
**PRA-148**

Universal Peak Roof Mount, made of "PENNALLOY"—strong, weather-resistant. Patented bearings lock at any angle pitch with turn of Hex Head Bolts. Patented tongue supports masts from 1" to 2" O.D. Individually boxed 12 to master carton. Shipping Weight 21 lbs. List Price \$5.25 ea. Set of 1 1/2" wood screws \$.25 additional



**PRA-280**

Heavy Duty Peak Roof Mount, made of "PENNALLOY"—strong, weather-resistant. Patented bearings lock at any angle to pitch of peak or flat roof, with turn of Hex Head Bolts. Patented tongue supports masts from 1" to 2" O.D. Ideal for telephoto masts. Individually boxed 12 to master carton. Shipping Wt. 28 lbs. List Price \$6.95 ea. Set of 1 1/2" wood screws \$.25 additional



**PRA-150**

Universal Peak Roof Mount, arches over crown tile. Made of "PENNALLOY"—strong, weather-resistant. Patented bearings lock at any angle and pitch of roof with turn of Hex Head bolts. Patented tongue supports masts from 1" to 2" O.D. Individually boxed 12 to master carton. Shipping Weight 23 lbs. List Price \$6.95 ea. Set of 1 1/2" wood screws \$.25 additional



**BMA-192**

Economy cast aluminum Base Mount. Takes up to 1 1/4" O.D. Masts. Packed in bulk—24 to master carton. Shipping Wt. 20 1/2 lbs. List Price \$1.90 ea.

**BMA-192-B**

Economy cast aluminum Base Mount. Has patented bearing. Takes up to 1 1/4" O.D. masts. Packed in bulk—24 to master carton. Shipping Wt. 19 1/2 lbs. List Price \$2.70 ea.



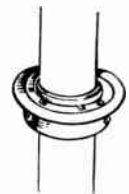
**GRA-140**

Patented Floating Guy Wire Ring and Collar, made of "PENNALLOY"—strong, weather-resistant. Permits orientation of masts while permanently guyed. Lubricated. Fits masts up to 1 3/4" O.D. Individually boxed—24 to master carton. Shipping Weight 8 1/2 lbs. List Price \$3.80 ea.



**GRA-141**

Same as GRA-140, except that GRA-141 takes up to 1 3/4" O.D. mast. Individually boxed—24 to master carton. Shipping Weight 11 lbs. List Price \$1.90 ea.



**GRA-142**

Same as GRA-140, except that GRA-142 takes up to 2" O.D. masts. Individually boxed—24 to master carton. Shipping Weight 15 lbs. List Price \$2.50 ea.



**CMA-500**

Pair of Chimney Mounts, made of "PENNALLOY"—strong, weather-resistant. Two 12 ft. lengths of galvanized strapping. 6 corner brackets. Eyebolts permanently sealed at one end of strapping. Seals for opposite end of straps easily fastened. Mounts hold masts up to 2" O.D. Complete with heavy plated hardware. Individually boxed—12 to master carton. Shipping Weight 49 lbs. List Price \$6.95 pair

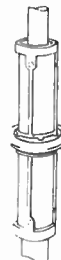
**CMA-500 S.S.**

Same as CMA-500, except CMA-500S.S. has stainless steel strapping and seals. Individually boxed 12 to master carton. Shipping Wt. 49 lbs. List Price \$8.95 pr.



**MCA-743**

Universal Mast Coupler, made of "PENNALLOY"—strong, weather-resistant. Couples mast sections up to 1 3/4" O.D. Set screws fasten coupler securely. Patented floating guy wire ring permits orientation while mast is permanently guyed. Individually boxed 12 to master carton. Shipping Wt. 11 1/2 lbs. List Price \$3.50 ea.



**MCA-744**

Same as MCA-743, except MCA-744 is larger to accommodate up to 1 3/4" O.D. masts. Ind. boxed 12 to master carton. Shipping Weight 16 lbs. List Price \$4.25 ea.



**"PENNVUE" MODEL WT-39**

An FM-TV Interference Eliminator for FM band interference. Adjusts to give clear vision, uncluttered sound. Easily installed. Packed 12 on display card. 1 card to carton. Shipping Weight 3 lbs. List Price \$1.98 ea.



**TS-551 "HILOSWITCH"**

2 Channel TV-FM Antenna Transfer Switch. Permits easy changing from high frequency bands to low frequency bands. No soldering, positive contacts, minimum leakage. Individually boxed 12 to master carton. Shipping Weight 4 lbs. List Price \$2.75 ea.



**TS-587 "HILOSWITCH"**

3 Channel TV-FM Antenna Transfer Switch. Permits easy changing from high frequency bands to intermediate frequency bands to low frequency bands. Easy to install. No soldering, positive contacts, minimum leakage. Individually boxed 12 to master carton. Shipping Weight 4 lbs. List Price \$3.75



**TC-313 TWINTENA**

Two set Antenna Coupler permits 2 TV sets with 300 ohm input to be connected to one antenna. Allows simultaneous reception on both sets with no interference from either, on or off. Easy to install, no soldering, positive contacts, minimum leakage. Individually boxed 12 to master carton. Shipping Weight 4 lbs. List Price \$3.95

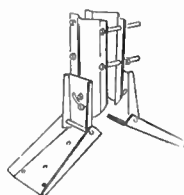


**TC-374 TWINTENA**

Deluxe two set Antenna Coupler—permits 2 TV sets with 300 ohm input to be connected to one antenna. Allows simultaneous reception on both sets with no interference from either, on or off. Easy to install, no soldering, positive contacts. Minimum leakage. Has ground connection. Individually boxed 12 to master carton. Shipping Weight 4 lbs. List Price \$4.95 ea.

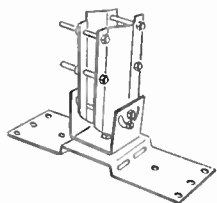


# PHILADELPHIA 34, PENNA.



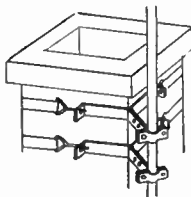
**PRS-111**

Heavy gauge steel Peak Roof Mount. Heavy zinc plated. Accommodates up to 2" masts. Easily rotated. Makes "walking up" easy. Packed in bulk 24 to master carton. Shipping Weight 60 lbs. List Price \$2.50 ea.



**BMS-115**

Heavy gauge steel Base Mount, heavily zinc plated. Accommodates up to 2" mast. Permits easy "walking up." Packed in bulk 24 to master carton. Shipping Weight 60 lbs. List Price \$2.75 ea.

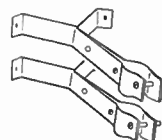


**CMS-333**

"Y" Type Chimney Mount made of 3/8" steel, 1 1/2" wide. Hot dipped galvanized. Two 12 ft. lengths heavy galvanized steel strapping with complete hardware. Individually boxed 12 to master carton. Shipping Weight 45 lbs. List Price \$3.00 ea.

**CMS-333 S.S.**

Same as CMS-333, except CMS-333 S.S. has stainless steel strapping and seals. Individually boxed 12 to master carton. Shipping Wt. 45 lbs. List Price \$4.50 ea.



**CMS-333 SNAP-IN**

Chimney Mount made of 3/8" hot dipped galvanized steel, 1 1/2" wide. Mast snaps easily into bracket. Complete with hardware and two 12 ft. lengths of heavy galvanized steel strapping. Ind. boxed 12 to master carton. Shipping Weight 45 lbs. List Price \$3.00 ea.



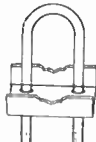
**CMA-684 S.S.**

"Y" Type Chimney Mount made of 1/2" tough bar stock aluminum, 1 1/4" wide, 2 1/2 ft. lengths stainless steel strapping and seals. Individually boxed 12 to master carton. Shipping Weight 32 lbs. List Price \$4.50 ea.



**GW-135**

Heavy gauge steel Guy Wire Ring with plated rolled edge. Fits 1 1/2" mast. Packed in bulk, 100 to master carton. Shipping Weight 13 3/4 lbs. List Price \$.42 ea.



**UC-22**

"U" bolt with clamp, heavy plated gauge steel. Packed in bulk — 100 to master carton. Shipping Wt. 19 lbs. List Price \$.33 ea.



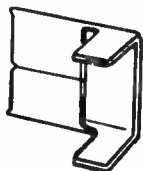
**MK-29**

"PENNALLOY" tube cap fits 1 1/2" tubing; prevents wind howls, rain and snow accumulation in mast tubing. Packed in bulk—100 to carton. Shipping Weight 7 lbs. List Price \$.20 ea.



**GT-30**

Guy Wire Thimble made of aluminum with plated U bolt and hex nuts. Swift, vise-like tightening and joining of guy wires insures permanent grip. Packed in bulk — 100 to carton. Shipping Weight 7 lbs. List Price \$.25 ea.



**GS-24**

EZ Seals. Galvanized. Fits 3/4" strapping. Easy to use. Packed in bulk — 100 to carton. Shipping Weight 2 lbs. List Price \$.06 ea.

**SS-25**

EZ seals. Stainless steel. Fits 3/4" strapping. Easy to use. Packed in bulk — 100 to carton. Shipping Wt. 2 lbs. List Price \$.18 ea.

**CSG-27**

3/4" Heavy galvanized strapping. Strong, durable. 100 ft. rolls, 6 per carton. Shipping Weight 35 lbs. List \$4.60 per roll

**CSS-28**

3/4" Heavy stainless steel strapping. Weather resistant. 100 ft. rolls, 6 per carton. Shipping Weight 35 lbs. List \$11.80 per roll



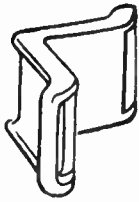
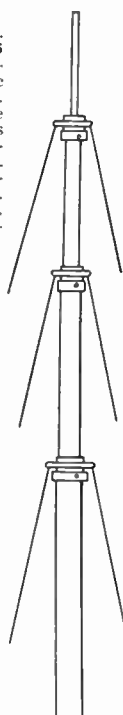
**"PENNEL"**

Telescopic Mast, in 10 ft. sections. Each section 16 gauge steel, welded, seamless tubing. Heavy zinc plate prevents corrosion. Has patented guy wire rings and collars. Erects straight up, section by section — easy one-man job. Swaged ends of each section make rigid joints. Withstands high winds. Shipped collapsed, complete with hardware.

**TM-432 30 Ft.**  
List Price \$22.00  
1-10 ft. sec. 1 3/4"  
1-10 ft. sec. 1 1/2"  
1-10 ft. sec. 1 1/4"  
Shipping Weight 25 lbs.

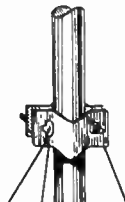
**TM-543 30 Ft.**  
List Price \$29.00  
1-10 ft. sec. 2"  
1-10 ft. sec. 1 3/4"  
1-10 ft. sec. 1 1/2"  
Shipping Weight 32 lbs.

**TM-5432 40 Ft.**  
List Price \$34.95  
1-10 ft. sec. 2"  
1-10 ft. sec. 1 3/4"  
1-10 ft. sec. 1 1/2"  
1-10 ft. sec. 1 1/4"  
Shipping Weight 37 lbs.



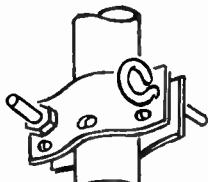
**AC-26**

Heavy Corner Protector made of "PENN-ALLOY" — holds strapping in proper place, protects and prevents breaking chimney corners. Packed in bulk 100 to master carton. Shipping Weight 11 1/2 lbs. List Price \$.17 ea.



**GW-134-A**

Guy Wire Clamp, 3/8" tough bar stock, 1 1/4" wide. Accommodates antenna masts up to 1 5/8" O.D. Packed in bulk 100 to master carton. Shipping Weight 13 1/2 lbs. List \$.40 ea.

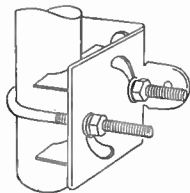


**GW-134**

Same as GW-134-A, except GW-134 is heavy plated steel. Packed in bulk, 100 to master carton. Shipping Weight 22 lbs. List \$.35 ea.

**GW-137**

Guy Wire Clamp, 1/2" heavy plated steel, 1 1/4" wide. Zinc plated eye bolt. Packed in bulk, 100 to master carton. Shipping Weight 24 lbs. List Price \$.45 ea.



**BM-133**

Adjustable Base Mount. Rotates easily to fit flat, slope roofs and side walls. Made of heavy plated gauge steel. Packed in bulk, 25 to master carton. Shipping Weight 14 1/2 lbs. List Price \$.45 ea.



No. 72-72 4-SET COUPLER designed to provide 4-72 ohm coaxial outputs from one 72 ohm coaxial antenna input.



No. 300-72 4-SET COUPLER designed to provide 4-72 ohm coaxial outputs from one 300 ohm antenna input.

**BRACH MUL-TEL MASTER TV-FM ANTENNA SYSTEM**  
The Mul-Tel System is designed to operate 2 to 16 Television Sets from one common TV Antenna . . . The system discriminates against I.F. interference as it will pass only those frequencies in the TV band from 50-230 megacycles . . . The range of application for the Brach Mul-Tel System is virtually limitless . . . It is ideal for garden type apartment houses or other multiple dwellings, and for extra television outlets in the home . . . It is eminently suitable for multi-room restaurants, taverns and clubs which operate several TV sets on the premises . . . In suburban areas, it supplies the simplest and most satisfactory method of TV distribution for smaller dwellings and two-family houses.

Brach Mul-Tel provides the dealer with the outstanding advantage of being able to demonstrate up to sixteen TV sets simultaneously from one roof antenna, with uniform signal to each receiver.

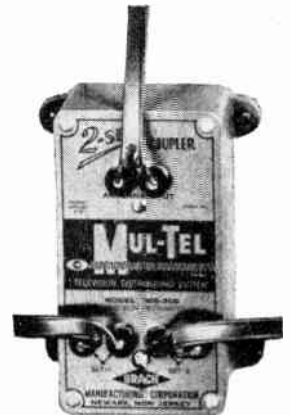
- No. 72-72 4-Set Coupler—List Price..... \$19.75
- No. 300-72 4-Set Coupler—List Price..... 19.75



No. 72-300A 72 to 300 OHM MATCHING TRANSFORMER for use with Part No. 72-72 and 300-72.

**TRANSFORMER (No. 72-300A)** is designed to be a perfect termination at Channels 2-13. It also has a high pass filter action and may be used in interference areas to reduce diathermy and other I.F. interference. A coaxial fitting is provided with transformer #72-300A to make a low loss connection to RG59/U. It has negligible loss over the complete TV band and a voltage gain of 2:1. Recommended for all coaxial line installations with individual antennas in noisy and heavy interference areas and as a TV Set Matching Transformer in conjunction with the Brach Mul-Tel System.

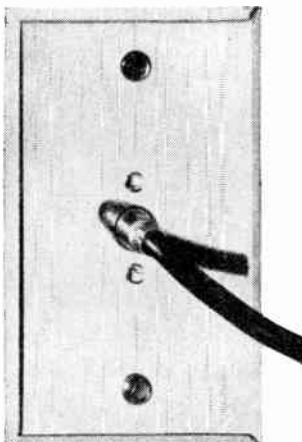
- List Price ..... \$3.45



No. 300-300 2-SET COUPLER used to operate 2 sets from one antenna.

**2-SET COUPLER INPUT (No. 300-300)** receives its signals from one antenna which may use 75 or 300 Ohm Down-lead. The signals are filtered of I.F. interference and divided into two outputs which may, by proper connection, be circuited to either 75 or 300 Ohm TV receivers. More than 20 d.b. of isolation to local oscillator radiation is realized between receivers with the 2-Set Coupler. The 2-Set Coupler has complete isolation in regard to loading effects. A defective connection to either receiver will not affect the operation of the other receiver connected to the 2-Set Coupler. This unit functions on the "Berger Effect" principle as do all other Mul-Tel Units.

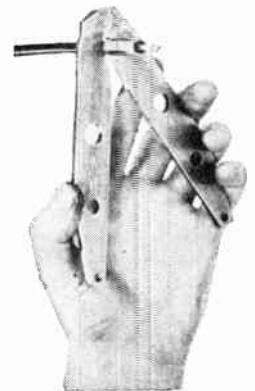
- List Price ..... \$14.95



433

**WALL PLATE (No. 433)** for permanent installations with concealed or surface wiring. Provides a professional finish to installations when used with single gang surface wire mold box or flush wall box. List Price ..... \$1.00

**CRIMPING TOOL (No. 424)** used to crimp the Jiffy high Q #431 plugs to the coaxial cable. List Price ..... \$0.75



424

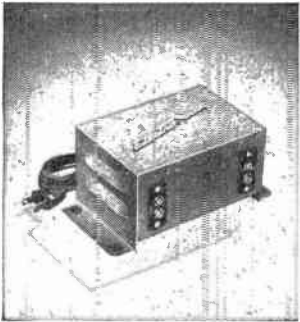
Also A Complete Line of Antennas and Accessories

NO FINER CHOICE THAN

AUTOMATIC SELF-TUNING

# Electro-Voice TV BOOSTERS

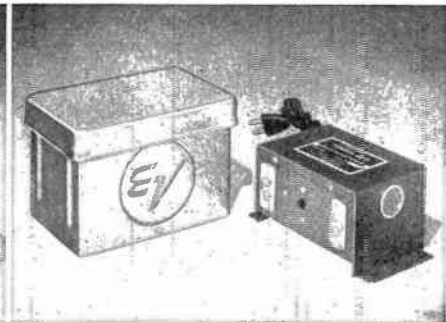
AND DISTRIBUTION SYSTEMS



MODEL 3002 TUNE-O-MATIC



MODEL 3000 SUPER TUNE-O-MATIC



MODEL 3012 TENNA-TOP

## TUNE-O-MATIC SELF-TUNING TV BOOSTERS

All-Channel • Broadband • Low Noise • High Gain • All Electronic

TV pleasure is automatic when you plug in the TUNE-O-MATIC. Turns "on" or "off" with your TV receiver switch. Needs no separate manual tuning. The TUNE-O-MATIC is fully electronic—boosts signals instantly, automatically on any channel. New Hi-Lo gain switch for proper gain in all areas. Exclusive E-V broadband circuit provides uniform gain across entire band width. No signal drift—no limiting peaks. Extremely low internal noise factor minimizes "snow". Pictures are sharper, brighter... sound is clearer, cleaner. Easily concealed in or behind TV set or elsewhere. Plugs in between receiver and AC electric outlet. Improves reception even in difficult fringe areas. Permits satisfactory use of indoor antennas in primary areas. Highly-stable, trouble-free, proved-in-use.

**Model 3002 TUNE-O-MATIC.** Uses two new type 6BK7 tubes in two-stage broadband circuit—one for high bands, one for low. Input and output, 150-300 ohm. For 105-125 volts, 50-60 cycles AC. Sturdy metal case, in copper-tone baked lacquer finish. Rubber grommet feet.  $6\frac{3}{4}'' \times 4\frac{1}{2}'' \times 4\frac{1}{2}''$ . Complete with tubes and plug-in cord. Shpg. wt. 4 lbs. List Price.....\$39.50

**Model 3000 SUPER TUNE-O-MATIC.** Uses 4 tubes for two separate high and low band 2-stage amplifiers. Input and output for 150-300 ohm twin lead. Maroon and gray hammetone metal case, with rubber feet.  $7\frac{3}{4}'' \times 5\frac{1}{2}'' \times 4\frac{1}{2}''$ . Complete with four 6J6 RF tubes, selenium rectifier, and plug-in cord. For 105-125 volt 50-60 cycles AC. Shpg. wt. 5 lbs. List Price.....\$57.50

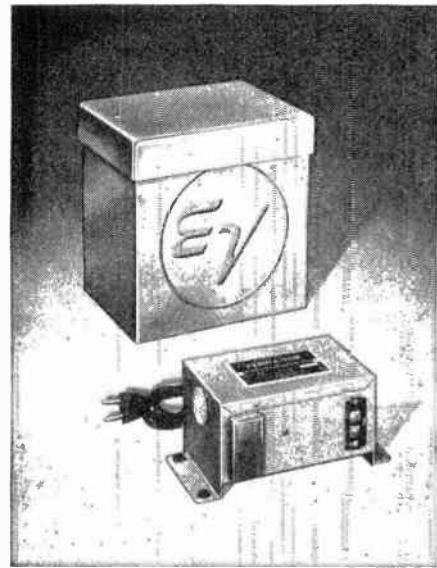
## TENNA-TOP ANTENNA-MOUNTED TV BOOSTERS

Low-Noise • All-Channel • Self-Tuning • Permit Long Lead-ins

Mounts at antenna ahead of lead-in. Amplifies only the wanted TV signals, not any local external noise interference picked up by the lead-in. Extremely low internal noise insures higher signal-to-overall-noise ratio. Turns "on" or "off" with TV receiver switch. Automatic self-tuning on all channels eliminates separate booster tuning. New built-in tapped transformer makes it possible to use as much as 3000 feet of best-quality lead-ins. Exclusive broadband circuit amplifies signal uniformly across entire band width. No signal drift—no limiting peaks. Hi-Lo gain switch for proper gain in all areas. Impedances closely matched at all frequencies. Single twin-lead line carries the power up and brings the signal down. Junction control box easily concealed in or behind TV set or anywhere. Easy to install. Highly stable. Trouble-free. Can be used with antenna rotator. Assures best results in any location.

**Model 3012 TENNA-TOP.** Uses two 6BK7 dual triode tubes in two-stage broadband circuit—one for high bands, one for low. 150-300 ohm input and output. Booster unit  $7\frac{1}{2}'' \times 4\frac{3}{4}'' \times 5''$ , in sturdy, moisture-proofed housing. Junction control box  $6\frac{3}{4}'' \times 3\frac{1}{2}'' \times 4\frac{1}{2}''$  in gray hammetone finish. For 105-125 volts, 50-60 cycles AC. Complete with tubes, mounting brackets, and plug-in cord. Shpg. wt. 7 lbs. List Price.....\$59.50

**Model 3010 SUPER TENNA-TOP.** Uses four tubes for two separate high and low band 2-stage amplifiers. Input and output 150-300 ohms. Booster unit  $7\frac{1}{2}'' \times 7\frac{1}{2}'' \times 6''$  in rugged, moisture-proofed housing. Junction control box  $6\frac{3}{4}'' \times 3\frac{1}{2}'' \times 4\frac{1}{2}''$  finished in gray hammetone. For 105-125 volts, 50-60 cycles AC. Complete with four 6J6 tubes, mounting brackets, and plug-in cord. Shpg. wt. 12 lbs. List Price.....\$88.00



MODEL 3010 SUPER TENNA-TOP

## TELEVIDER-4 DISTRIBUTION SYSTEM FOR MULTIPLE TV INSTALLATIONS

Insures Complete Isolation of Each TV Receiver in a Master Antenna System For Stores, Apartment Buildings, Hotels, and Homes

### Utilizes Efficiency of Coaxial Cable

Superior shielding of coaxial cable retains high degree of isolation built into TeleVider-4.

### Complete Isolation Between Receivers

Prevents interference from local oscillation of poorly-shielded TV sets in the system. Isolation as much as 200 to 1 is built-in.

### Easy Expansion of TeleVider System

One unit can be used for 2, 3 or 4 receivers. More units easily added for larger installations. No individual engineering required.

### All Channel Operation on Each Line

Each TV set in the system can be operated individually at the same time on any channel.

### Uses Cinch-Jones Sockets

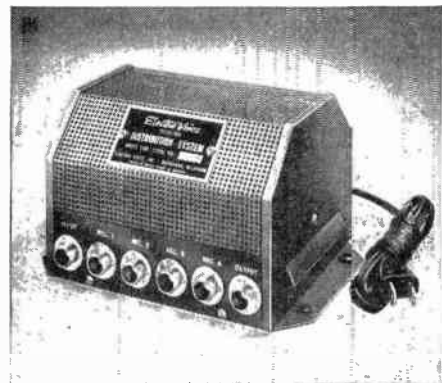
Assures low insertion loss and greater strain relief.

Here is your answer to inter-antenna interference and unsightly rooftops in multiple TV installations. Every feature of the E-V TeleVider-4 is designed for most effective isolation, flexible installation, minimum servicing, and dependable performance. Matches antenna impedance to each receiver input. Provides a coordinated system that works every time, in fringe or primary areas, at moderate cost. E-V all-channel boosters can be inserted as line amplifiers where needed.

Uses four 6AK5 tubes. Power consumption 25 watts. Power source, 105-125 volts, 60 cycle AC. Input 72 ohms, output 72 ohms. Can be easily connected directly to 300 ohm TV receivers. "On-off" switch. Six Cinch-Jones coaxial sockets (four for receiver outlets and one each for signal input and output). Housed in ventilated gray hammetone metal case, with rubber grommet feet. May be mounted horizontally or vertically. Size:  $7\frac{3}{4}'' \times 5\frac{1}{2}'' \times 4\frac{1}{2}''$ . Complete with tubes, plug-in cord, and terminating resistor. Shpg. wt. 5½ lbs.

**Model 3100 TeleVider-4.**

List Price.....\$69.50



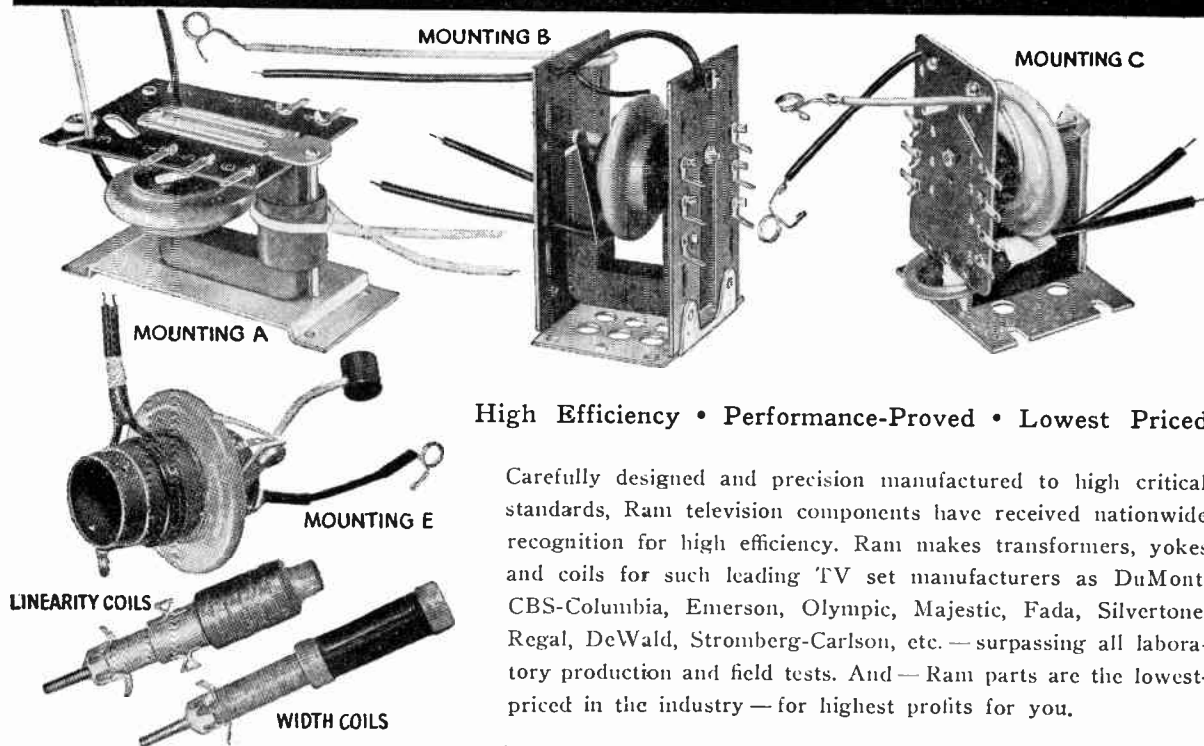
MODEL 3100 TELEVIDER-4

EASILY CONNECTED DIRECTLY TO 300 OHM TV RECEIVERS



# Ram ELECTRONICS SALES CO.

TEST-PATTERN TESTED Components for Television



High Efficiency • Performance-Proved • Lowest Priced

Carefully designed and precision manufactured to high critical standards, Ram television components have received nationwide recognition for high efficiency. Ram makes transformers, yokes and coils for such leading TV set manufacturers as DuMont, CBS-Columbia, Emerson, Olympic, Majestic, Fada, Silvertone, Regal, DeWald, Stromberg-Carlson, etc. — surpassing all laboratory production and field tests. And — Ram parts are the lowest-priced in the industry — for highest profits for you.

## RAM TRANSFORMERS

Model	Mounting	KV Output	Description	List
X032	A	13.0	For RCA 630 circuits	\$10.00
X036	A	14.5	For RCA 630 circuits	10.00
X045	B	14.0	For all G.E. Circuits	10.00
X049	C	13.5-15.0	For Admiral, Fada, Crosley sets. Separate width coil or AGC wind	10.00
X050	A	14.0	For Brunswick, Philharmonic sets. Transformer with separate AGC wind	10.50
X051	B	14.0	For Majestic, Garod, Wilcox-Gay sets. Similar to X045, operates on lower B voltage	10.50
X053	A	15.-16.	For Regal sets. High Efficiency flyback for larger size tubes	10.00
X054	A	12.-14.	For CBS and auto transformer sets. Continuous winding with feedback wind	10.00
X066	A	14.-16.	For modified 630 circuits using late horizontal output tubes; low retrace time	10.00
X068	E	11.-13.	For RCA, Emerson, Capehart sets using Air-Core type	6.50
X069	B	16.-17.5	For Stromberg-Carlson sets. High efficiency auto-transformer; low retrace time	11.50

## RAM MATCHED COMPONENT KITS for Larger Tube Conversions

Unit No.	Largest C.R. Tube	Description	Trans.	Yoke	Lin. Con.	Width Con.	Defl. Tubes	List
32K21	21"	RCA 630 Type Circuits	X032	Y70F08	201R3	201R1	6BG6, 6BQ6	\$22.00
45K19	19"	G.E. type circuits	X045	Y70F10	201R10	201R10	6BG6, 6BQ6	22.00
45K24	24"	G.E. type circuits	X045	Y70F08	201R10	201R10	6BG6, 6BQ6	22.00
66K24	24"	RCA 630 Type circuits	X066	Y70F08	201R3	201R1	6BG6, 6BQ6, 6AU5	22.00

NOTE: All Kits supplied with complete conversion data.

## RAM LINEARITY & WIDTH COILS

Type	Description	Millihenries	DC Resistance	List
201R1	Width Coil	.050-.250	0.53	\$.75
201R3	Linearity Coil	5-20	32.0	.75
201R4	Width Coil	.170-.610	1.0	.90
201R5	Tapped Linearity Coil	.505-2.3	8.3	1.00
201R10	Width Coil	3.5-29.5	30.0	1.00
201R10	Linearity Coil	3.5-29.5	30.0	1.00
201R11	Width Coil with keyed AGC winding	Primary .160-.700 Secondary 3.2-9	1.0 28.0	1.60

## FULL FOCUS DEFLECTION YOKES with leads & network\*

Type	Inductance		List
	Horizontal	Vertical	
Y70I08	8.3 mh	50 mh	\$ 9.00
Y70F08	8.3	50	10.00
Y70F10	10.3	50	10.00
Y70F14	14.0	50	10.00
Y70F17	17.0	50	10.00
Y70F20	20.0	50	10.00
Y70F30	30.00	50	10.00
Y70F30/3	30.0	3.3	10.50

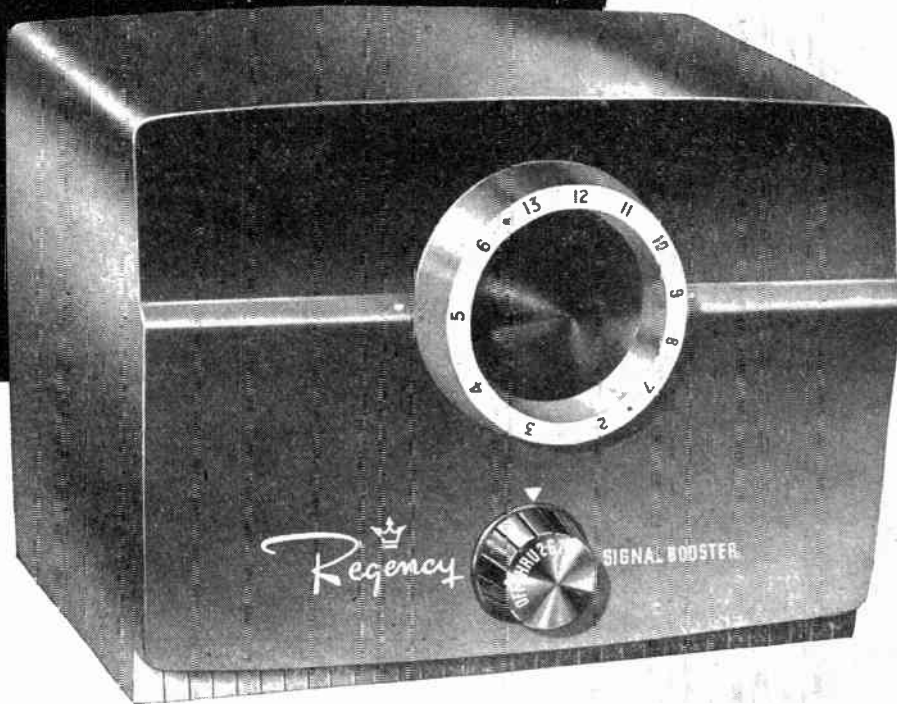
\* All Yokes have Ferrite Cores, except Model Y70I08. This is an iron wire type.

# Regency

with the new exclusive circuit stabilizer\*

**LARGEST  
SELLING  
BOOSTER**

at any price!



- Regency alone offers all these features in a TV signal booster!

THE DB-520, **\$32.50** LIST

- Easy installation. TV set plugs into the booster—booster plugs into wall outlet!
- Off-on switch controls TV set—capacity 3 amps, 120V AC!
- Single tuning knob—large, easy to grip!
- Push-pull triode in balanced circuit!
- Link coupling for optimum impedance matching!
- Exclusive Circuit Stabilizer\* provides inductive as well as capacitive neutralization assuring maximum stability on all 12 VHF channels!
- Improved circuit control gives even greater tracking accuracy!
- Underwriters' Approved!
- Compact—cabinet only 4 $\frac{1}{2}$ " x 6" x 4 $\frac{1}{2}$ "!
- Broad-band response insures equal enjoyment of both video and audio on all VHF channels.

\* Pat. applied for

# Regency

Regency Division, I.D.E.A., Inc.  
7900 Pendleton Pike  
Indianapolis 26, Ind.  
Cherry 2466



# New OAK BOOSTER for TV-FM \$39.95

OAK ELECTRONICS CO. really hits the mark with the OAK TV-FM Booster

Model 100

## INCLUDES THESE KEY FEATURES:

Lowest Noise Factor of Any Booster. Without even mentioning comparisons with other boosters, we can confidently state and are prepared to prove that the Oak TV booster has a higher ratio of signal gain and power output to internal noise generated, than the front end tuner of any TV set made today, regardless of whether such front end tuner has pentode, cascode, or driven grounded grid input.

Richly Styled Mahogany Plastic Cabinet.

Installation Time Measured in Seconds.

Continuous Tuning on all FM and TV Channels.

Minimizes or Completely Eliminates Ghosts.

When carefully tuned, the Oak booster acts like a continuously variable tuning stub, providing exactly the correct impedance mis-match to the antenna to induce line reflections in the lead-in equal and opposite in phase to cancel out ghosts that might be picked up.

High Gain and Uniform Response on all Channels.

Completely Shielded.

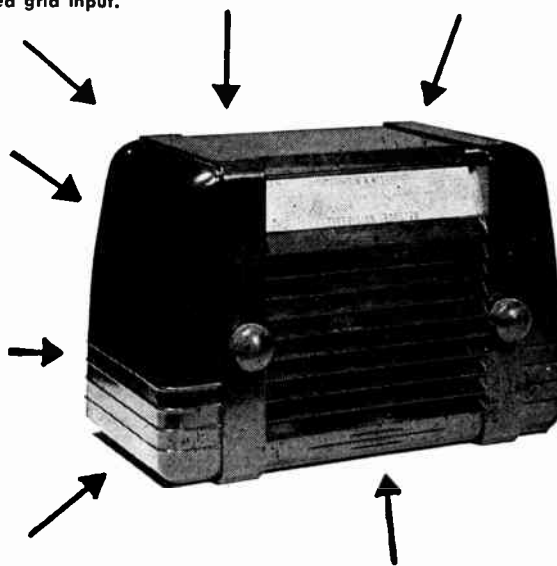
Underwriters' Approved.

External Impedance Matching Devices Unnecessary.

Gain is Controllable from the Front Panel.

And—Last—But Not Least—Only ONE OAK TV booster will simultaneously supply as many as FIFTY TV receivers with adequate signal for perfect reception!!!! AND ALL FROM THE SAME ANTENNA!!!!

America's only 3 stage Booster, With Triode Tubes Used Throughout.



For better performance on U. H. F. Channels

## OAK U. H. F. CONVERTER

Exclusive Features

- Installed in seconds
- Use with any T.V. set
- Built-in U.H.F. Antenna
- No sacrifice of V.H.F. channels
- High quality Picture definition
- ONE OAK U.H.F. Converter will supply up to 50 V.H.F. sets with strong signal simultaneously



## OAK SELENIUM RECTIFIERS

For all rectification problems and applications. Manufactured by the revolutionary vacuum process for unsurpassed performance. Oak selenium rectifiers are uniform and conservative in rating.

## OAK PHOTOELECTRIC CELLS

Oak photoelectric cells are the self generating type that convert light into electricity directly. Consult the Oak Engineering Dept. for your rectifier and photocell recommendations.

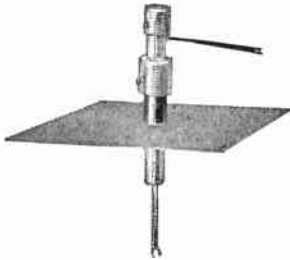
**OAK ELECTRONICS CO.**  
**144-164 Oak St., Buffalo 3, N. Y.**

**MOSLEY***Electronics*

2125 LACKLAND OVERLAND, MISSOURI

**LOW LOSS TV ANTENNA  
TRANSMISSION LINE ACCESSORIES****ROOF-THRU**

Consisting of a low-loss sturdy plastic feed-through bushing and an 8" x 9" copper flashing, the MOSLEY ROOF-THRU permits direct entrance of TV transmission line and rotator control cable through the roof without allowing weather leaks.

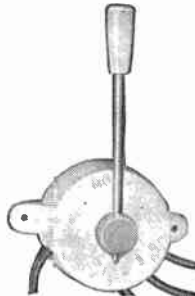


- Permits shorter TV lead-in. This means less loss of signal energy and less pick-up of electrical interference.
- Prolongs life of transmission line by keeping it out of weather.
- Eliminates unsightly rambling lead-in wires.
- No danger of future roof leaks around ROOF-THRU.
- Easy to install in any type roof.
- Long lasting. Weather can't hurt ROOF-THRU.

Cat. No. 624 MOSLEY ROOF-THRU .....List Price \$5.84  
 Cat. No. 614 Flashing only .....\$2.84  
 Cat. No. 604 Bushing only .....\$3.00

**3-WAY TV ANTENNA SWITCH**

Constant impedance rotary type switch, making silver-to-silver contact, provides quick, easy selection of any one of three TV antennas. Enclosed in attractive sturdy plastic case for easy mounting in set, on wall, baseboard or window sill. May be supported by its own leads. Four sections of standard 300 ohm transmission line are factory wired to switch and Cat. No. 27-S Solderless Transmission Line Splicers supplied for speedy installation. Knob extension rod may be removed if not needed. In ivory or brown. Packaged one in box with mounting screws and knob extension rod.



Cat. No. F-20 MOSLEY 3-WAY TV ANTENNA SWITCH.  
 List Price \$3.75

**UNIVERSAL TV LEAD-IN SOCKET**

A compact, constant impedance socket designed so that standard 300 ohm transmission line may enter from sides or back or may pass straight through. Thus the unit may serve as line tap or terminal socket and wiring may be hidden within wall or brought along baseboard. Ideal for TV antenna lead-in, test bench, ham shack, dealer display, etc. Molded of low-loss polystyrene. In brown or ivory. Mates with Cat. No. 301 MOSLEY Transmission Line Plug. In package of 50 with mounting screws.



Cat. No. 343 MOSLEY UNIVERSAL TV LEAD-IN SOCKET. ....List Price \$ .80

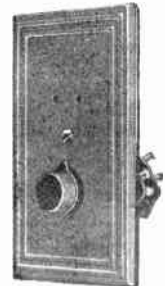
**UNIVERSAL TV LEAD-IN RECEPTACLE**

Similar to Cat. No. 343, above, but designed to mate with Cat. No. 311 Transmission Line Socket. Eliminates danger of accidental insertion of TV set antenna lead into power socket. In package of 50 with mounting screws.

Cat. No. 344 MOSLEY UNIVERSAL TV LEAD-IN RECEPTACLE. ....List Price \$ .80

**FLUSH MOUNTED SOCKET-SWITCH**

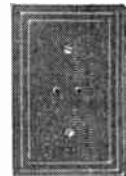
Single lead-in socket combined with constant impedance 3 position rotary type switch. Provides easy, instant change-over to any one of three antennas or may be used to switch one antenna to three different TV sets. Molded of low-loss polystyrene. Recesses in standard electrical outlet box. Supplied with attractive face plate and mounting screws. Available in brown or ivory. Packaged one in box.



Cat. No. F-10 MOSLEY FLUSH MOUNTED SOCKET-SWITCH. ....List Price \$3.75

**SINGLE FLUSH SOCKET**

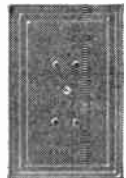
For terminating single 300 ohm transmission line lead-in concealed in wall. Socket and attractive face plate molded of low-loss polystyrene. Fits standard electrical outlet box. For installations not utilizing rotator. Mates with Cat. No. 301 Plug, below. In brown or ivory. Ten in box.



Cat. No. F-1 MOSLEY SINGLE FLUSH SOCKET. List Price \$1.67

**DUAL FLUSH SOCKET**

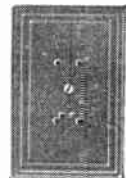
Of same construction as Single Flush Socket, above, but designed to provide two receptacles for installations where two separate lead-in lines must be terminated. In brown or ivory. Ten in box.



Cat. No. F-11 MOSLEY DUAL FLUSH SOCKET. List Price \$2.09

**FLUSH MOUNTED LEAD-IN  
and ROTATOR CABLE SOCKET**

A combination socket for use with rotator installation. One socket provides constant impedance connection for 300 ohm transmission line lead-in, other socket may be used for three or four wire rotator control cable connection. Mates with Cat. No. C-104 4-Conductor Polarized Plug. In brown or ivory. Ten in box.



Cat. No. F-14 MOSLEY FLUSH MOUNTED LEAD-IN and ROTATOR CABLE SOCKET. ....List Price \$2.09

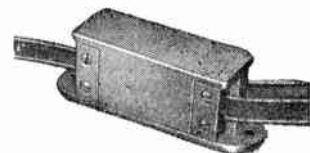
**DRY WALL FLUSH SOCKET ADAPTERS**

Provides easy method of mounting flush socket on non-plastered walls or wherever use of electrical outlet box is not feasible. Quickly, easily installed.

Cat. No. F-9 DRY WALL FLUSH SOCKET ADAPTERS.  
 List Price \$.35 set.

**DUAL MATCH  
2-SET COUPLER**

A compact, efficient unit that permits using two TV sets with one antenna. Mounts on baseboard, wall or back of set. Designed for solderless connection with standard 300 ohm transmission line. Packaged one in box.



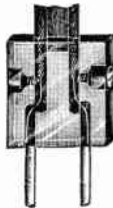
Cat. No. 902 MOSLEY DUAL-MATCH 2-SET COUPLER.  
 List Price \$3.95

**MOSLEY***Electronics*

2125 LACKLAND OVERLAND, MISSOURI

**LOW LOSS SOLDERLESS CONNECTORS**  
for **STANDARD 300 OHM TRANSMISSION LINE**  
and **ROTATOR CONTROL CABLE****UNIVERSAL TRANSMISSION LINE PLUG**

Mates with all MOSLEY Transmission Line Sockets including Flush Sockets. Low loss, constant impedance. Installed without solder. Packaged 100 in box.

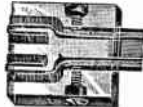


Cat. No. 301 MOSLEY TRANSMISSION LINE PLUG.

List Price \$ .48

**TRANSMISSION LINE SOCKET**

Mates with Cat. No. 301 Plug, Cat. No. 344 Universal Transmission Line Receptacle and with Cat. No. 304 Input Adapter. Provides low-loss constant impedance connection. Use where mounted socket not feasible. Solderless. 100 in box.

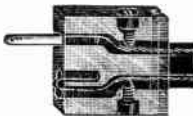


Cat. No. 311 MOSLEY TRANSMISSION LINE SOCKET.

List Price \$ .48

**POLARIZED TRANSMISSION LINE CONNECTORS**

Maintains impedance and polarity when used to connect sections of standard 300 ohm transmission line. Made of low-loss plastic. Solderless. Use in pairs. In box of 100 pairs.



Cat. No. 321 MOSLEY POLARIZED TRANSMISSION LINE CONNECTORS. List Price, per pair \$ .60

**SOLDERLESS TRANSMISSION LINE SPLICER**

A low-loss, constant impedance splicer for joining sections of standard 300 ohm transmission line. Easily and quickly installed without solder. Precision molded of polystyrene. In box of 50.

Cat. No. 27-S MOSLEY SOLDERLESS TRANSMISSION LINE SPLICER. List Price \$ .18

**INPUT ADAPTER**

An ideal connector for TV and FM sets, boosters, etc. Attaches to screws on antenna terminal strip. Mates with Cat. No. 311 Line Socket on end of 300 ohm transmission line lead-in to provide greater convenience and efficiency. Solderless. Low loss. In box of 50.

Cat. No. 304 MOSLEY INPUT ADAPTER. List Price \$ .30

**ROTATOR CONTROL CABLE PLUGS and SOCKETS**

Sturdy polarized connectors for three or four wire rotator control cable. Many other low voltage applications. Solderless.

Cat. No. C-104 4-CONDUCTOR PLUG mates also with Cat. No. F-14 Flush Socket. In box of 50. List Price \$ .84

Cat. No. C-134 4-CONDUCTOR LINE SOCKET. Mates with Cat. No. C-104 Plug, above. In box of 50. List Price \$ .84



Cat. No. C-114 4-CONDUCTOR BASE SOCKET. Mates with Cat. No. C-104 Plug. May be mounted on wood or metal. In box of 25 with mounting wood screws. List Price \$ 1.16



Cat. No. C-124 4-CONDUCTOR PLUG and SOCKET COMBINATION consisting of one Cat. No. C-104 Plug and one Cat. No. C-114 Base Socket. In box of 10. List Price \$ 2.00

**MOSLEY CRYSTAL HOLDER SOCKETS and ADAPTERS**

Cat. No. 51 SINGLE CRYSTAL HOLDER SOCKET for holders with small pins spaced  $\frac{1}{2}$ ". May be used as connector socket with Cat. No. 301 Plug. Mounts directly to metal chassis with machine screws supplied. Made of acrylic plastic with high dielectric strength. Packaged 25 in box. List Price \$ .58



Cat. No. 53 3-GANG MULTI-SOCKET accommodates three holders with small pins spaced  $\frac{1}{2}$ ". Ideal for use with selector switch to provide rapid frequency change in crystal controlled transmitters. Use with Cat. No. 301 Plugs to provide terminal connector for multi-channel TV antenna lead-in lines. Packaged 10 in box. List Price \$ 1.08



Cat. No. 56 6-GANG MULTI-SOCKET. Similar to Cat. No. 53, above, but designed to permit insertion of six crystal holders or plugs. Packaged 10 in box. List Price \$ 2.08

Cat. No. 5-75 CRYSTAL HOLDER ADAPTER receives small pin  $\frac{1}{2}$ " spaced crystal holder and plugs into  $\frac{3}{4}$ " spaced sockets or in any 5 or 6 prong socket. Packaged 50 in box. List Price \$ .58



Cat. No. 75-5 CRYSTAL HOLDER ADAPTER receives pins spaced  $\frac{3}{4}$ " and plugs into standard  $\frac{1}{2}$ " spaced sockets or octal sockets. Packaged 50 in box. List Price \$ .58

**MOSLEY***Electronics*

2125 LACKLAND OVERLAND, MISSOURI

**LOW LOSS ACCESSORIES for  
OPEN WIRE LINE and DIPOLE ANTENNAS**

MOSLEY Open-Wire Line Accessories are especially designed to provide Better TV Pictures in areas of weak signal strength.

Open-wire line made with MOSLEY accessories has less than one-sixth the loss of new standard 300 ohm ribbon line. It is easy to make with MOSLEY accessories and its use will often result in good, consistent TV pictures even in fringe areas where TV reception had previously been considered impossible.

Open-wire line made with MOSLEY accessories will not increase in loss with age and will withstand weather and adverse atmospheric conditions indefinitely.

**OPEN-WIRE SPACER**

Place one of these MOSLEY SPACERS every 12" along open-wire line to maintain constant 1" spacing. Strong, lightweight spacers made of low loss acrylic plastic with non-rusting set screws. Screw heads: countersunk to provide firm grip on wire. 100 in box.



Cat. No. 450-3 MOSLEY OPEN-WIRE SPACER.  
List Price \$ .10 each

**OPEN-WIRE SPLICER**

Low-loss acrylic plastic unit for splicing sections of open-wire transmission line. Maintains correct wire spacing with no impedance change. No soldering required. 25 in box.

Cat. No. 450-1 MOSLEY OPEN-WIRE SPLICER.  
List Price \$ .30 each

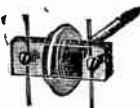


450-1

**OPEN-WIRE ANCHOR BAR**

Designed to be used with TV screw-eye stand-offs of most all popular sizes and shapes. Holds open-wire line secure with proper wire spacing. Made of low-loss acrylic plastic with non-rusting screws. Supplied less screw-eye stand-off. 50 in box.

Cat. No. 450-2 MOSLEY OPEN-WIRE ANCHOR BAR.  
List Price \$ .30



450-2

**DIPOLE ANTENNA CONNECTOR**

For connecting transmission line to dipole antenna without use of solder. Ideal for use with Cat. No. 251 End Insulator, below, to make up efficient FM or other high frequency antenna. No strain on connection. Low-loss, sturdy acrylic plastic. 25 in box.

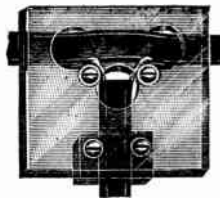
Cat. No. 261 MOSLEY ANTENNA CONNECTOR. List Price \$ .58

**DIPOLE END INSULATOR**

Especially designed for use with dipole type antenna made with standard 300 ohm ribbon transmission line. Plated machine screw and

washer holds wires securely and connects them together. No solder required. No strain on connection. 25 in box.

Cat. No. 251 MOSLEY END INSULATOR. List Price \$ .50

**HEAVY DUTY DIPOLE ANTENNA CONNECTOR**

Similar to Cat. No. 261 but intended for use with heavier copperweld type 300 ohm transmission line. Ideal for ham transmitting antennas. Packaged 10 in box.

Cat. No. 262 MOSLEY HEAVY DUTY DIPOLE ANTENNA CONNECTOR. List Price \$ .83

**HEAVY DUTY END INSULATOR**

Similar to Cat. No. 251 but designed for use with heavier copperweld type 300 ohm transmission line. An extra clamping member is added to help hold line and take strain off

connection. Ideal for ham dipoles. Packaged 10 in box.

Cat. No. 252 MOSLEY HEAVY DUTY END INSULATOR.  
List Price \$ .67

MOSLEY Products are sold only through Jabbers

**MOSLEY ELECTRONICS**

A single source of supply for precision made plugs, sockets, connectors and other low loss accessories for standard 300 ohm TV transmission line.

# GRAYBURNE

Electronic Components & Equipment

**FERRI-LOOPSTICK**



**VARI-LOOPSTICK**

## 2 Grayburne Loopsticks

World's most sensitive, compact and efficient **SMALL RADIO ANTENNAS**  
Replaces Spiral Wound Air Loop in Any Radio

**FERRITE**—The new magnetic core material incorporated into both Grayburne Loopsticks—has revolutionized antenna design. It makes far greater antenna efficiency in more compact form at greater economy.

### FERRI-LOOPSTICK

Recommended for fixed, permanent, economical installations, new or replacement, where user desires no further changes once Loopstick has been set. Just set and forget! **List \$0.75\***

### VARI-LOOPSTICK

Equal in efficiency to the Ferri-Loopstick. Has added advantages of Micrometer Adjustment and 1-hole Snap-in Mount. Permits adjustment for maximum efficiency on several stations consecutively. Ideal for station jumpers and DX "hounds." Resonance for any favorite station easily obtained. **List \$1.00\***

### • REVOLUTIONARY LOOPSTICK FEATURES •

**Highest Sensitivity:** Average effective Q is 250, 2½ times that of ordinary old-fashioned loops.

**Omni-Directional:** Equally sensitive and efficient at every angle—no orientation of set needed.

**Greater Receiving Range:** Greater, more uniform amplification over a wider range of frequencies—all at higher signal-to-noise ratio. Pulls in hard-to-get stations that can't be heard with ordinary loops.

**Stable Performance:** Unaffected by temperature changes, humidity, or adjacent metallic or inductive elements.

**Extremely Compact:** ⅞" x 2¼".

**Wide Inductance Range:** 180 uh (minimum) to 245 uh (maximum).

## Grayburne New Ferri-Chokes

### The Newest Advance in RF CHOKE MINIATURIZATION

Research, development and production engineers will at once recognize the vast importance of these new chokes because of their outstanding features:

- Most compact RF chokes in existence.
- Important reduction of DC resistance.
- Large increase in "Q."
- Large savings in copper.
- Significant reduction of distributed capacity.
- Marked reduction of weight.
- Increased ease of handling.

Electrical Comparison between Grayburne Ferri-Chokes and Conventional RF Chokes proves Grayburne superiority. The popular 2.5 mh chokes are used for comparison purposes.

	GRAYBURNE FERRI-CHOKE	CONVENTIONAL RF CHOKE
L	2.5 mh	2.5 mh
Q	110	45
R	10.5 ohms	40.0 ohms
Cd	1.7 μμf	2.8 μμf
Wire	30.0 ft.*	96.0 ft.
Core	Ferrite	Isolantite
Size	1" long x ⅜" diam.	2½" long x ¼" diam.
Wt.	4.5 grams	13.5 grams

\*NOTE: Copper Savings over 200%.

### GRAYBURNE RF FERRI-CHOKES

Model	Description	Net Price
F-25	2.5 mh @ 125 ma	\$0.45
F-50	5.0 mh @ 125 ma	.51
F-100	10.0 mh @ 125 ma	.60
HD-25	2.5 mh @ 125 ma	.48

### GRAYBURNE HIGH-RATIO RF VARI-CHOKES

Model	Description	Net Price
V-6	0.65 — 6.0 mh	\$0.72
V-25	5.0 — 43.0 mh	.84

To your specifications, Grayburne Ferri-Chokes can be supplied in inductance values from 500 to 250 millihenries, either pie or solenoid-wound, in various types of mountings and windings.

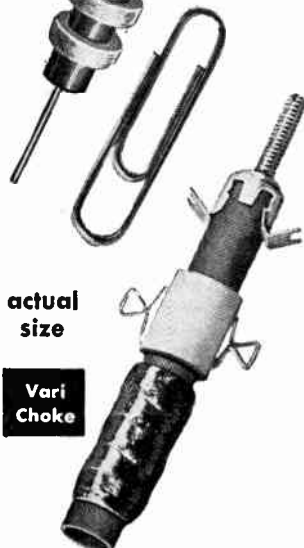
All Grayburne Ferri-Chokes  
Use the new  
Ferricore Ferrite cores.

Precision variable RF chokes with an inductance variation of as high as 10 to 1! Employing the amazing Ferricore Ferrite cores, Grayburne Vari-Chokes possess all the outstanding features of the Ferri-Chokes described above.

To your specific requirements, Grayburne Vari-Chokes can be supplied in a wide range of inductances up to 150 millihenries, and in a variety of types of windings.



**Ferri Choke**



**actual size**

**Vari Choke**

# GRAYBURNE

## Electronic Components & Equipment

### CLEAR-PIX & DUAL TUNABLE TV INTERFERENCE FILTERS

#### 3 Types CLEAR-PIX T.V. Interference Eliminators

Reject 3 most common interference causes.  
Have high rejection efficiency.  
Are easy to install. List \$1.98 each\*

- Model DT—Rejects Diathermy interference.
- Model I—Rejects Ignition interference.
- Model FM—Rejects FM interference.
- Model H—Rejects Amateur interference.

#### 4 Types S DUAL TUNABLE Interference Filters

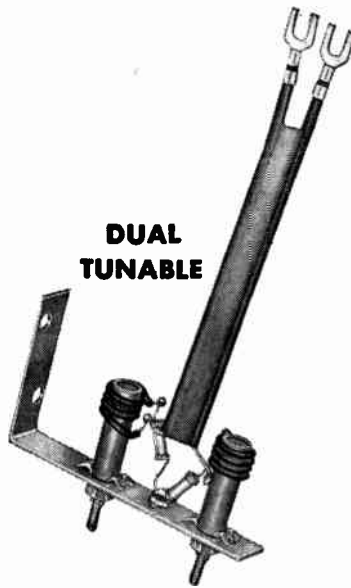
For Professional Installation

- Model SW10—Rejects Amateur Harmonic interference (10 meter band).
- Model SW20—Rejects Amateur Harmonic interference (20 meter band).
- Model DT—Rejects Diathermy interference.
- Model FM—Rejects FM Image interference.

Precision-Engineered: 2 iron-core coils and condensers tunable over specific interference band. Dual tunable feature achieves maximum rejection. Mounts at antenna terminals.

Parallel Assembly: Recommended for rejection of more than one type of interference.

Specifications: Plated L-shaped bracket, 3"x1 1/2"x 5/8". Matching 300-ohm lead. Each individually boxed with complete instructions. List \$2.75 each\*



DUAL TUNABLE



CLEAR PIX

### Grayburne TV - IF Signal Booster

Model TSB-1 is added stage of TV-IF wired up in Adaptor form that amplifies signal over 20% on all channels, increases brightness and eliminates or minimizes "snow." Equals performance of many higher-priced boosters.



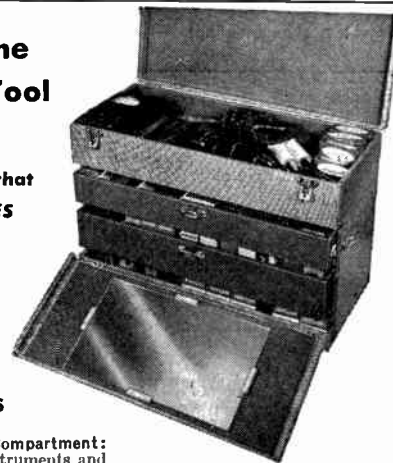
#### OVERCOME ROOF ANTENNA RESTRICTIONS . . .

Where landlords don't permit roof antennas, or where they are not desired, the TSB-1 in combination with an indoor antenna provides results comparable with outdoor antennas in the same area—supplying just the extra power needed for good reception at about 1/2 the cost of the usual booster.

Model TSB-1.....List \$9.95\*, plus extra tube required

### Grayburne Tube and Tool Carrier

The Carrier that  
OUT-FEATURES  
them all!



#### SUPER MODEL CS

Exclusive Tool Compartment:  
Holds small test instruments and tools needed on most calls.

Holds 175-200 tubes.

Detachable Mirrored Cover: To observe Pix Tube from back of set.

Rugged: All solid wood and heavy masonite, lock corner construction and extra side clasps.

Handsome: Washable thick basket-weave leatherette. Resists oil and dirt stains.

Compact: 20 1/2" x 14" x 9".

Low Cost \$16.95 Net

#### DELUXE TUBE CARRIER

Model CL—For the "long haul."  
Holds 200-225 tubes. 2 drawers and storage compartment. All solid wood and masonite, lock-corner construction. 20 1/2" x 14 1/4" x 8 3/4". \$13.50 Net

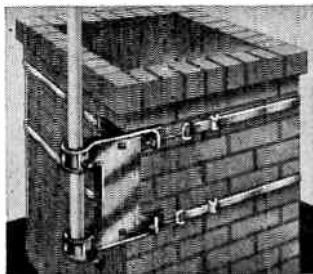
#### JUNIOR TUBE CARRIER

Model CJ—For the "short haul."  
Holds 60-70 tubes. 2 drawers and storage compartment. 15 3/4" x 10 1/4" x 7 3/4". \$9.95 Net

The  
Famous

*South River*

Quality Line of Antenna  
Mounting Accessories



**CHIMNEY MOUNT  
ANTENNA BASE**

(U. S. Patent 2482575\*)

Model SR-10A .....\$6.50

\*\*Model SR-10A SS (with stainless steel banding) ..\$9.25

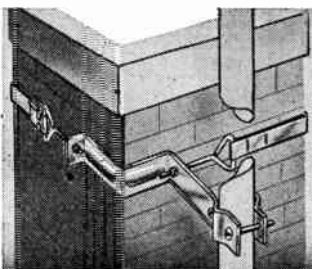
One-piece chimney mount of aircraft type aluminum. Mounts by means of \*\*galvanized steel strapping. Exclusive "Kwik Klip" provides convenient means of fastening loose end of banding. Will accommodate any size tube from 1/2"-1 1/2" O.D. Complete with all necessary installation hardware.

Also Available in 2-Section Mount . . . . . Model SP-12A

Model SP-12A Two-Piece Mount for High Masts..\$6.50

Model SP-12A SS (with stainless steel banding) .....\$9.25

**CHIMNEY MOUNTS**



**THRIFT MOUNT**

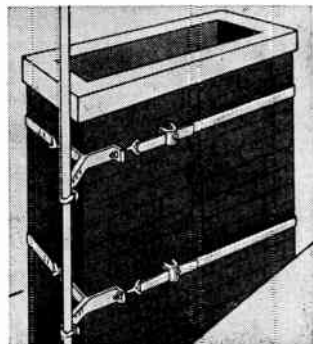
(U. S. Patent 2482575\*)

Model T-15 .....\$2.50

Model T-15 SS (with stainless steel banding) ....\$5.25

One-piece embossed, heavy gauge steel, hot-dip galvanized. Accommodates masts to 1 1/2" O.D. NOTE: Model T-15 consists of 2 brackets, one of which is shown on illustration.

\*South River Metal Products Co., Inc. are the inventors and original manufacturers of the chimney mount antenna base. All other chimney mounts using a diable band are infringements of Patent No. 2482575.



**DUO-MOUNT  
ANTENNA BASE**

(U. S. Patent 2482575\*)

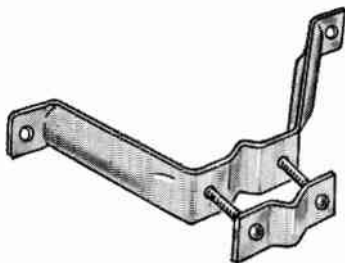
Model DM-36 .....\$3.95

Model DM-36 SS (with stainless steel banding) ....\$6.70

Model DM-LKK (same as DM-36 but without "Kwik-Klip") .....\$3.50

Model DM-LKK SS (with stainless steel banding) .....\$6.25

Two-piece mount of alloy steel rivet construction, finished in a hot-dip, everlasting, galvanized finish. Specially designed "U" bolts accommodate masts from 3/4"-1 1/2" O.D. Exclusive "Kwik Klip" feature provides convenient means of fastening loose end of banding.



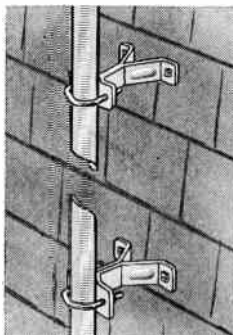
**NEW THRIFT  
WALL BRACKET**

Model NT-3 .....\$1.00

Model NT-4 .....\$1.25

Available in 3" Model NT-3, or 4" Model NT-4. Of embossed heavy gauge steel, hot-dip galvanized. Will accommodate masts to 1 1/2" O.D. Complete installation hardware included. Two to a set.

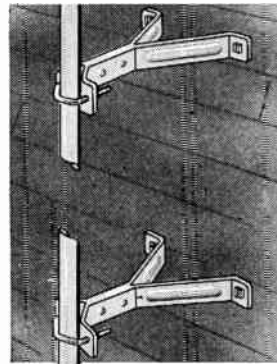
**WALL BRACKETS**



**3" WALL BRACKET**

Model WB-3 .....\$2.00

Made of aluminum, embossed for extra strength. Accommodate masts up to 1 1/2" O.D. Complete with installation hardware.



**6" WALL BRACKET**

Model WB-6 .....\$2.50

Model WB-6 Special....\$3.25

(with extra support leg for heavy masts)

Made of heavy gauge steel, riveted for extra strength. Hot-dip, galvanized. Fits all size masts up to 1 1/2" O.D. Complete with installation hardware.

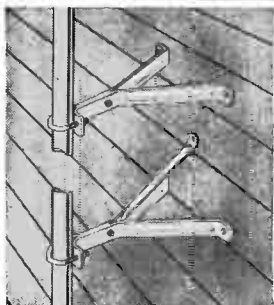
**SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey**

PIONEER MANUFACTURER AND OUTSTANDING PRODUCER OF THE FINEST LINE OF ANTENNA MOUNTING ACCESSORIES IN THE TELEVISION INDUSTRY

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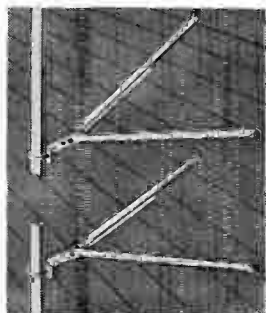


**12" WALL BRACKET**

Model WB-12 .....\$4.20  
Model WB-15 (15") \$4.50  
Model WB-18 (18") \$4.85

Constructed of heavy gauge, embossed steel, hot-dipped in an everlasting, rust-proof, galvanized finish. Complete with installation hardware.

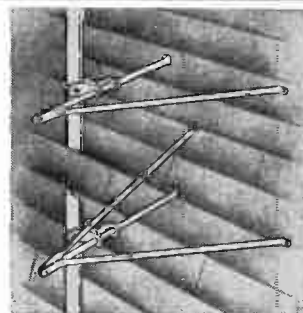
**WALL BRACKETS (Cont'd)**



**24" WALL BRACKET**

Model WB-24 .....\$6.50

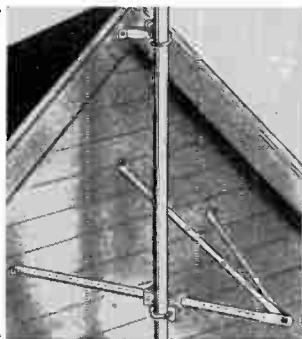
Made of heavy gauge steel with two aluminum tripod legs. Steel sections are hot-dip galvanized. Complete with installation hardware.



**ADJUSTABLE WALL BRACKET**

Model WB-18A .....\$6.50

All aluminum tubular construction. Adjusting slides are made of one-piece aluminum extrusions. Fits all size masts up to 1 1/2" O.D. Complete with installation hardware.



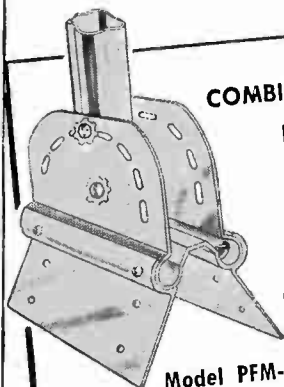
**COMBINATION ADJUSTABLE WALL BRACKET**

Model WB3-18A .....\$4.50

All aluminum construction. Eave bracket is of extruded aluminum as is the slide of the tubular adjusting wall bracket. Accommodates masts up to 1 1/2" O.D. Furnished complete with all necessary hardware.

**EXTRA SUPPORT LEGS ARE AVAILABLE FOR USE WITH UNUSUALLY HIGH & HEAVY MASTS**

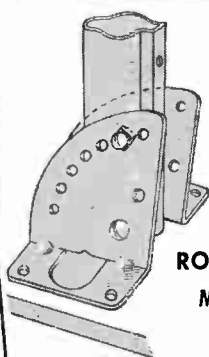
Model L-12 (with Model WB-12) .....\$ .65  
Model L-15 (with Model WB-15) .....\$ .75  
Model L-18 (with Model WB-18) .....\$ .88  
Model A-18L (with Model WB-18A) .....\$1.03



**COMBINATION PEAK AND FLAT ROOF MOUNT**

Model PFM-2.....\$6.25

Extruded aluminum construction. Provisions are made for adjustment of the flaps to conform to the slope of the peak of the roof. Mast socket can be used as a means to "walk-up" the mast. Accommodates masts to 1 1/2" O.D. Complete with installation hardware.



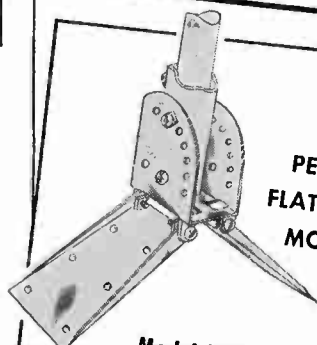
**ROOF MOUNTS**

**ROOF MOUNT**

Model RM-1

\$2.10

Of heavy-gauge steel, embossed at all critical points, and hot-dip galvanized. Will accommodate masts to 1 3/8" O.D. Complete with installation hardware.



**PEAK & FLAT ROOF MOUNT**

Model PFM-1.....\$2.95

Made of heavy gauge steel, embossed at all critical points. Hot dip galvanized. Adjustable flaps provide ready means for mounting on any peak. Permits antenna mast to be "walked-up". Will accommodate masts to 1 1/2" O.D. Complete with installation hardware.

**SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey**

PIONEER MANUFACTURER AND OUTSTANDING PRODUCER OF THE FINEST LINE OF ANTENNA MOUNTING ACCESSORIES IN THE TELEVISION INDUSTRY



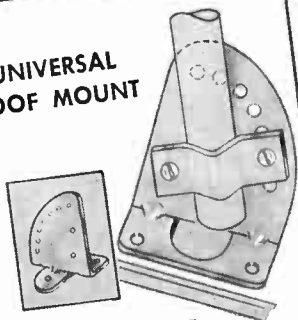
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**ROOF MOUNTS (Cont'd)**

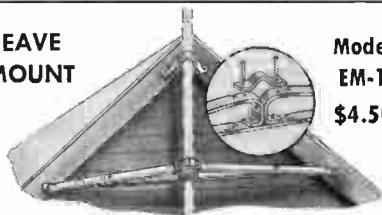
**UNIVERSAL  
ROOF MOUNT**



Model UR-1.....\$.55

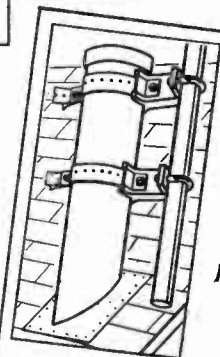
Constructed of heavy gauge steel. Furnished in an everlasting hot-dip galvanized finish. Will accommodate masts up to 1 1/2" O.D.

**EAVE  
MOUNT**



Model  
EM-1  
\$4.50

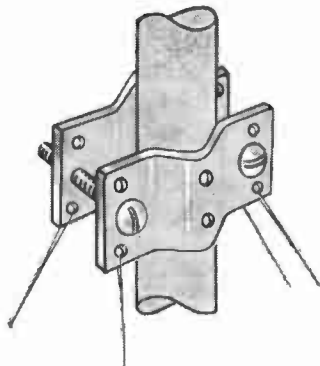
Constructed of heavy gauge steel, embossed for extra strength and hot-dip galvanized for an everlasting rust-proof finish. Unique bridge-type truss construction of lower bracket provides extra strength and rigidity. Generous 48" spread of lower bracket provides proper spacing between brackets insuring good mechanical support. Complete with installation hardware.



**DUO-  
PIPE  
MOUNT**  
Model P-1  
\$2.50

Constructed of an aluminum extrusion. Fits all size masts up to 1 1/2" O.D. Positive adjustment for all size pipes up to 6" in diameter. Complete installation hardware included.

**GUY WIRE CLAMP**



Model GC1 .....\$.25

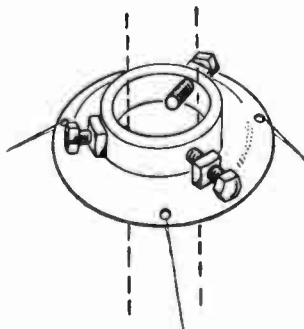
Model GC-2 (similar to Model GC-1 with 2 eyebolts for guy wire attachment) .....\$.40

Model GC-3 (accommodates masts to 2" O.D. Features 3 eyebolts for guy wire attachment) .....\$.65

Clamps on mast. Will accommodate masts to 1 1/2" O.D.

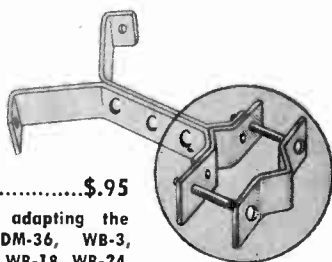
**ACCESSORIES**

**GUY RING**  
Model GR-1 \$1.25



Of heavy gauge, galvanized steel, embossed for extra strength. Set screws provide positive fit for all masts ranging from 1" O.D. to 2" O.D. Complete with installation hardware.

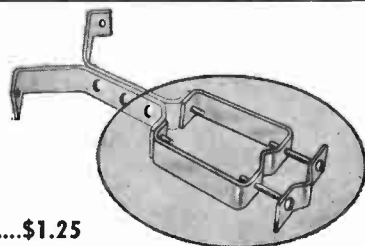
**LARGE MAST  
ADAPTER**



Model LMA.....\$.95

Provides means for adapting the Duo-Mount Model DM-36, WB-3, WB-6, WB-12, WB-15, WB-18, WB-24, WB-18A and P-1 to accommodate large masts up to 2" O.D. Features steel construction, hot-dip galvanized. Complete with installation hardware. Two to a set.

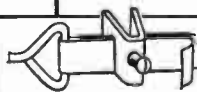
**EXTENSION  
ADAPTER**



Model EXT-A.....\$1.25

Extends Duo-Mount DM-36 far enough to allow mast to clear chimneys with unusually large crowns. Can be used to extend any of the wall brackets 3". Will accommodate masts to 1 1/2" O.D. Steel construction, hot-dip galvanized. Complete with installation hardware. Two to a set.

**GROUND ROD** .....\$1.10 & \$1.35  
4' and 6' lengths of 3/8" steel, hot-dip galvanized with extruded aluminum wire clamp.



"KWIK KLIP" \$.25

**MAST (Hot Dip Galv.) 20 Ga.**  
1 1/4"x10' \$3.50

**THRIFT  
CLAMP**  
\$.06

**SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey**

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The  
Famous

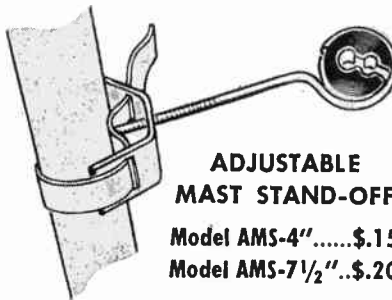
*South River*

Quality Line of Antenna  
Mounting Accessories



3 1/2" Screw Eyes..\$.05  
5 1/2" Screw Eyes..\$.06  
7 1/2" Screw Eyes..\$.07  
4" Mach. Screw..\$.06

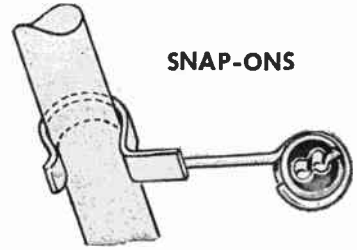
**STAND-OFFS**



**ADJUSTABLE  
MAST STAND-OFF**

Model AMS-4".....\$.15  
Model AMS-7 1/2" ..\$.20

Duplex stand-offs also available.  
Write for complete catalog.



**SNAP-ONS**

Model SO-1 1/4".....\$.10  
Model SO-1 3/8".....\$.12  
Model SO-1 1/2".....\$.12

**STRAPPING**

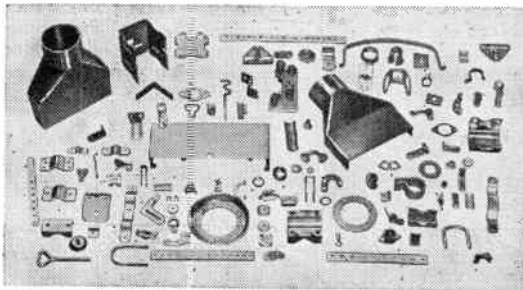
- |  |   |
|--|---|
| A-1 (GALV.)<br>Perforated 17/64" holes<br>on 3/4" centers<br>3/4" width x .028 gauge | 50' Roll..... 1.85<br>100' Roll..... 3.75<br>(STAINLESS)  |
| 25' Roll..... 1.25<br>50' Roll..... 2.33<br>100' Roll..... 4.53                      | 3/4" width x .020 gauge<br>25' ..... 2.98<br>50' ..... 5.95<br>100' ..... 11.87   |
| A-2 (GALV.)<br>Perforated 1/8" holes on<br>1/2" centers<br>3/4" width x .028 gauge   | <b>CHIMNEY MOUNT</b><br>(Banding Repl. Kit)<br>Kit A consists of 3/4" galv.<br>steel strapping & hard-<br>ware ..... 1.38 |
| 25' Roll..... 1.25<br>50' Roll..... 2.33<br>100' Roll..... 4.63                      | Kit B consists of 1/2"<br>stainless steel strapping<br>& hardware ..... 2.48  |
| A-3 (GALV.)<br>Unperforated 3/4" width<br>x .018 gauge                               | Kit C consists of 3/4"<br>stainless steel strapping<br>& hardware ..... 3.38  |
| 25' Roll..... 1.00   |   |

**ACCESSORY HARDWARE**

Zinc plated in a rust-resistant finish.

- |   |  |
|---|--|
| B. 1/4" Welded Eyebolt<br>7.00 C                | K. #10x1 1/2 R.H. Wood<br>Screw .....2.50 C  |
| C. 1/4-20 Sq. or Hex<br>Nut .....2.00 C         | L. Special "U" Bolt to<br>accommodate 1 1/2"<br>mast .....7.00 C   |
| D. 5/16-18 Sq. Nut<br>3.00 C                    | M. Special Bent Washer<br>for use with 3/4" Perf.<br>Strap .....4.00 C   |
| E. 10-32 Sq. Nut..1.00 C                        | N. 1/4-20 R.H. Mach.<br>Screws<br>1/2" Length...2.00 C<br>3/4" Length...2.00 C<br>1 1/2" Length...2.25 C<br>1 3/4" Length...2.25 C<br>2" Length...2.50 C<br>2 1/2" Length...2.50 C |
| F. 6-32 Sq. Nut...1.00 C                        | O. Screw Hook...10.00 C  |
| G. 1/4" Washer .... .30 C                       |  |
| H. 10-32x3" R.H. Mach.<br>Screw .....3.00 C     |  |
| I. 6-32x1/2" R.H. Mach.<br>Screw ..... .65 C    |  |
| J. 5/16-18x2" Hex Head<br>Set Screw .....8.00 C |  |

NOTE: Many other accessories available. Write for  
current SOUTH RIVER catalog for full information.



SOUTH RIVER also manufactures electronic hard-  
ware on special order for many manufacturers  
in the radio and television industry. Please  
write for complete information.

Typical Stampings tooled up and produced in  
SOUTH RIVER'S modern shops.

In its new, magnificently equipped  
plant, staffed with specialists in  
the production of its line, SOUTH  
RIVER is ready to supply you with  
the finest of antenna mounting  
materials.

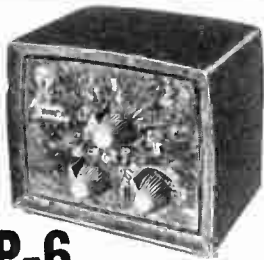


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PIONEER MANUFACTURER AND OUTSTANDING PRODUCER OF THE FINEST LINE OF ANTENNA MOUNTING ACCESSORIES IN THE TELEVISION INDUSTRY



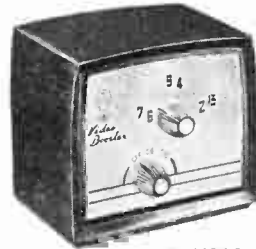
## BOOSTERS



### NEW SP-6

#### PENTODE TUBE BOOSTER FOR TELEVISION

Featuring external gain control, outperforms all conventional boosters in extreme fringe installations. Now, the best TV booster on the market is also the most beautifully styled. UL approved.



### NEW SP-6J

#### DUO-TRIODE BOOSTER FOR TELEVISION

Features extremely low noise level with high gain. Has full six megacycle band width per channel. UL approved; beautifully styled.

## TUBE CARRIERS AND TOOL KIT



### MODEL TC-1

#### MASTER TUBE CARRIER

Durable plywood construction. Handsomely finished in tough grade leatherette. Metal shielded corners. Holds over 200 tubes; accommodates every commonly used size. Removable drawers. Length 20 $\frac{3}{4}$ " , width 10" , height 14 $\frac{1}{4}$ " .

Model TC-2 — with an 8" x 11" glass mirror.



### MODEL JRC-1

#### JUNIOR TUBE CARRIER

Plywood construction; handsomely finished in smart tweed leatherette; no cardboard used. Has two drawers. Holds approximately 100 tubes. Length 16 $\frac{1}{2}$ " , width 7 $\frac{3}{4}$ " , height 11 $\frac{1}{2}$ " .

Model JRC-2 — with an 8" x 11" glass mirror.



### MODEL TK-1

#### TOOL KIT

Made of durable fibre-board construction. Metal reinforced corners. Sustains great weight. Has 2" deep removable tray. Length 17" , width 7 $\frac{1}{2}$ " , height 8 $\frac{1}{2}$ " .

## PIX-EYE

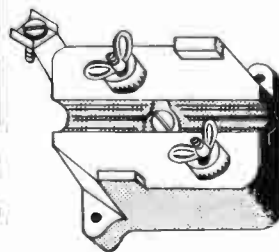


### MODEL TE-5

#### PIX-EYE

Most sensational servicing aid of the year! Plugs into the CRT socket to check presence of video signal, plate voltage and filament voltage. Avoid the time, trouble and danger of removing picture tubes . . . use RMS Pix-Eye.

## LIGHTNING ARRESTOR

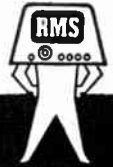


### MODEL LA-3

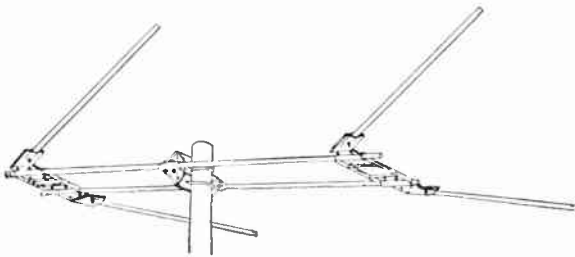
#### LIGHTNING ARRESTOR

The only lightning arrestor that gives positive protection against static discharges — usable with twin lead (and the new open transmission line; mounts flat or to the mast! UL approved.

Manufacturers of the only complete line of major television accessories



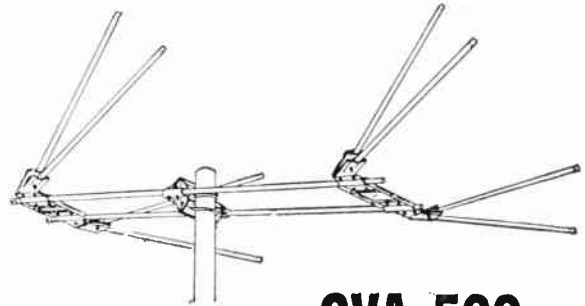
## FRINGEMASTER ANTENNAS



**MODEL VA-100**

**CONICAL "V" FRINGEMASTER JR.**

This end-fired array is ideal for urban and semi-fringe reception.  $\frac{3}{8}$ " elements, quick-rig, all-aluminum. High gain on all channels due to extra long dipoles. Stacked model: VA-200. For four-bay operation specify Model VA-400.





**MODEL CVA-500**

**CONICAL "V" FRINGEMASTER SENIOR**

A broad-band, end-fired array featuring high gain and furnished with extra long dipoles. Elements are  $\frac{3}{8}$ " aluminum. Completely preassembled for greater ease of installation. Unique double-U-bolt assembly powerfully secures the antenna to the mast.  $\phi$ -matching section is  $\frac{1}{2}$ " aluminum tubing. Stacked model: CVA2-500. For four-bay operation specify Model CVA4-500.

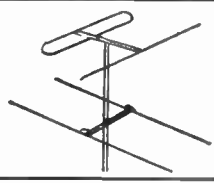


## VERSACONE CONICALS

$\frac{3}{8}$ " elements; broad-band characteristics, all-aluminum, dowel-reinforced crossarm at the U-bolt. All elements doweled

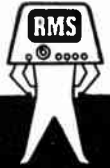
MODEL No.	CHAN. No.	DESCRIPTION	
VL-1	ALL CHAN.	This is an 8 dipole-single bay antenna. Brackets permit insertion of additional elements up to 6 front and 6 back. WL-2 - Stacked.	
VL-61	ALL CHAN.	A 6 dipole single bay antenna with a 4 element front. Additional elements can be added. The reflector comes pre-assembled for fast set up. A broad band all aluminum antenna $\frac{3}{8}$ " elements; dowel reinforced cross arm at U-bolt. Cross arm 1" drawn aluminum tubing. WL-2 - Stacked model.	

## "BEE" LINE ANTENNAS

$\frac{3}{8}$ " elements; quick-rig, all-aluminum; flexible combinations for impedance-matching. Dowel-reinforced crossarm at the U-bolt.

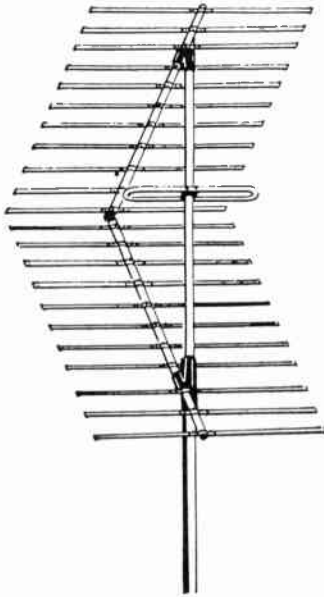
B-25	ALL CHAN.	For receiving high and low stations from different directions. Can be used with the RMS DN-6 loading coil for single down lead operation. Crossarm constructed of 1" seamless aluminum.	
B-30	1-6	Construction identical to B-25 except that it is a single antenna for low frequency operation.	
B-35	ALL CHAN.	Construction identical to B-25 except high band antenna is straight dipole for lower impedance.	

Manufacturers of the only complete line of major television accessories



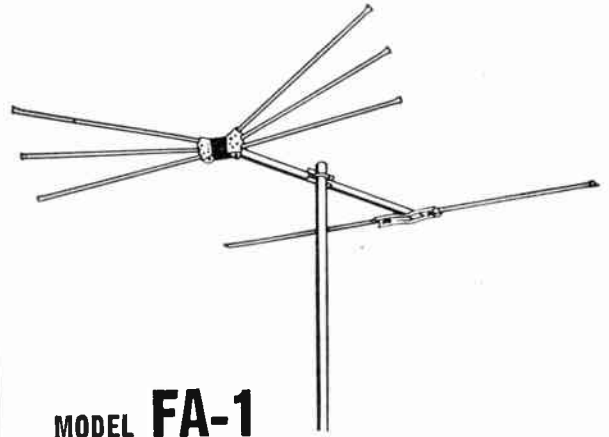
## CORNER ARRAY

## FANTENNA



### MODEL COR- CORNER ARRAY TELEVISION ANTENNA

This is the country's highest gain antenna, featuring the characteristic curve and gain of a Parabolic Reflector Antenna. Quick rig assembly. Corner Arrays are cut to specific channel.



### MODEL FA-1 FANTENNA SUPER-FAN ANTENNA

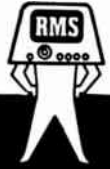
A rugged super-fan array featuring high gain coupled with excellent broad-band characteristics. All elements are doweled and are  $\frac{3}{8}$ " aluminum tubing. Dowel-reinforced at the U-bolt. Stacked model: FA-2. For four-bay operation, specify FA-4.

## YAGI ANTENNAS

Quick-rig, all aluminum, dowel-reinforced crossarm at the U-bolt.

MODEL No.	CHAN. No.	DESCRIPTION	
			$\frac{3}{8}$ " — 4 ELEMENT
SY-2	2	<p><b>SY SERIES</b>—is a 4 element completely pre-assembled yagi <math>\frac{3}{8}</math>" butt seamed aluminum tubing, crimped ends. The receiving element consists of 1" and <math>\frac{3}{8}</math>" tubing. Crossarm is 1" seamless aluminum, dowel-reinforced at U-bolt.</p> <p><b>Y SERIES</b>—same as above, except receiving element is not pre-assembled at crossarm.</p>	
SY-3	3		
SY-4	4		
SY-5	5		
SY-6	6		
Y-7	7		
Y-8	8		
Y-9	9		
Y-10	10		
Y-11	11		
Y-12	12		
Y-13	13		
STY-2	2	<p><b>STY SERIES</b>—construction exactly as SY described above. This is a 5 element antenna.</p> <p><b>TY SERIES</b>—same as Y Series described above, but 5 element. Not pre-assembled at crossarm.</p>	
STY-3	3		
STY-4	4		
STY-5	5		
STY-6	6		
TY-7	7		
TY-8	8		
TY-9	9		
TY-10	10		
TY-11	11		
TY-12	12		
TY-13	13		

Manufacturers of the only complete line of major television accessories



## JACKNIFE ANTENNA LINE

Quick-rig, all-aluminum; 1/2" elements.

MODEL No.	CHAN. No.	DESCRIPTION	
HSL-2	ALL CHAN.	This is a 4 element antenna for bi-directional use. Insulator head of SL-10 antenna. All elements doveled.	
HSL-4	ALL CHAN.	Same as HSL-2 antenna listed above except that it is stacked for extra gain. Connecting bars supplied for signal take-off. All elements doveled.	
SL-10	ALL CHAN.	Single bay conical antenna, completely pre-assembled. Crossarm is made of 1" seamless aluminum tubing, doveled at the U-bolts. All elements doveled.	
SL-25	ALL CHAN.	Straight dipole low frequency antenna and a folded dipole high frequency antenna. May be oriented separately to receive signals from different directions. Elements are 1/2" aluminum, crossarm 1" seamless aluminum tubing doveled at U-bolts. Completely pre-assembled.	
SL-30	1-6	Straight dipole low band antenna. Elements are 1/2" aluminum crossarm 1" seamless aluminum tubing doveled at U-bolts. Completely pre-assembled.	
SL-35	ALL CHAN.	Consists of 2 straight dipole antennas to cover the high and low frequencies. Each antenna may be oriented separately. Completely pre-assembled. Tubing and construction identical to antenna listed above.	
SL-38	7-13	A straight dipole high band antenna. Tubing and construction identical to antennas listed above. Completely pre-assembled.	
SL-40	1-6	A low band folded dipole. Completely pre-assembled 1/2" aluminum elements, 1" seamless tubing aluminum cross bar doveled at U-bolt.	

Manufacturers of the only complete line of major television accessories

TV · FM · AM  
Broadcasting and Receiving

# Alproco ALUMINUM TOWERS

KEMPTON, INDIANA • MINERAL WELLS, TEXAS • DUBLIN, GEORGIA



### No. MK-1W MAST KIT

Consists of 3 top trim angles and 2 sets of adjustable mast clamps.

Weight 2 lbs.

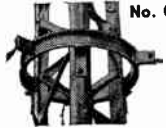
Dealer Cost \$1.55

### No. P-1W ROTATOR ADAPTER PLATE

Pre-drilled plate, incl. accessories to mount most popular in-line or off-set type rotators inside of tower.



Wt. 1 lb. Dealer Cost \$1.70



### No. GB-1RW ROTATING GUY RING

Used with B-1RW. Gives full guying support for tower, allows manual rotation to orientate antenna.

Weight 5 lbs.

Dealer Cost \$2.30

### No. S-3RW (3") ROTATING STANDOFF SUPPORT BRACKET

Used as wall mount tie-in. Allows tower to be rotated manually when used with B-1RW.



Weight 6 lbs.

Dealer Cost \$2.75

### No. B-1RW ROTATING UNIVERSAL BASE

Heavy duty quality base which can be mounted on sloping, horizontal or vertical surface as well as roof peak. Permits tower to be rotated manually.



Weight 4 lbs. Dealer Cost \$4.80

### No. B-1W HINGED BASE



A low cost base that can be used on vertical, horizontal or sloping surface.

Weight 3 lbs.

Dealer Cost \$1.70

### No. S-3W (3") STANDOFF SUPPORT BRACKET

Use for wall mount stationary tie-in.

Weight 2½ lbs.

Dealer Cost \$1.60

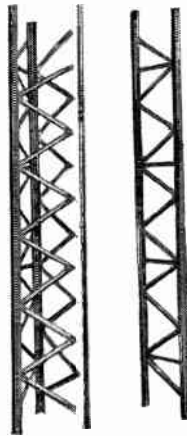


### No. GB-1 GUY BRACKET



For attaching guy wires to tower . . . 3 needed per guy station.

Weight, each 2 oz.  
Dealer Cost \$0.09



### No. T-6W STANDARD TOWER SECTION

(Ship. 2/3rds assembled)

Six-ft. tower section, left, is ready to complete assembly in 5 minutes. Special impact rivets supplied. Tower section, right, folded flat ready for shipment. Minimum storage space, lowest possible freight rates.

Weight 6 lbs.

Dealer Cost \$7.74

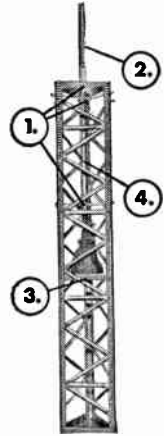


### No. AT-6W STANDARD TOWER SECTION

Standard 6-ft. triangular tower section, factory assembled. Each side 11¼", steps built in. Bolt additional sections together to make any tower height to 120 ft. Made of spring-tempered aircraft aluminum alloys.

Weight 6 lbs.

Dealer Cost \$8.52



### No. RK-1W ROTATOR ADAPTER KIT

Consists of:

1. MK-1W Mast Kit
  2. 10 ft. Mast Pole
  3. P-1W Rotator Adapter Plate
  4. 24" Mast Pole Bearing
- This kit permits rotator to be placed down inside tower, placing wind thrust load on tower instead of rotator.

Weight 10 lbs.

Dealer Cost \$7.10

### NEW "RED TOP" SLIP-UP STEEL MAST

The first practical telescoping antenna mast, economical, easy to raise, and completely trouble-free. Fully weatherized for every climate with K89 Perma-Kote. Complete with all mounting and guying accessories; can be erected by one man. Exclusive Alproco joining features.

Available as 10', 20', 30' or 40' mast.

M-10 (10' mast) Wt. 7½ lbs. Deal. Cost \$3.65  
M-20 (20' mast) Wt. 15 lbs. Deal. Cost 7.95  
M-30 (30' mast) Wt. 23 lbs. Deal. Cost 13.95  
M-40 (40' mast) Wt. 33 lbs. Deal. Cost 19.95

### A COMPLETE 35-FOOT TOWER IN ONE PACKAGE



### HEAVY DUTY COMMERCIAL TOWER & ACCESSORIES

Designed for most exacting commercial installations, this tower can be erected to 150 ft. heights with 400 lbs. vertical static load. Weighs 1½ lbs. per ft. Tower measures 11¼" each side. (Same design as standard tower but constructed of heavier metal.)

	Weight	Dealer Cost
AT-6C Assembled Section	9 lbs.	\$11.76
MK-1C Mast Kit	2 lbs.	1.55
B-1C Base Cap	1 lb.	1.70
GB-1 Guy Brackets, ea.	2 oz.	.09
B-1W Hinged Base	3 lbs.	1.70

### ECONOMY TOWER AND ACCESSORIES

Six-ft. tower sections, pre-assembled, recommended to heights of 48 ft. Must be guyed every 24 ft. Each side 8½".

	Weight	Dealer Cost
AT-6E Assembled Section	5 lbs.	\$6.42
B-1 Hinged Base	3 lbs.	1.40
MK-1 Mast Kit	2 lbs.	1.55
B-1R Rotating Univ. Base	4 lbs.	4.60
GB-1 Guy Brackets, ea.	2 oz.	.09
GB-1R Rotating Guy Ring	4 lbs.	1.95
S-5 Standoff Support	2½ lbs.	1.60

AVAILABILITY AND PRICES  
SUBJECT TO CHANGE WITHOUT NOTICE

Alproco's Economy Aluminum "Tower-Pac" gives you everything needed to install an economical 35-ft. antenna tower. Easy to put up . . . no maintenance. Available in two styles.

TP-36 Stationary "Tower-Pac". Wt. 34 lbs.  
Dealer Cost \$33.53

TP-36R Rotating "Tower-Pac" Wt. 40 lbs.  
Dealer Cost \$38.43

# T.V. DEVELOPMENT for Profit-Making TV Accessories!

## TVD 3-SPEED RECORD PLAYER ATTACHMENT

- 3-speed table model attachment, including universal long playing needle.
- Will convert television, radio or old phonograph into a combination 3-speed player.
- Can also be played through public address system.
- Equipped with phono jack.
- Equipped with 45 RPM Adaptor (Disk).
- Attractive pyroxlin coated, jumbo alligator grain, brown leatherette.
- Regular standard 90 day RMA guarantee.
- Packed in individual cartons—4 to a master carton Wt. 7 lbs. per packaged unit.

Suggested List

**\$2250**

## Terrific NEW POWER to Car Radios TENNA-DOUBLER AUTO AERIAL BOOSTER

Remarkably increases reception for car radios. Brings in distant stations and maintains signal while driving under E1 structures or bridges and near tall buildings. Made of Admiralty triple chrome plated brass, it is rustproof, non-corrosive and long lasting. Telescopic, opens to 66", closed 25" (approx.). Added listening pleasure with 360° rotation principle, stylize and customize any car, individually boxed with easy instructions simply explained. Less than a minute to install.

Standard carton:

12

**\$395**

Suggested List.....



## TVD Super-Gain

### OPEN WIRE TRANSMISSION LINE

Perfect for fringe areas or that "impossible to receive" picture. Lasts a lifetime with 1/10th the loss, greater signal distance potential than 300 ohm, copper-weld construction, made to withstand corrosion of salt air and dampness.

Packaging: Spool — Wire size: #18 bare COPPER-WELD wire — Insulators: Spaced 6" apart — Tensile Strength: 400 lbs. breaking point — Loss in DB per 100 ft.: .03 at 200 MC — Width: 1" center to center.

Packaged in 100, 250 and 500 ft. paper layer, insulated reels.

No. CWL.....List: \$102.60 per 1,000 ft.

## WIRE STRIPPER and CUTTER COMBINATION

For all commonly used stranded wires, 5" long blade cuts wire cleanly and neatly. Stripping jaws handle stranded wire perfectly—perfect time saver—does a perfect job. Adjusting stop on gripping handles permits adjustment for wire size. Individually boxed.

Suggested List

**\$395**

Model S-100



Model TV-33

## FM INDOOR TV ANTENNA All Channels — Tops in Reception

Concealed wiring, glistening bakelite face-plate, triple section telescopic dipoles, brass tubing for permanent clean contact, rust-proof and tilt-proof.

Terrific Value  
Terrific Profit!

Packed 2 to box, 50 to master carton. List

**\$595**

## VISION-EASE TV FILTERS



AN SCIENTIFICALLY DESIGNED  
GLARE-FILTER TO INCREASE  
YOUR VIEWING PLEASURE —

- INCREASES CONTRAST
- SHARPENS DETAIL
- PROTECTS EYESIGHT
- SIZES TO FIT ANY T. V. SET

A Product of  
T. V. DEVELOPMENT CORP.  
Brooklyn, N. Y.

## TVD TELEVISION GUY WIRE

- Top quality galvanized steel twisted TV GUY WIRE for anchoring TV masts, towers, etc.
- 6 stands No. 20 AVG.
- Packed 4 ways for easy resale to dealers and servicemen.

Order No.	Spool or Coll & Case Size	List
#GW 10	—1,000 ft. spool; 10 spools to a case; 10,000 ft. ....	\$125.00
#GW 14	—10-100 ft. interconnected coils; 14 bundles to a case; 14,000 ft. ....	175.00
#GW 144A	—8-50 ft. interconnected coils; 48 bundles to a case; 14,400 ft. ....	180.00
#GW 144B	—12-50 ft. interconnected coils; 24 bundles to a case; 14,400 ft. ....	180.00

Sold in case lots only in amounts designated above.

## TV GLARE FILTER Intensifies Contrast — Relieves Eye Strain — Sharpens Image

Optically correct, eliminates eye fatigue, improves picture contrast under any lighting condition. Easily attached to any TV receiver (supplied with double face adhesive).

Attractively packaged in individual boxes suitable for display.

Specify color, blue or smoke.

Tube Size	Dimensions	Sugg. List
10"	8"x11"	\$1.15
12 1/2" & 14"	10"x13"	1.95
16" & 17"	12"x16"	3.65
19", 20", 21"	15"x20"	4.65

## TUBULAR

### SELENIUM RECTIFIERS

Completely enclosed, no shorts, no shocks, no overheating, long life, saves time and labor. Easily soldered into set (like a condenser) with pig-tail leads. Characteristics same as equivalent open-plate rectifiers. New-Type selenium plates. Higher forward current — higher reverse resistance for cool operation.

Unconditionally Guaranteed for 1000 Hours at Rated Voltage

RS	ma	List	RS	ma	List
RS 25	ma	\$1.00	RS 75	ma	\$1.60
RS 40	ma	1.15	RS 100	ma	1.95
RS 65	ma	1.38	RS 150	ma	2.40

## RADIO AND TV KNOB SETS

In Promotion-Wise Packages  
RADIO KNOBS, Set Screw Type

Model	Diam.	List	Model	Diam.	List
W420-A	1 1/8"	\$8.00	M420-B	1 1/8"	\$8.00
W120-A	1 1/8"	9.50	M120-B	1 1/8"	9.50
W320-A	1 1/8"	9.50	M320-B	1 1/8"	9.50

Per box of 50 of 1 model number.

## TV KNOBS—Mahogany and Gold For 630-type Chassis

TN-22W	Wing knob for tuner	List
TN-22W	Wing knob for tuner	\$0.53
TN-22	Complete set of 4	2.75

## TV KNOBS—All Gold For 630-type Chassis

TN-50W	Wing knob for tuner	List
TN-50W	Wing knob for tuner	\$0.70
TN-50	Complete set of 4	5.20

## TV KNOBS for Standard Tuner Mahogany and Gold

Model	TN-75	List	Model	TN-100	List
Model	TN-75	\$2.80	Model	TN-100	2.80
Model	TN-100	2.80	Model	TN-100	2.80

Complete set boxed for standard tuner.  
All Radio and TV Knob Sets are attractively boxed

## PLASTIC MASKS

For Conversions, Replacements and Custom Builders

One-piece clear lucite moulded to shape and attractively framed in gold paint (sealed for durability), individually boxed. Model LM—Rosette bolts, instructions for care and installation included.

Size	List	Size	List
12 1/2" round	\$ 9.50	19" round	\$17.00
14" rect.	8.75	20" rect.	17.00
16" rect.	11.30	21" rect.	19.00
16" round	12.15	24" round	34.85
17" rect.	12.30		

## DELUXE PLASTIC MASKS

Model DLM—Same as Model LM except for curved flange for outside mounting.

Size	List	Size	List
14" rect.	\$11.55	20" rect.	\$17.60
16" round	14.25	21" rect.	18.95
16" rect.	14.25	24" round	36.50
17" rect.	14.25		

## CONVERSION MASK ESCUTCHEONS AND KITS

Polystyrene escutcheon frame (tube green), with rubber dust seal ring attached; lucite window; 4 rosette bolts.

Model MEK		Model ME	
Complete Mask Kit	Escutcheon only	Complete Mask Kit	Escutcheon only
Size	List	Size	List
16" rect.	\$13.86	16" rect.	\$ 5.32
17" rect.	14.28	17" rect.	5.46
19" round	20.44	19" round	8.12
20" rect.	20.44	20" rect.	8.12
21" rect. Glass	20.44	21" rect. Glass	8.12
21" rect. Metal	20.44	21" rect. Metal	8.12

## MULTI-SWITCH

For Multiple TV or FM Set Demonstrations. Superior Hi-Lo antenna switch. Maximum signal transmission.

No soldering, fast, easy installation, low standing wave ratio, positive contact, matches all set finishes, serves as a handy multi-purpose switch.

Model No. MS-3 Suggested List, ea. **\$395**

# J. V. Development Corp.

2024 McDONALD AVENUE

BROOKLYN 23, N. Y.

ESplanade 5-9100



**MORE TV  
OUTLETS  
PER  
DOLLAR!**

# AMPLIFIED, ALL-CHANNEL MASTER ANTENNA SYSTEMS

FOR 2 TO 2000 TV SETS

**NO** Special connectors  
**NO** Matching transformers  
**NO** Engineers  
**NO** Individual channel equipment

**BLONDER-TONGUE** systems are based on the use of "no loss" Distribution Amplifiers which split the signal from the antenna into the desired number of outlets . . . all having the same signal level and picture quality as though each TV set used the antenna alone.

The B-T Automatic, All-Channel systems using three basic units in any desired number and combination can be easily installed by any TV service man.

**INSTALLED WITH THE  
TURN OF A SCREW**



**DISTRIBUTION AMPLIFIER,  
MODEL DA8-1-M**

8 TV Outlets  
Amplified and Isolated  
List Price \$87.50



Combine these B-T units to serve up to 2,000 sets from 1 antenna.



Model #CA-1-M  
Commercial Antensifier  
(30 Times Gain)  
Use As Pre-Amplifier, Line  
Amplifier or de-luxe Booster  
List Price \$77.50



MODEL #DA2-1-M  
Distribution Amplifier  
2 TV Set Outlets  
electronically isolated  
List Price \$39.50

**B-T HOME ANTENSIFIER MODEL HA-2-M**



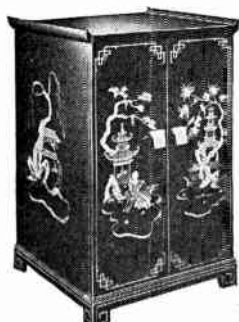
Finest All-Channel  
TV Booster, Fully  
Automatic, 16 Times  
Gain. In Metal Cabinet  
List Price \$57.50

**FREE INSTRUCTION BROCHURE ON MASTER ANTENNA SYSTEMS..Write Today!** Dept. L-1

**Blonder-Tongue Labs., Inc.,** Mt. Vernon, N. Y.

# Standard Wood Products Corporation

## BEAUTIFUL TV CABINETS FOR CUSTOM-BUILT SETS OR CONVERSIONS



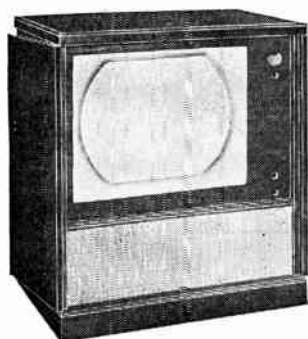
Series 503 — Chinese Pagoda Top

All the TV cabinets of the unusually complete Standard Wood Products line are carefully constructed of the choicest select-grain woods and finest hardware to give you lifetime service. Each cabinet is creatively *fidelity-styled* to richly deserve the center of attraction in any living room or den.

Series 503 TV Cabinets are especially designed for all 630-type chassis and all others of similar dimensions. Front panels are standardized and removable, permitting quick interchangeability for all sizes round and rectangular tubes. Complete with all necessary mountings for Picture Tube & Yoke. In Mahogany, Walnut, Ebony or Blonde, each model is hand-rubbed to a custom high-lustre finish. Can be provided with record changer pull-out drawer at the bottom, for a nominal additional cost. Size: 40" h, 24" w, 24" d.



Series 503 — Open Face



Series 507 — Open View

Series 507 TV Cabinets possess all the identical features of the Series 503 Cabinets — but, in addition, are expressly designed for housing the new 24" Picture Tubes and Chassis. Size: 40" h, 35" w, 24" d.

Series 505 TV Combination Console Cabinets have all the outstanding features of the Series 503 Cabinets plus the separate compartments for housing FM-AM radio chassis, all Webster-type record changers, and for record storage. Record changer drawers are on sturdy wheel slides for easy pull-out. Size: 40" h, 40" w, 24" d.



Series 505 — Oval Beaded Leather Inlay

## CUSTOM AUDIO FURNITURE

Model RX Bass Reflex Speaker Cabinets, for 15" or 12" speakers, are scientifically engineered for life-like sound reproduction and fidelity-styled to enhance the beauty of any interior. Vibration-free construction, 3/4" stock, interior acoustic padding, 10,000 cubic inch capacity — all these combine to provide greater frequency response, angle distribution and power-handling capacity. Size: 36" h, 24" w, 16" d.

Model RP Radio-Phonograph Cabinets are perfect companions to the Model RX. Top panel for all FM-AM tuners. Middle pull-out drawer for all changers. Bottom compartment for all accessories. Same size as Model RX.

Both Models are available in Mahogany, Cordovan Mahogany, Walnut, Ebony, Blonde, or Unfinished — in Period or Modern designs.



Model RP and RX in Period design. Also available in Modern styling.



Series RP3 — Open View

## RADIO-PHONOGRAPH COMBINATION CABINETS

For those who desire to house a fine radio and phonograph system in one piece of beautiful furniture, the Series RP3 Radio-Phonograph Cabinets are ideal. Ample compartments for record changer, radio chassis, record storage, and 15" or 12" speaker assure compactness with no sacrifice in excellent sound reproduction. And — there's a wide variety of fidelity-styled designs and finishes to choose from — to harmonize with the decor of any home. Size: 36" h, 34" w, 19" d.

**ASK YOUR FAVORITE DISTRIBUTOR FOR FULL LITERATURE AND PRICES ON ALL STANDARD WOOD MODELS.**

*Here all similarity ends...  
from this point on, it's craftsmanship!*

 <p><b>SR8</b> CODE NO. E7</p>	 <p><b>KV3</b> CODE NO. E10</p>	 <p><b>CF3</b> CODE NO. E14</p>
 <p><b>MC9</b> CODE NO. E3-E8-E9-E13-E22</p>	 <p><b>SR5</b> CODE NO. E6</p>	 <p><b>CF6</b> CODE NO. E15</p>
 <p><b>MC7</b> CODE NO. E5</p>	 <p><b>SR10</b> CODE NO. E2-E4</p>	 <p><b>CCO-2A</b> CODE NO. E16</p>
 <p><b>SMC100</b> CODE NO. E12</p>	 <p><b>MS433</b> CODE NO. E11</p>	
 <p><b>AX2</b> CODE NO. E17-E18-E19-E20-E21 <b>AX3</b></p>		

*Bliley CRYSTALS*

**BLILEY ELECTRIC COMPANY**  
UNION STATION BUILDING • ERIE, PENNSYLVANIA

## TV SERVICE CRYSTALS

### SOUND CHANNEL MARKER UNITS (Sub-Multiple Frequencies $\pm .05\%$ )

CODE	TYPE	CHANNEL #	CHAN. FREQ. (mc)	SOUND CHAN. (mc)	CRYS. FREQ. (kc)	PRICE
E2	SR10	2	54-60	59.75	19916.666	\$6.95
E2	SR10	3	60-66	65.75	16437.500	\$6.95
E2	SR10	4	66-72	71.75	17937.500	\$6.95
E2	SR10	5	76-82	81.75	16350.000	\$6.95
E2	SR10	6	82-88	87.75	17550.000	\$6.95
E2	SR10	7	174-180	179.75	17975.000	\$6.96
E2	SR10	8	180-186	185.75	18575.000	\$6.95
E2	SR10	9	186-192	191.75	19175.000	\$6.95
E2	SR10	10	192-198	197.75	19775.000	\$6.95
E2	SR10	11	198-204	203.75	18522.727	\$6.95
E2	SR10	12	204-210	209.75	19068.181	\$6.95
E2	SR10	13	210-216	215.75	19613.636	\$6.95

### i-f ALIGNMENT CRYSTALS

CODE	TYPE	FREQUENCIES	TOLERANCE	APPLICATION	PRICE
E4	SR10	18-22 mc	$\pm .05\%$	video channel markers	\$8.50
E4	SR10	19-27.5 mc	$\pm .05\%$	video i-f alignment	\$8.50
E4	SR10	21-22 mc	$\pm .05\%$	sound i-f alignment	\$8.50
E4	SR10	19-27.5 mc	$\pm .05\%$	trap frequencies	\$8.50
E3	MC9	4.5 mc	$\pm .02\%$	intercarrier	\$3.95

### SHIP-TO-SHORE

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E5	MC7	radiotelephone 2-3.5 mc	$\pm .02\%$	\$6.00
E6	SR5	radiotelephone 2-3.5 mc	$\pm .02\%$	\$6.00
E7	SR8	radiotelephone 2-3.5 mc	$\pm .02\%$	\$6.00

### STANDARD FREQUENCIES

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E8	MC9	signal generator—5.0 mc	$\pm .02\%$	\$ 2.80
E9	MC9	FM i-f alignment—10.7 mc	$\pm .05\%$	\$ 3.95
E10	KV3	reference frequency 100 kc	$\pm .005\%$	\$ 6.95
E11	MS433	reference frequency 1000 kc	$\pm .005\%$	\$17.00
E12	SMC100	100 kc (exact by ckt. adjust.) 1000 kc	$\pm .05\%$	\$ 8.75

### SPECIAL PURPOSE

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E13	MC9	13.560 mc—multiplier to 27.12 mc	$\pm .05\%$	\$5.50
E14	CF3	455 kc—456 kc—465 kc	$\pm 5$ kc	\$5.00
E15	CF6	455 kc—456 kc—465 kc	$\pm 5$ kc	\$4.50
E22	MC9	3.0 mc—10 mc experimental frequencies	$\pm .05\%$	\$6.95

### AMATEUR

CODE	TYPE	APPLICATION	TOLERANCE	PRICE
E16	CCO-2A	packaged oscillator for 2-6-10-11 meters		\$9.95
E17	AX2	1803—1822 kc; 1878—1897 kc; 1903—1922 kc; 1978—1997 kc	$\pm 1$ kc	\$3.75
E18	AX2	3500—3997 kc	$\pm 2$ kc	\$2.80
E19	AX2	7000—7425 kc; 8000—8222 kc	$\pm 2$ kc	\$2.80
E20	AX2	12.5—13.61 mc; 14—14.85 mc	$\pm 30$ kc	\$3.95
E21	AX3	24—24.33 mc; 25—25.5 mc	$\pm 5$ kc	\$3.95

### DIMENSIONS

CODE	TYPE	LENGTH	WIDTH	THICKNESS	PIN SIZE	PIN SPACE
E2	SR10	51/64"	3/4"	11/32"	.093"	.486"
E3	MC9	1 11/64"	13/16"	7/16"	.093"	.486"
E4	SR10	51/64"	3/4"	11/32"	.093"	.486"
E5	MC7	1 39/64"	1 1/8"	21/32"	.125"	.750"
E6	SR5	1 1/4"	1 9/64"	7/16"	.125"	.500"
E7	SR8	1 1/4"	1 1/8"	7/16"	.093"	.486"
E8	MC9	1 11/64"	13/16"	7/16"	.093"	.486"
E9	MC9	1 11/64"	13/16"	7/16"	.093"	.486"
E10	KV3	1 9/32"	1 3/16" (dia.)	—	.093"	.486"
E11	MS433	1 31/32"	1 25/64" (dia.)	—	.093"	OCTAL
E12	SMC100	1 3/8"	1 3/8"	1.039"	—	—
E13	MC9	1 11/64"	13/16"	7/16"	.093"	.486"
E14	CF3	1 13/32"	1 3/16"	3/4"	.125"	.750"
E15	CF6	17/32"	15/16"	.695"	—	—
E16	CCO-2A	2 1/4"	3 1/8"	3"	—	—
E17	AX2	15/16"	1 1/16"	7/16"	.093"	.486"
E18	AX2	15/16"	1 1/16"	7/16"	.093"	.486"
E19	AX2	15/16"	1 1/16"	7/16"	.093"	.486"
E20	AX2	15/16"	1 1/16"	7/16"	.093"	.486"
E21	AX3	15/16"	1 1/16"	7/16"	.093"	.486"
E22	MC9	1 11/64"	13/16"	7/16"	.093"	.486"

**BLILEY CRYSTALS • BLILEY ELECTRIC CO. UNION STATION BLDG. ERIE, PA.**

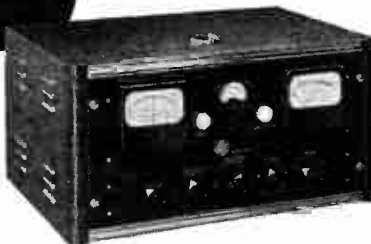
Keeping communications  
"ON THE BEAM"

**JAMES KNIGHTS**

Formerly Manufactured by DOOLITTLE RADIO, INC.

**FREQUENCY  
& MODULATION  
MONITOR**

The JK FD-12 monitors any four frequencies anywhere between 25 mc and 175 mc, checking both frequency deviation and amount of modulation. A truly precise instrument for communication systems!



When used for different bands, plug-in type antenna coils provided. Crystal accuracy guaranteed to be  $\pm .0015\%$  over range of 15° to 50° C. Meets or exceeds FCC requirements.

**QUARTZ  
CRYSTALS**

"CRYSTALS FOR THE CRITICAL"

Regardless of model, type, or design, James Knights can provide you with the very finest in stabilized crystals. Today JK crystals find wide use in every phase of industry, science, and communications.



Pictured here is the well-known JK Stabilized H-17, with frequency range of 200 kc to 100 mc. Write for crystal catalog picturing the entire JK line!

ALSO manufacturer of the James Knights Frequency Standard.

**THE JAMES KNIGHTS COMPANY**

SANDWICH 20, ILLINOIS



# PR Precision CRYSTALS

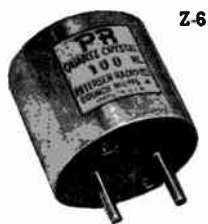


## COMMERCIAL TYPES — SPECIFICATIONS

Type	Frequency Range	Pin Spacing	Pin Diameter	Height Above Pins	Width	Depth	
Z-1 Fundamental	900 Kc. to 12000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"	
Z-1 Harmonic	12000 Kc. to 30000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"	
*Z-1A Fundamental	425 Kc. to 12000 Kc.	3/4"	.125"	1 1/8"	1 3/8"	1/2"	
*Z-1A Harmonic	12000 Kc. to 30000 Kc.	3/4"	.125"	1 1/8"	1 3/8"	1/2"	
Z-1B Fundamental	1000 Kc. to 12000 Kc.	3/4"	.125"	1 1/8"	1-3/16"	1/2"	
Z-1B Harmonic	12000 Kc. to 30000 Kc.	3/4"	.125"	1 1/8"	1-3/16"	1/2"	
Z-1D Same as Z-1	Same as Z-1	1/2"	.125"	1-3/16"	13/16"	7/16"	
Z-1E Same as Z-1	Same as Z-1	1/2"	.125"	1 1/4"	1 1/8"	7/16"	
Z-1H Single or dual unit Fundamental	100 Kc. to 5000 Kc.	3-Pin W.E.	.157"	2-1/16"	1-19/32"	1-3/16"	
Z-1K Same as Z-1A except has .157" dia. pins	Same as Z-1A						
Z-1M Fundamental	1000 Kc. to 5000 Kc.	3/8"	Std. Banana	2-3/32"	1-19/32"	3/4"	
†Z-1R Fundamental	175 Kc. to 475 Kc.	1/2"	.093"	1 1/4"	1-3/32"	7/16"	
Z-4 Fundamental	1500 Kc. to 12000 Kc.	3/4"	.125"	.650"	Diameter	.995"	
Z-4 Harmonic	12000 Kc. to 30000 Kc.	3/4"	.125"	.650"	Diameter	.995"	
Z-7 Fundamental	1000 Kc. to 12000 Kc.	3/4"	Std. Banana	1.660"	1.192"	.518"	
Z-8 Fundamental	400 Kc. to 5000 Kc.	3/4"	1/8"	1 3/4"	1-9/16"	1-11/16"	
Z-6 Fundamental	100 Kc. to 325 Kc.	3/4"	1/8"	1 1/2"	Diameter	1-25/32"	
E-1 Fundamental	100 Kc. to 7000 Kc.	Interchangeable with FT-164 and AC-95					
FT-171-B Fundamental	1000 Kc. to 8000 Kc.	3/4"	Std. Banana	2 1/4"	1 1/2"	13/16"	

\* Can be Supplied with Standard Banana Pins.

† For Signal Generator Use. Not recommended for Transmitter Freq. Control.



Z-6



Z-1



Z-1A



Z-1B

**PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa**

# PR Precision CRYSTALS



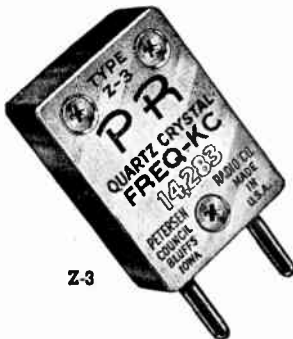
## AMATEUR—Specifications and Frequencies



Z-2

### TYPE Z-2

- 160 meter band for VFX-680 Narrow Band FM in Sonar Exciter.
- 1699.2 to 1710 Kc. for 11 meter band.
- 1750 to 1812 Kc. for 10 meter band.
- 1828 and 1844 Kc. These 2 frequencies cover entire 10 meter FM band in Sonar VFX-680.
- 1562.5 to 1687.5 Kc. for 6 meter band.
- 1778 to 1827 Kc. for 2 meter band.
- 3370 to 3403 Kc. for 11 meters.
- 3500 to 4000 Kc. for 80, 40, 20 and 10 meters.
- 6250 to 6750 Kc. for 2 meters.
- 6740 to 6807 Kc. for 11 meters.
- 7000 to 7425 Kc. for 40, 20 and 10 meters.
- 8000 to 8222 Kc. for 2 meters.
- 8334 to 9000 Kc. for 6 meters.
- 9000 to 9250 Kc. for 2 meters.



Z-3

### TYPE Z-3

- 12000 to 12333 Kc. for 2 meters.
- 12500 to 13500 Kc. for 6 meters.
- 13480 to 13615 Kc. for 11 meters.
- 14000 to 14850 Kc. for 20 and 10 meters.

## CHECK SUPERIORITY OF PR Crystals

### Stability . . .

Drift characteristics of PR Crystals limited to less than 2 cycles per MC per degree. You get low drift, combined with high output, dependable frequency control. X-Ray orientation guarantees uniform cut for maximum low-drift performance.

### Accuracy . . .

Guaranteed accurate within .01 per cent of specified frequency or better. When doubling and quadrupling accuracy is absolutely essential. You KNOW where you are with PRs.

### Power Output . . .

PRs are designed to give maximum power output from the exciter stage when operating at the highest permissible voltages. PR Crystals can "take it."

### Activity . . .

PRs give you high activity. They "come in" instantly on phone . . . key without chirps, even at high bug speeds, without excessive "backing off."

### Unconditional Guarantee . . .

Every PR Precision CRYSTAL is guaranteed unconditionally, by the makers of fine crystals since 1934.

**PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa**

# PR Precision CRYSTALS



## PRICE LIST SUBJECT TO CHANGE WITHOUT NOTICE

### COMMERCIAL

Type	Frequency Range	Tolerance			Schedule
		.005%	.01%	.02%	
Z-1 Fundamental	900 to 12000 Kc.	\$12.50	\$11.00	\$10.00	A
Z-1 Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1 Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1A Fundamental	425 to 900 Kc.	15.00	12.50	11.00	A
Z-1A Fundamental	900 to 12000 Kc.	12.50	11.00	10.00	A
Z-1A Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1A Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1B Fundamental	1000 to 12000 Kc.	12.50	11.00	10.00	A
Z-1B Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1B Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1D Same as Z-1	Same as Z-1	15.00	12.50	11.00	A
Z-1E Same as Z-1	Same as Z-1	18.00	15.00	13.00	A
Z-1H Fundamental	100 Kc. Standard		(Exact Frequency)	12.00	B
Z-1H Fundamental	101 to 900 Kc.	18.00	15.00	13.00	A
Z-1H Fundamental	901 to 5000 Kc.	15.00	12.50	11.00	A
Z-1H Dual Unit	901 to 5000 Kc.	30.00	27.50	25.00	A
Z-1K Same as Z-1A	Same as Z-1A				A
Z-1M Fundamental	1000 to 5000 Kc.	15.00	12.50	11.00	A
Z-1R Fundamental	175 to 475 Kc.	18.00	15.00	13.00	A
Z-1R Fundamental for Signal Generators	{ 175, 200, 262, 370, 455, 456, 465 Kc. }		6.00		B
Z-1R Fundamental	475 to 1000 Kc.	15.00	12.50	11.00	A
Z-4 Fundamental	Same as Z-1				A
Z-4 Harmonic	Same as Z-1				A
Z-7 Fundamental	Same as Z-1				A
Z-8 Fundamental	400 to 900 Kc.	18.00	15.00	13.00	A
Z-6 Fundamental	100 Kc. Standard		(Exact Frequency)	9.00	B
Z-6 Fundamental	101 to 175 Kc.	18.00	15.00	13.00	A
E-1 Fundamental	100 to 900 Kc.	20.00	19.00	18.00	B
E-1 Fundamental	900 to 7000 Kc.	19.00	18.00	17.00	B
FT-171-B Fundamental	1000 to 8000 Kc.	12.50	11.00	10.00	A

### AIRCRAFT

Type	Frequency	Price	Schedule
Z-1, Z-1A, Z-1B	3105 and 6210 Kc.	\$5.00	C

### MARINE

Type	Transmitter	Receiver	Schedule
Z-1	\$10.00	\$10.00	A
Z-1A	10.00	10.00	A
Z-1B	10.00	10.00	A
Z-1D	10.00	10.00	A
Z-1H	12.50	12.50	A
Z-1H Ducl	25.00	25.00	A
Z-1K	12.50	12.50	A
Z-1M	12.50	12.50	A

### AMATEUR

Note: Crystals Within Amateur Bands Supplied INTEGRAL KILOCYCLES Only.

Type	Tolerance	Price	Schedule
Z-2	.01%	\$2.75	B
Z-3	.01%	3.75	B

Crystals for amateur service other than frequencies listed on Catalog Sheet can be supplied as follows:

Type	Range	Tolerances			
		Plus or Minus 1%		Plus or Minus .02%	
		Price	Sched.	Price	Sched.
Z-2, Fundamental	1500 to 10000 Kc.	\$2.75	B	\$10.00	A
Z-3, 3rd Harmonic	10000 to 20000 Kc.	3.75	B	11.00	A

#### NOTICE

Prices on Commercial Crystals are based on quantities of 1 to 10 of the same frequency. For larger quantities write for prices.  
 Price on crystals below 100 Kc. furnished on request. Tolerance can be guaranteed only when oscillator or circuit diagram is furnished.  
 To facilitate the handling of your order, please order by type number and indicate permissible tolerance.

PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa



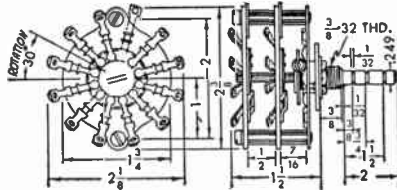
**Multi-Section Rotary Switches**



High grade, phenolic-insulated, rotary switches for radio and electronic equipment in circuits not exceeding 500 volts DC. These switches have self-wiping, silver-plated, copper alloy contacts which assure long, useful life. All models feature an adjustable stop. A 2 1/2" mounting area is required. Mounting depth is dependent on number of sections. Switches have 1/4" round shafts, 2" long, and 3/8"-32 bushings. Each switch supplied with pointer knob and mounting hardware.

Shorting Type Catalog Number	Non-Shorting Type Cat. No.	No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Positions	List Price
1211L	1311L	1	1	2 to 11	\$1.55
1215L*	1315L*	2	2	2 to 5	1.65
1213L*	1313L*	3	3	2 to 3	1.80
1212L*	1312L*	4	4	2 to 2	1.90
1221L	1321L	1	2	2 to 11	2.30
1225L*	1325L*	2	4	2 to 5	2.60
1223L*	1323L*	3	6	2 to 3	2.80
1222L*	1322L*	4	8	2 to 2	2.95
1231L	1331L	1	3	2 to 11	3.10
1235L*	1335L*	2	6	2 to 5	3.30
1241L	1341L	1	4	2 to 11	3.95
1245L*	1345L*	2	8	2 to 5	4.60
1251L	1351L	1	5	2 to 11	4.90
1256L	1356L	2	10	2 to 6	6.05
1261L	1361L	1	6	2 to 11	5.80
1266L	1366L	2	12	2 to 6	7.40

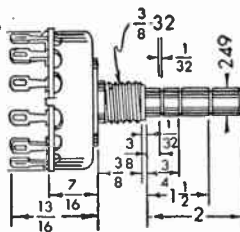
\* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.



**Single-Section Rotary Switches**



Small, compact, phenolic-insulated switches equipped with 3/8"-32 bushings, and easy-to-cut grooved shafts, 1/4" diameter x 2" long. The 1 1/4" base styles have 30° indexing. The 1 1/8" base styles have 20° indexing and are equipped with adjustable stops.



Shorting Type Catalog Number	Non-Shorting Type Cat. No.	Number of Circuits	Number of Positions	Diameter of Base	List Price
3115J	3215J	1	5	1 1/4	\$1.15
31112J	32112J	1	12	1 1/4	1.15
3122J	3222J	2	2	1 1/4	1.15
3123J	3223J	2	3	1 1/4	1.15
3126J	3226J	2	6	1 1/4	1.15
3134J	3234J	3	4	1 1/4	1.20
3142J	3242J	4	2	1 1/4	1.20
3143J	3243J	4	3	1 1/4	1.20
31117J	32117J	1	2 to 17	1 1/8	1.80
3129J	3229J	2	2 to 9	1 1/8	1.80
3136J	3236J	3	2 to 6	1 1/8	1.95
3163J	3263J	6	2 to 3	1 1/8	1.95

**Ceramic Section Selector Switches**



High grade, ceramic-insulated, rotary switches for use in transmitters, test and high frequency radio equipment. Supplied with silicone treated, ceramic sections and double, self-wiping, silver-plated, copper alloy contacts. All models have adjustable stops. A 2" mounting area is required. Two-section models have 1/2" spacing; 3-section models have 1" spacing. Equipped with 1/4" round shafts, 2" long, and 3/8"-32 bushings. Pointer knob and mounting hardware included.

Catalog Number	Number of Gangs or Sections	Number of Circuits per Gang or Section	Number of Positions	List Price
172C	1	1	2 to 11	\$2.25
173C*	1	2	2 to 5	2.25
174C*	1	3	2 to 3	2.25
176C	2	1	2 to 11	3.50
177C*	2	2	2 to 5	3.50
178C*	2	3	2 to 3	3.50
180C	3	1	2 to 11	5.00
181C*	3	2	2 to 5	5.00

\* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

**Lever Action Switches**



Bat-handle design. For circuit selection in intercommunication, PA and similar equipment. 2" mounting depth behind panel required for all models. Switches of the 5000 Series have No. 8 by 1/4" elongated mounting holes with 2 1/4" mounting centers. Switches of the 6000 and 7000 Series have No. 6 mounting holes with 1 3/4" mounting centers. Provided with knob and hardware.

Shorting Type Catalog No.	Non-Shorting Type Catalog No.	Number of Poles or Circuits	Number of Positions or Contacts	List Price
<b>Positive Indexing</b>				
5124	5224	2	4	\$1.50
6142	6242	4	2	1.25
6143	6243	4	3	1.25
<b>Spring Return</b>				
7122L	7222L	2	2	1.25
7123C	7223C	2	3	1.25
7142L	7242L	4	2	1.25
7143C	7243C	4	3	1.25
7162L	7262L	6	2	1.25

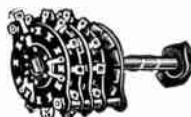
**24-Point, Non-Shorting, Tap Switch**



For test equipment. Switches have 1 circuit and 24 positions. Phenolic insulation. Furnished with 3/8"-32 brass bushing and 1/4" x 2" notched shaft. Dial plate 394, knob and mounting hardware supplied.

Catalog No. 13124L List Price \$3.50

**Circuit-Opening Switch**



For meter and circuit switching in test equipment and small transmitters. Switches have 4 sections and 2 to 12 positions with adjustable stop. Phenolic-insulated for 500 volt DC operation. Mounting depth behind panel is 2 1/8". Supplied with 1/4" x 2" notched shaft and 3/8"-32 brass bushing. Pointer knob, dial plate 382, and mounting hardware included.

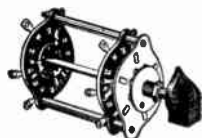
Catalog No. 1400L List Price \$5.90

# "HAM," PUSH-BUTTON AND JACK SWITCHES

P. R. MALLORY & CO., INC. - INDIANAPOLIS

P. R. MALLORY & CO. INC.  
**MALLORY**

## Two-Section, Five-Position "Hamswitch"®



For meter or circuit switching in transmitters. Rated at 1000 volts AC up to 1500 volts DC. Two section, 5 position. 2¼" spacing between sections. 60° indexing between positions. Adjustable stop. Non-shorting type. Supplied with ¾"-32 bushing, ¼" x 2" notched round shaft. Pointer knob and mounting hardware furnished. Requires ¾" mounting depth.

Catalog No. 151L List Price \$2.75

## Two-Section, Two-Circuit, Six-Position "Hamswitch"



Coil and circuit rotary switch with 6 positions, 2 circuits and 2 sections (½" spacing) designed to short out automatically all unused positions. Ideal for test oscillator switching, band-switching or meter-switching uses. Phenolic insulated and equipped with ¾"-32 bushing, ¼" x 2" notched round shaft and adjustable stop. Supplied with pointer knob and mounting hardware.

Catalog No. 152L List Price \$3.25

## Multiple Push-Button Switches



For making, breaking or transferring multiple circuits. Spacing of ¾" between plungers. Equipped with brown knobs, escutcheon plate and window inserts.

Catalog Number	Number of Buttons	Operation Per Button	List Price
2164	4	DP Circuit Closing	\$5.25
2166	6	DP Circuit Closing	6.55
2168	8	DP Circuit Closing	7.90
2184	4	DPDT, Make Before Break	5.25
2186	6	DPDT, Make Before Break	6.55
2188	8	DPDT, Make Before Break	7.90
2194*	4	DPDT, Break Before Make	5.25
2196*	6	DPDT, Break Before Make	6.55
2198*	8	DPDT, Break Before Make	7.90

\* Non-Shorting Types

## Ceramic Section "Ham Band" Switches



For use in transmitter plate circuits not exceeding 1000 volts DC with power up to 100 watts. Switches have 4 positions in 360° rotation with each section a single circuit. 90° indexing. All models are non-shorting. Ceramic insulation provides low losses at high frequencies. Equipped with double-contact tie points. A 2" mounting

area is required. Two-section models have 1½" spacing, all others have 1". Switches are supplied with ¼" round shafts, 2" long, and ¾"-32 bushings. Each switch is furnished with pointer knob and mounting hardware.

Catalog Number	Number of Gangs or Sections	Spacing Between Sections	Circuits Per Switch	List Price
161C	1		1	\$2.25
162C	2	1½"	2	3.50
163C	3	1"	3	5.00
164C	4	1"	4	6.00
165C	5	1"	5	7.50

## Single Push-Button Switches



Plunger-type switches for panel mounting in radio and electronic circuits. Available in a choice of 8 different circuit combinations for use in laboratories, on test panels, in meter circuits and in a wide variety of other applications. "L" indicates locking-type.

Other types have spring return to normal position. Switches require ⅞" mounting hole, and will fit panels up to ¼" in thickness. Mounting radius is 1¾"; mounting depth is approximately 1¼". Switch body extends 1⅞" behind panel. Supplied with polished phenolic button and mounting hardware.

Catalog No.	Circuit Arrangement	List Price
2001	SPST—Make	\$1.30
2001L	SPST—Make	1.30
2002	SPST—Break	1.30
2002L	SPST—Break	1.30
2003	SPDT	1.40
2003L	SPDT	1.40
2004	DPST—Make 2	1.60
2004L	DPST—Make 2	1.60
2005	DPST—Break 2	1.60
2005L	DPST—Break 2	1.60
2006	DPDT	1.95
2006L	DPDT	1.95
2007	DP—Make 2, Break 1	1.75
2007L	DP—Make 2, Break 1	1.75
2008	DPDT—Make before Break	2.20
2008L	DPDT—Make before Break	2.20

## Jack Switches



Leaf-type switches actuated by rotary motion. Both types adaptable for use in such applications as laboratories, test panels and meter circuits. Standard models extend perpendicularly to panel; junior style parallel to panel. The ¾"-32 bushing may be used in panels up to ¼" in thickness. Both types suitable for mounting in a single hole ⅞" diameter. Shaft is ¼" round with suitable flat. Supplied with mounting hardware, but no knob.

Two Position				Circuit Arrangement
Standard* Cat. No.	List Price	Junior Cat. No.	List Price	
20	\$1.15	720	\$1.10	Single-Pole, Single-Throw Single-Pole, Double-Throw Double-Pole, Single-Throw Five Springs, two break and one make Double-Pole, Double-Throw Three-Pole, Single-Throw Four-Pole, Single-Throw
30	1.40	730	1.35	
40	1.55	740	1.50	
45	1.85	745	1.75	
73	1.95	760	1.95	
74	2.55	733	1.95	Three Position
		744	2.55	
62	1.95	762	1.90	
63	2.55	763	2.50	
		764	3.10	Double-Pole, Double-Throw Center "Off" Position Four-Pole, Double-Throw Center "Off" Position

\* Standard types will be discontinued when present stocks are exhausted.

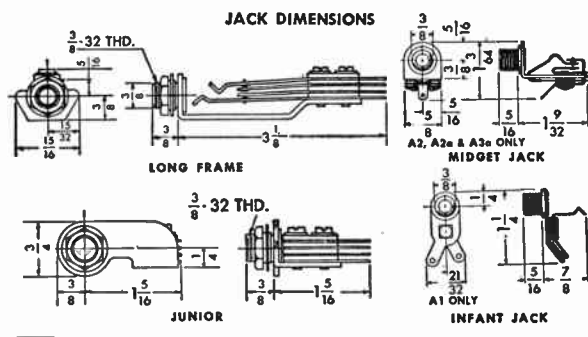
**Jacks**



Metal parts on all jacks have protective plating. Fine contact surfaces provide excellent electrical conductivity. Suitable mounting hardware supplied with all jacks. LA Jacks are economy jacks similar to the SC Series (see listing this page).

Long Frame Cat. No.	List Price	Junior Jacks Cat. No.	List Price	Infant and Midget Jacks Cat. No.	List Price
1	\$0.65	701	\$0.55	A-1	\$0.30
2	.80	702	.75	A-2	.50
2A	.80	702A	.75	A-2A	.55
2B	.80	702B	.75		
3	.95	703	.85		
3A	.95	703A	.85	A-3A	.80
3B	.95	703B	.85		
3C	.95	703C	.85		
LA Series					
4	1.10	704	1.00	LA-1	\$0.40
4A	1.10	704A	1.00	LA-2	.45
4B	1.10	704B	1.00	LA-2A	.50
5	1.20	705	1.15	These Jacks equivalent electrically to A-1, A-2 and A-2A listed above	
6	1.30	706	1.25		

**GJ-1 Airplane Grounding Jack**—Similar to A-1 Jack except for insulation. List Price \$0.50

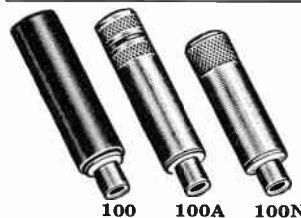


**SC Jacks**

Both SC Type Jacks have standard brass 3/8"-32 bushings. Mounting depths behind panel 1 1/16".

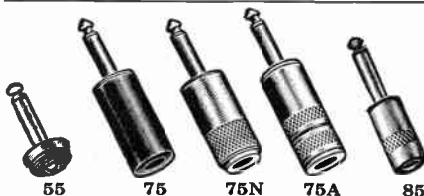


Cat. No.	Description	List Price
<b>SC-1A Phone Jack</b>	Commercial equivalent of military jack No. JJ-034. Same spring arrangement as No. 1 long-frame jack. Designed to receive the following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B, Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155, PL-125 and JAN plugs PJ-055, PJ-155, PJ-634, PJ-636, PJ-047.....	\$0.55
<b>SCA-2B</b>	Commercial equivalent of military jack No. JJ-033. Same spring arrangement as No. 2B Long frame jack. Designed to receive the following plugs: Western Electric No. 109 and Signal Corps Nos. PL-68, PL-168, and JAN plugs PJ-068, PJ-168, and PJ-309.....	.65



**Extension Jacks**

Cat. No.	Description	List Price
<b>100</b>	Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug. Overall length 3/4".	\$1.30
<b>100N</b>	Two-Way Extension Jack (Shielded One-Piece Nickel Shell) for No. 75N Phone Plug. Overall length 3/8".	1.65
<b>100A</b>	Two-Way Extension Jack (Shielded Two-Piece Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp). Overall length 3/8".	2.30



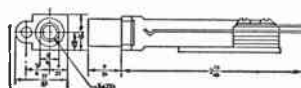
**Plugs**

Cat. No.	Description	List Price
<b>55</b>	Adapts standard microphone connector for use with conventional Jack.	\$0.45
<b>75</b>	Two-Way Phone Plug with Tie-Cord Anchor (Phenolic Shell)	.65
<b>75N</b>	Two-Way Phone Plug with Tie-Cord Anchor (Shielded One-Piece Nickel Shell)	1.00
<b>75A</b>	Two-Way Phone Plug with Tie-Cord Anchor (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.65
<b>76</b>	Three-Way Microphone Plug (Phenolic Shell)	1.00
<b>76A</b>	Three-Way Microphone Plug (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.95
<b>85</b>	Two way miniature phone plug, shielded.	.50

**"X" Type Jacks**

Plain bushing type for telephone switchboard service. Furnished with 1 mounting nut and washer.

Cat. No.	Type	List Price
<b>XP1</b>	Open Circuit.....	\$0.90
<b>XP2B</b>	3-Circuit Microphone.....	1.00
<b>XP3B</b>	Single Circuit—Make before Break..	1.30



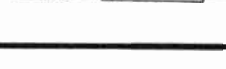
Cat. No.	Type
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**XP1**—(Open Circuit)



**XP2B**—(Three-Circuit Microphone)



**XP3B**—(Single Circuit, Make before Break)

# SPECIAL COMPONENTS AND MISCELLANEOUS ITEMS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



## Knobs



Catalog No.	Description	List Price
364	1 1/16" Dia. Similar to 368, but with pointer at base. Black.....	<b>\$0.15</b>
365-1	2 1/4" Bar Type Knob, Black.....	.25
366-1	1 1/4" Bar Type Knob, Black.....	.20
366-R-1	1 1/4" Bar Type Knob, Red.....	.20
367-1	1 1/2" Dia. Round Knob, Black.....	.25
368-1	1 1/8" Dia. Round Knob, Black.....	.20

## Mounting Nuts For Switches and Controls



Catalog Number	Description	Thread	Dimension	List Price
232	Flat Hex Mounting Nut.....	3/8-32	1/2 x 3/32	<b>\$0.35 *</b>
255	Hex Mounting Nut.....	3/8-32	1/2 x 7/64 x 7/64 shoulder nut	.20
A-11260-2	Hex Mounting Nut.....	3/8-32	1/2 x 7/64 x 1 1/32 shoulder nut	.30
A-11260-12	Hex Mounting Nut.....	3/8-32	1/2 x 7/64 x 7/32 shoulder nut	.25

\* Per 10 pieces.

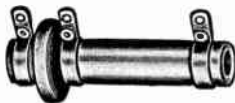


## Washers—For Switches and Controls

Catalog Number	Description and Dimensions	List Price
203	Extruded Washer—Fiber—3/8" O.D. x 3/8" I.D. x 1/16"; Extruded 1/2" x 1/32". For Set See No. 212 Flat Washer.....	<b>\$0.30 *</b>
212	Flat Washer—3/8" O.D. x 3/8" I.D. x 1/32"; Phenolic.....	.20 *
225	Metal Washer—Nickel Finish—3/8" O.D. x 3/8" I.D. .040 Brass.....	.20 *
226	Metal Washer—Nickel Finish—3/8" O.D. x 1/16" I.D. .040 Brass.....	.20 *
227	Lock Washer—Cadmium Plated Steel—1 1/16" O.D. x 2 5/64" I.D.....	.20 *

\* Per 10 pieces.

## Type VC-101—Videocoupler



The Mallory VC-101 Videocoupler is a compact inter-stage coupling unit for use in the wide-band amplifiers commonly found in television, radar and oscilloscope equipment. It consists of peaking inductances and a load resistance which provide an essentially flat frequency response to 4 mc. per second. It is designed to work into a terminating capacity of 22.5 mmfd. When used with a 6AC7 tube in a proper circuit, a stage gain of approximately 25 may be realized.

Mounting space required: 1 3/8" long x 3/8" in diameter; max. dissipation 2 watts; finish, high-temperature enamel. Use a No. 6 bolt through the core for mounting.

Catalog No. VC-101

List Price \$1.75

## Soldering Iron Tips



No. 311—Replacement tip for soldering irons that are turned on for short periods only. Heats quicker than No. 312, but is not as long wearing. Made of a special Mallory copper alloy long in use as a welding tip material. Nickel plated to resist corrosion. Size—3/8" diameter, 4" length. Plunger style with "screw driver" point.

List Price \$0.85

No. 312—Replacement tip for soldering irons that are used continuously for long periods of time. Made of a special Mallory copper alloy of great hardness and high electrical conductivity. Nickel plated to resist corrosion. Size—3/8" diameter, 4" length. Plunger style, with "screw driver" point.

List Price \$0.95

## Dial Plates

For Mallory Circuit Selector, Tap and All-Wave Switches.

List Price \$0.20 each (all types)



Neat-appearing Dial plates with easy-to-read aluminum figures clearly etched on solid black background. Dimensions are 1 3/16" in diameter with 7/16" hole, with figures 7/64" high. .020" aluminum stock.

For all types 3100J, 3200J Switches, with 1 1/16" base. 20 degree spacing between numerals.	For all Switch types 1200L, 1300L and 1/4" base 3100J, 3200J. 30 degree spacing between numerals.	Marking
Catalog Number	Catalog Number	
453	372	1 to 2
454	373	1 to 3
455	374	1 to 4
456	375	1 to 5
457	376	1 to 6
458	377	1 to 7
459	378	1 to 8
460	379	1 to 9
461	380	1 to 10
462	381	1 to 11
463	382	1 to 12
464		1 to 13
465		1 to 14
466		1 to 15
467		1 to 16
468		1 to 17
469		1 to 18
470		Off 1 to 2
471		Off 1 to 3
472	383	Off 1 to 4
473	384	Off 1 to 5
474	385	Off 1 to 6
475	386	Off 1 to 7
476	387	Off 1 to 8
477	388	Off 1 to 9
478	389	Off 1 to 10
479	390	Off 1 to 11
480		Off 1 to 12
481		Off 1 to 13
482		Off 1 to 14
483		Off 1 to 15
484		Off 1 to 16
485		Off 1 to 17
486		Off 1 to 18
	*394 Special	1 to 24
	†487 Special	1 to 5
	‡488 Special	1 to 4

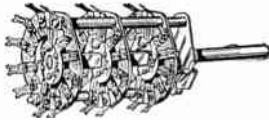
\* 15° Spacing Between Numerals  
 † 60° Spacing Between Numerals  
 ‡ 90° Spacing Between Numerals

Mallory Page 4

## SWITCHES

### ROTARY SELECTOR SWITCHES

#### 1400 SERIES PHENOLIC INSULATION



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting Bushings  $\frac{5}{8}$ " x 32 thd. x  $\frac{3}{4}$ " long. Shafts  $1\frac{1}{8}$ " from end of bushing. Positive 30° index with adjustable stop. Revisions or additions can easily be made due to availability of all parts separately (see listings under hardware and sections). Packaged with mtg. nut, lockwasher,  $1\frac{1}{4}$ " black bar knob.

**Shorting**—make before break. **Non-Shorting**—break before make.

Cat. No.	Cat. No.	Poles per Section	Total Sections	Total Poles	No. of Positions	List Price
Shorting	Non-Short.					
1400	1401	1	1	1	2 to 6	\$1.25
1402	1403	1	1	1	2 to 11	1.50
1404	1405	2	1	2	2 to 5	1.50
1406	1407	3	1	3	2 to 3	1.75
1408	1409	4	1	4	2 only	1.75
1410	1411	1	2	2	2 to 6	2.00
1412	1413	1	2	2	2 to 11	2.25
1414	1415	2	2	4	2 to 5	2.50
1416	1417	3	2	6	2 to 3	2.75
1418	1419	4	2	8	2 only	2.75
1420	1421	1	3	3	2 to 6	2.75
1422	1423	1	3	3	2 to 11	3.00
1424	1425	2	3	6	2 to 5	3.25
1426	1427	1	4	4	2 to 6	3.50
1428	1429	1	4	4	2 to 11	3.75
1430	1431	2	4	8	2 to 5	4.50

#### PHENOLIC SECTIONS ONLY—1400 SERIES

.064" Rotor Slot. Use with above switches or P-121, 122, 123 Index.

Cat. No.	Cat. No.	Poles	Positions	List Price
Shorting	Non-Shorting			
A	H	1	2 to 6	\$0.50
B	J	1	2 to 11	.75
C	K	2	2 to 5	.75
D	L	3	2 to 3	1.00
E	M	4	2 only	1.00
F	..	4	2 to 3	1.50
F	..	1	2 to 5	.75

(On F section unused contacts on one side of common connected and shorted out.)

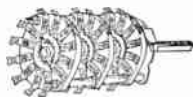
(On G section all unused contacts connected and shorted out.)

N and P Special—Combine for resistance decade switch. Each Q—Special for capacitance decade switch

P-1 Special—10 pos. progressively shorting out 9 positions. . . . \$1.00 List (See listings of "Deluxe" sections—DD rotor slot—Page L15).

### ROTARY SELECTOR SWITCHES

#### 2500 SERIES—STEATITE INSULATION



2500 Series Switches have highest quality (grade L-5) Steatite insulation, meet critical requirements of r.f. circuit applications. Bushing  $\frac{5}{8}$ " x 32 thd. x  $\frac{3}{4}$ " long. Shaft  $1\frac{1}{8}$ ". Positive 30° Index with adjustable stop. Separate parts also available.

Packaged with Mtg. nut, lockwasher and  $1\frac{1}{4}$ " black bar knob.

**Shorting**—Make before break. **Non-Shorting**—Break before make.

Cat. No.	Cat. No.	Poles per Section	Total Sections	Total Poles	No. of Positions	List Price
Shorting	Non-Short.					
2500	2501	1	1	1	2 to 6	\$2.25
2502	2503	1	1	1	2 to 11	2.25
2504	2505	2	1	2	2 to 5	2.25
2506	2507	3	1	3	2 to 3	2.25
2510	2511	1	2	2	2 to 6	3.50
2512	2513	1	2	2	2 to 11	3.50
2514	2515	2	2	4	2 to 5	3.50
2516	2517	3	2	6	2 to 3	3.50
2520	2521	1	3	3	2 to 6	5.00
2522	2523	1	3	3	2 to 11	5.00
2524	2525	2	3	6	2 to 5	5.00

#### STEATITE SECTIONS ONLY FOR 2500 SERIES

.064" Rotor slot. Use with above switches or P-121, 122, 123 Index.

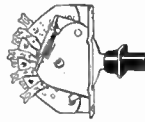
Cat. No.	Cat. No.	Poles	Positions	List Price Each
Shorting	Non-Shorting			
T	X	1	2 to 6	\$1.25
U	Y	1	2 to 11	1.25
R	RR	2	2 to 5	1.25
S	SS	3	2 to 3	1.25
V	Z	4	2 only	1.25

GG Special 10 position, 1 pole, all unused contacts connected and shorted out

P-1-S Special 10 position, 1 pole, progressively shorting out 9 positions

(See listings of "Deluxe" sections—DD rotor slot—Page L15).

### LEVER ACTION SWITCHES

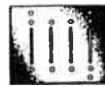


Coil spring and cam index design provide guaranteed minimum life of 150,000 switching cycles. Smooth, "clean" action. Coil type index spring easily replaceable. Mounting plates available. Furnished with black paddle-type knob (same style knob also available in maroon and ivory).

**Shorting**—Make before break. **Non-Shorting**—Break before make.

Cat. No.	No. Poles	Positions	Type	List Indexing Price	Cat. No.	No. Poles	Positions	Type	List Indexing Price
1452	2	3	Positive	\$1.25	1454	2	3	Positive	\$1.25
1453	2	3	Spr. Ret.	1.25	1457	2	3	Spr. Ret.	1.25
1456	4	2	Spr. Ret.	1.25	1457	4	2	Spr. Ret.	1.25
1459	4	2	Positive	1.25	1458	4	2	Positive	1.25
1466	2	3 Pos.-Spr. Ret.	1.25		1467	2	3 Pos.-Spr. Ret.	1.25	

### MOUNTING PLATES FOR LEVER SWITCHES



**Type A**—Made of .035" die cut steel, black crackle finish. Eliminate alignment problems, provide  $\frac{1}{8}$ " spacing between switches. Available for 1 to 5 switch mounting. Height of all plates is  $2\frac{1}{8}$ ".



**Type B**—Specially furnished for mounting lever switches in electrical outlet boxes. Chrome plated wall plates will fit all standard boxes with mounting holes  $3\frac{1}{8}$ " between centers. Ideal for P.A. or Intercom installations.

#### MOUNTING PLATE—Type A

Cat. No.	No. Switches	Length	List Price
P-1755	1	$\frac{3}{4}$ "	\$ .35
P-1756	2	$1\frac{1}{2}$ "	.40
P-1757	3	$2\frac{1}{4}$ "	.50
P-1758	4	3"	.60
P-1759	5	$3\frac{3}{4}$ "	.75

#### WALL PLATE—Type B

Cat. No.	No. Switches	List Price
P-221	1	\$ .60
P-222	2	.75

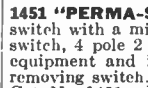
Size:  $2\frac{3}{4}$ " x  $4\frac{1}{2}$ " overall.  
 $\frac{1}{4}$ " spacing between switches.

### UNIVERSAL FLAT AND P.A. TYPE SWITCHES



**1450 "ECONO-SWITCH"**—A 4 pole, 2 position economically designed switch which requires only  $\frac{3}{8}$ " depth behind panel. Can be used as SPST, SPDT, DPDT, 3PST, 4PST, or 4PDT. Positive, non-shorting, leaf type index.

Cat. No. 1450. List..... \$1.00



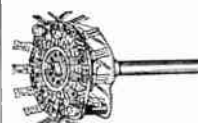
**1451 "PERMA-SWITCH"**—The famous Centralab long life coil spring switch with a minimum of 150,000 cycles. Similar in style to the 1450 switch, 4 pole 2 position. Designed for hard life and long use in test equipment and intercom use. Coil spring can be replaced without removing switch. Non shorting, spring return index.

Cat. No. 1451. List..... \$1.75



**1448-1449 "ALL PURPOSE"** Intercom switches. Six pole three position, will fit practically every intercom application in use. Both units have replaceable coil spring indexing assuring 50,000 cycles minimum. Cat. No. 1448 spring ret. one side. List.... \$2.25  
Cat. No. 1449 spring ret. both sides. List.... 2.25

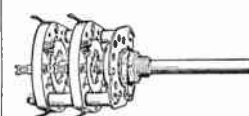
### 23 POSITION SELECTOR SWITCH



**1443—"23 CLIPPER"**—Single pole, 23 positions, shorting type contacts. High quality "W" type construction requires only 1" behind the panel. Double wiping silver plated contacts mean low loss. Includes dial plate.

Cat. No. 1443. List..... \$3.25

### STEATITE HAM-TYPE SWITCHES



90° Indexing Ham Switches will handle 15 watts and can be operated with tubes up to 1000 volts and inputs up to 150 watts. Extra heavy steatite sections and spacers assure high breakdown point. Heavily silver plated contacts. Non-shorting type switching.

#### SEPARATE SECTIONS

Cat. No.	Per Sect.	Total Sect.	Pos. tions	List Price
2542	1	1	2 to 4	\$2.25
2543	1	2	2 to 4	3.50
2544	1	3	2 to 4	4.75
2545	1	4	2 to 4	6.00
2546	1	5	2 to 4	7.25

1 pole, 2 to 4 positions, non-shorting type with 4 fibre washers.  
Cat. No. XX. List..... \$1.25

#### SEPARATE INDEX ASSEMBLIES

Cat. No.	No. Sect.	List Price
P-170	1 or 2	\$1.25
P-171	3 or 4	1.75
P-172	5 or 6	2.25

## SWITCHES

### SMALL GENERAL PURPOSE SWITCHES



**Type 1460**—Single pole, 2 position, shorting contacts, positive index. Can be used as SPST or SPDT. For phono-radio, tone or sensitivity control.  
Cat. No. 1460. List..... **\$0.75**

**Type 1461**—Single pole, 3 position, shorting contacts, positive index. Useful in miniature band change, step type tone or sensitivity control, P. A. channel selector switch.  
Cat. No. 1461. List..... **\$0.75**



**Type 1462**—Double pole, 2 position, shorting contacts, positive index. Can be used as SPST, SPDT, DPST, DPDT—for meter reversing, P. A. channel, or switching both lines on phono-radio.  
Cat. No. 1462. List..... **\$0.75**

**Type 1463**—Single pole, 2 position, non-shorting contacts, spring return index. Same size as type 1460. Useful for meter reversing or momentary intercom talk switch. Non-shorting.  
Cat. No. 1463. List..... **\$0.75**



**Type 1464**—Double pole, 2 position, non-shorting contacts, spring return index. Same physical size as type 1462. Can also be used as SPST, SPDT or DPST. Used as meter switch and momentary line or remote speaker return on intercoms.  
Cat. No. 1464. List..... **\$1.00**

**Type 1465**—Single pole, 4 position, shorting, positive index, with SPST AC line switch attached. The selector switch has 3 active positions and "off." The line switch operates between "off" and first active selector position. Line switch is Underwriters' approved for 3 amperes at 125 volts, 1 ampere at 250 volts A.C. Type 1465 is a replacement for "on-off" step tone control switches used in many A.M. and F.M. receivers. Shaft is 2 1/2" long from end of 1/4" bushing.  
Cat. No. 1465. List..... **\$1.25**



**Type 1473**—Double pole, 3 position, shorting contacts, positive index. An economical waveband switch for A.M., F.M., phono selector to amplifier in custom installations.  
Cat. No. 1473. List..... **\$1.00**

**Type 1483**—Single pole, 3 position, shorting contacts, positive index. For use with dual or auxiliary rear seat auto radio speakers. Permits operation of either speaker separately or both simultaneously. Supplied with special bracket and all mounting hardware.  
Cat. No. 1483. List..... **\$0.75**



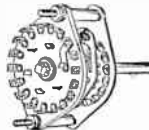
**MOMENTARY PUSH** switches rated at 1 amp., 110 volts A.C.; available in momentarily open and closed.

Cat. No.	Type	List Price
1470	Mom. open	<b>\$0.40</b>
1471	Mom. closed	<b>.40</b>

### MEDIUM DUTY ROTARY POWER SWITCHES

#### STEATITE—750 Watts at 115 Volts A.C.

An accurate, long-life unit for transmitter, power supply, and specialized application. Has positive, non-stall 20° Indexing, double wiping solid silver contacts. Mounting bushing 3/8" x 32" thd. x 3/8" long. 2 1/8" between locating rods. With adjustable stop and dial plate.



#### SHORTING TYPE

Cat. No.	Poles Per Sect.	Total Sections	Positions	List Price
JV-9000	1	1	2-17	<b>\$12.00</b>
JV-9002	3	1	2-5	<b>12.00</b>
JV-9004	1	2	2-17	<b>21.00</b>
JV-9006	3	2	2-5	<b>21.00</b>
JV-9008	1	3	2-17	<b>30.00</b>
JV-9010	3	3	2-5	<b>30.00</b>
JV-9012	1	4	2-17	<b>39.00</b>
JV-9014	3	4	2-5	<b>39.00</b>
JV-9016	1	5	2-17	<b>48.00</b>
JV-9018	3	5	2-5	<b>48.00</b>
JV-9020	1	6	2-17	<b>57.00</b>

#### Non-Shorting Type

Cat. No.	Poles Per Sect.	Total Sections	Positions	List Price
JV-9001	1	1	2-17	<b>\$12.00</b>
JV-9003	3	1	2-5	<b>12.00</b>
JV-9005	1	2	2-17	<b>21.00</b>
JV-9007	3	2	2-5	<b>21.00</b>
JV-9009	1	3	2-17	<b>30.00</b>
JV-9011	3	3	2-5	<b>30.00</b>
JV-9013	1	4	2-17	<b>39.00</b>
JV-9015	3	4	2-5	<b>39.00</b>
JV-9017	1	5	2-17	<b>48.00</b>
JV-9019	3	5	2-5	<b>48.00</b>
JV-9021	1	6	2-17	<b>57.00</b>

### SECTIONS ONLY FOR JV-9000 SERIES

#### SHORTING

Cat. No.	No. Poles	Positions	List Price
KV-8	1	2-17	<b>\$9.00</b>
KV-9	3	2-5	<b>9.00</b>

#### NON-SHORTING

Cat. No.	No. Poles	Positions	List Price
KVN-8	1	2-17	<b>\$9.60</b>
KVN-9	3	2-5	<b>9.00</b>

### INDEX ASSEMBLY ONLY FOR JV-9000 SERIES

Includes shaft, tie rods, spacers, nuts and lockwashers, adjustable stop pin, 2" black bar knob and dial plate.  
Cat. No. KV-7. List..... **\$6.00**

Part	Description	List Price
P-230	Dial Plates—2 3/4" Diameter—20° Markings	<b>\$0.30</b>
P-231	Marked 1 to 5	<b>\$0.30</b>
	Marked 1 to 17	<b>\$0.30</b>

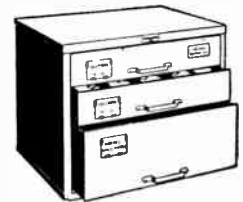
### ROTARY SWITCH KITS



**1500 SWITCH KIT**—A four drawer cabinet containing an adequate supply of sections and indexes listed on this page to custom build two 4 section switches, two 3 section, four 2 section, six 1 section, one 2 section condenser decade, and one 1 section resistor decade switch. For labs, engineers, hams, and experimenters needing specialized switching arrangements. Cabinet can be replenished with stock parts.  
Cat. No. 1500 Kit. List..... **\$50.00**

#### 414 DELUXE SWITCH KIT—PHENOLIC

An extra large assortment of switch hardware and sections to make the widest possible assortment of phenolic switches to your needs. Contains 111 sections including 34 of the special "DD" deluxe sections listed below; 31 index assemblies, 25 doz. spacers, 5 doz. shafts, 8 doz. tie rods, 40 dial plates, and complete hardware. Especially suited to large users of specialized switches. All kit parts may be purchased for refill from stock listings.  
Cat. No. 414 Kit. List..... **\$175.00**



#### 419 DELUXE SWITCH KIT—STEATITE

Similar to the 414 Kit, but all sections are made of Centralab's high quality grade L-5 steatite ceramic, long regarded as "the best". Contains standard and special deluxe sections below. Has 81 sections, 31 Index Assemblies, 26 doz. spacers, 35 knobs, 30 dial plates and assorted hardware. This is Centralab's finest switch kit.  
Cat. No. 419 Kit. List..... **\$185.00**

### "DD" DELUXE SWITCH PARTS

"Double-D" describes CRL's extra heavy (3/8" thick) rotor shaft switch and the corresponding hole in the section rotor. Also, deluxe switches have one-piece shaft, index, and rotor shaft. Choose "DD" for precise indexing and a longer lasting switch.

### DELUXE SECTIONS

PHENOLIC					STEATITE						
Cat. No.	Short.	Cat. No.	No. Poles	Positions	List Price	Cat. No.	Short.	Cat. No.	No. Poles	Positions	List Price
AD	HD	1	6	6	<b>\$0.50</b>	TD	XD	1	6	6	<b>\$1.35</b>
BD	JD	1	11	11	.75	UD	YD	1	11	11	<b>1.35</b>
CD	KD	2	3	3	.75	RD	RRD	2	5	5	<b>1.35</b>
DD	LD	3	3	3	<b>1.30</b>	SD	SSD	3	3	3	<b>1.35</b>
ED	MD	4	2	2	<b>1.00</b>	VD	ZD	4	2	2	<b>1.35</b>
EED	..	4	3	3	<b>1.50</b>	GGD	..	1	10	10	<b>1.35</b>
FD	..	1	5	5	.75						
Unused contacts shorted out 1 side of common						All unused contacts shorted out					
GD	..	1	10	10	<b>1.00</b>	NSD	..	..	..	..	<b>1.35</b>
All unused contacts shorted out						PSD	..	..	..	..	<b>1.35</b>
ND	..	..	..	..	<b>.75</b>	QSD	..	..	..	..	<b>1.35</b>
PD	..	..	..	..	<b>.75</b>	P1SD	..	1	10#	10#	<b>1.35</b>
QD	..	..	..	..	<b>.75</b>	#1 off, 9 progressively shorting					
PD	..	..	..	..	<b>1.00</b>						
#1 off, 9 progressively shorting											

### DELUXE INDEX ASSEMBLIES

Includes all hardware to use with separate sections listed above.

Cat. No.	Rotor Shaft Length	List Price
P-270	2"	<b>\$1.25</b>
P-271	4"	<b>1.75</b>
P-272	8"	<b>2.25</b>

FOR OTHER SWITCH HARDWARE AND ACCESSORIES, see the latest complete Centralab catalog available at your distributor.

**Shorting Contacts Make Before Break: Non-Shorting Contacts Break Before Make.**

# SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

PHONE JACKS • PHONE PLUGS  
SWITCHES: Push-Button . . .  
Rotary and Lever Action . . .

"SWITCHCRAFT" produces many custom made products for the industry. Inquiries invited.

## SWITCHCRAFT PHONE JACKS



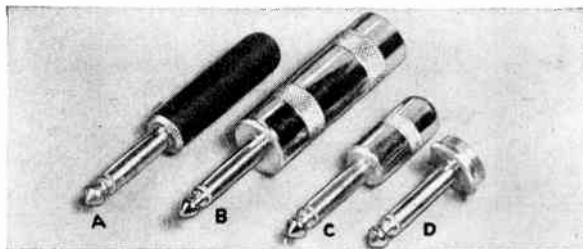
The "Littel-Jax" (A) features notched insulating washers mechanically interlocking springs and lugs; "V-bend" in tip spring firmly "holds" mating Plug; minimum space requirements, economical. Mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{3}{8}$ " thick. Our No. C-11 (JK-34A) mates with Army Plug PL-55; our C-12B (JK-33A) is adjusted to fit Army Plug PL-68; our S-13B is same as 13B except to fit W.E. Plug 109 and Signal Corps Plug PL-68.

The short frame type Jack "SF-JAX" (B), requires minimum panel depth, mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{3}{8}$ " thick.

The long frame type Jack "LF-JAX" (C), requires minimum panel space, 3" deep, mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{1}{4}$ " thick.

"LITTEL-JAX"		"SF-JAX"		"LF-JAX"		Schematic
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price	Part No.	U.S.A. List Price	
11	\$0.40					
C-11	\$0.60	21	\$0.55	31	\$0.65	
		22	\$0.70	32	\$0.85	
12A	\$0.45	22A	\$0.70	32A	\$0.85	
12B	\$0.55					
C-12B	\$0.70	22B	\$0.70	32B	\$0.85	
		23	\$0.85	33	\$0.95	
		23A	\$0.85	33A	\$0.95	
13B	\$0.75	23B	\$0.85	33B	\$0.95	
S-13B	\$0.95	23C	\$0.85	33C	\$0.95	
		23E	\$0.85	33E	\$0.95	
		24	\$0.95	34	\$1.10	
		24A	\$0.95	34A	\$1.10	
		24B	\$0.95	34B	\$1.10	
		25	\$1.15	35	\$1.25	
		26	\$1.25	36	\$1.40	

## SWITCHCRAFT PHONE PLUGS



The "Littel-Plug" (A), radically new, fitting standard Jacks; solder lug type features clamp terminal serving as a cable clamp and terminal—perfect for metal braid cable. Screw type terminals—no clamp. Tenite or Metal handles are  $1\frac{1}{8}$ " L.,  $\frac{1}{2}$ " dia. Exterior metal parts bright nickel pl.

The Standard Plugs (B), conventional design, available both black Bakelite or metal handles  $2\frac{1}{8}$ " L.,  $\frac{1}{4}$ " O.D., except No. 90 and No. 160 have metal handles 1" long. Exterior metal parts bright Nickel Pl.

The "Lug-Plug" (C), low-cost two conductor, solder lug term. Exterior metal parts bright Nickel Pl. Red or Black Tenite Handles are  $1\frac{1}{8}$ " L.,  $\frac{1}{2}$ " O.D. No. 380 has metal handle 1" L., bright Nickel Pl. Plug Adapter (D) used with MC1F or MC1FA Connectors for use with standard Phone Jacks.

Part No.	U.S.A. List Price	Plug Type	Color or Type of Handle	Description
240	\$0.75	"Littel-Plug"	Black	2-conductor. Screw Term.
245	\$0.75	" "	Red	" " " "
270	\$1.05	" "	Metal	" " " "
250	\$0.70	"Littel-Plug"	Black	2-conduct. Clamp-lug Term.
255	\$0.70	" "	Red	" " " "
280	\$1.00	" "	Metal	" " " "
260	\$1.20	"Littel-Plug"	Black	3-conductor. Screw Term.
290	\$1.40	" "	Metal	" " " "
267	\$1.05	"Littel-Plug"	Black	3-conduct. Clamp-lug Term.
269	\$1.05	" "	Red	" " " "
297	\$1.30	" "	Metal	" " " "
40	\$0.70	Standard	Black	2-conductor. Screw Term.
70	\$1.20	" "	Metal	" " " "
160	\$0.90	" "	Metal	" " " "
44	\$0.50	Adapter	—	" " " "
60	\$1.05	Standard	Black	3-conductor. Lug Terminals
90	\$1.30	" "	Metal	" " " "
350	\$0.55	"Lug-Plug"	Black	2-conductor. Lug Terminals
355	\$0.55	" "	Red	" " " "
380	\$0.70	" "	Metal	" " " "

## SWITCHCRAFT "FLAT PLUG"



A radically new design, in both 2 and 3-conductor types. Removable Plastic Cap; terminals and body mechanically interlocked; Cover of Black or Red Tenite; one-piece tip rod; high grade insulation; terminal identification.

Ideal for theatre or church hearing-aid installations, office dictation equipment, disc, wire or tape recorders, test equipment, etc.

Part No.	U.S.A. List Price	Color or Type of Handle	Description
220	\$0.75	Black	2-conductor Screw Term.
225	\$0.75	Red	" " " "
227	\$0.70	Black	" " Lug. Term.
229	\$0.70	Red	" " " "
230	\$1.10	Black	3-conductor Screw Term.
235	\$1.10	Red	" " " "
237	\$1.05	Black	" " Lug. Term.
239	\$1.05	Red	" " " "

## SWITCHCRAFT "EXTENSION JAX"



Features a clamp type terminal providing a cable anchor. Spring tempered nickel silver springs, designed to properly "hold" mating plug. Exterior metal parts N.P.; Terminals mechanically interlock. High grade insulation. Available in 2 and 3-conductor types, solder lug or screw type terminals. Bakelite or Brightly Nickel Plated Brass handles. Mates with any standard plug.

Part No.	U.S.A. List Price	Color or Type of Handle	Description
80	\$1.15	Black	2-conductor. Screw Term.
88	\$1.00	" "	Lug. Term.
120	\$1.55	Shielded	" " Screw Term.
128	\$1.40	" "	Lug. Term.
830	\$1.55	Black	3-conductor. Screw Term.
838	\$1.40	" "	Lug. Term.
1230	\$1.95	Shielded	" " Screw Term.
1238	\$1.80	" "	Lug. Term.

AVAILABLE AT ALL LEADING RADIO JOBBERS.  
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Canadian Representative: ATLAS RADIO CORPORATION, Ltd., 560 King Street, W., Toronto 2B, Canada. Phone: Waverly 4761.

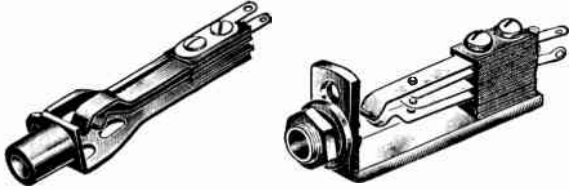
# SWITCHCRAFT

CHICAGO 22, ILLINOIS

**PHONE JACKS • PHONE PLUGS**  
**SWITCHES: Push-Button . . .**  
**Rotary and Lever Action . . .**

"SWITCHCRAFT" produces many custom made products for the industry. Inquiries invited.

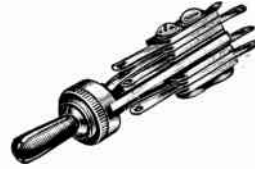
## SWITCHCRAFT "T" & "M" JAX



"T" JAX — Long frame, Switchboard type, designed for quality communication and military equipment.

"M" JAX — Heavy, long frame Jack, often referred to as Navy Jack, designed for industrial and military equipment requirements. Circuits listed are standard; more complex circuits available.

## SWITCHCRAFT "LEV-R-SWITCHES"



Unusually small, lever action switch, available in numerable circuits, to provide the simplest in switching design. Ideal for inter-comm. equip., test equip., model r.r. switch panels, recording equip., etc.

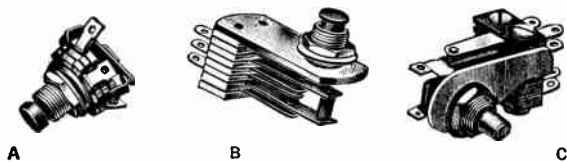
Mounts in single  $\frac{1}{8}$ " dia. hole, panels up to  $\frac{1}{4}$ " thick; Long life springs; soft, easy action — real detent action on locking types; Springs assembled into a conventional stack assembly; fine silver contacts rated at 3 amperes, 120 volts A.C., non-inductive load; other contacts available.

"T-JAX"			Schematic
Part No.	U.S.A. List Price	Similar Jan Type No.	
T-331	\$1.05	JJ-086	
T-332A	\$1.20	JJ-024	
T-332B	\$1.20	JJ-022	
T-332C	\$1.45		
T-333	\$1.35	JJ-084	
T-334A	\$1.50		
T-334B	\$1.60	JJ-042	
T-334C	\$1.50	JJ-072	
T-334F	\$1.50	JJ-035	
T-335	\$1.60		
T-336	\$1.75	JJ-074	
"M-JAX"			Schematic
M-444B	\$2.20	JJ-082	
*M-444	\$2.30	*JJ-083	
M-446	\$3.50	JJ-079	
M-446A	\$3.90	JJ-081	

\*Bushing .2085" to mate PJ-068, PJ-168 & PJ-309.

TWO-POSITION TYPE			Schematic
Part No. Non-locking	Part No. Locking	U.S.A. List Price	
3001	3001L	\$1.95	
3002	3002L	\$1.95	
3003	3003L	\$2.25	
3004	3004L	\$2.50	
3005	3005L	\$2.50	
3006	3006L	\$2.75	
THREE-POSITION TYPE			Schematic
3033	3033L	\$2.50	
3034	3034L	\$2.60	
3035	3035L	\$2.60	
3036	3036L	\$2.90	
3037	3037L	\$2.95	
INTER-COMM. SWITCHES			Schematic
3033T		\$2.50	
3037T		\$2.95	

## SWITCHCRAFT PUSH-BUTTON & ROTARY SWITCHES



The "Littel-Switch" (A), available in 3 circuits, either in Red or Black one-piece Plastic Push-Buttons, non-locking only. Mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{1}{4}$ " thick. Integral contacts are standard, recommended for low current only.

The "FF-Switch" (B), all common circuits, one-piece Black Plastic Push-Button, non-locking only. Mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{1}{4}$ " thick. Fine silver contacts rated 3 amperes, 120 volts A.C., non-inductive.

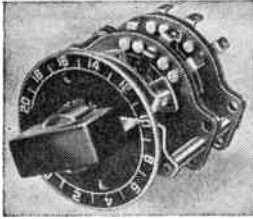
The "RS-Switch" (C), locking and non-locking types, two-position rotary, all common circuits. Mounts in single  $\frac{3}{8}$ " dia. hole, panels up to  $\frac{1}{4}$ " thick. Fine silver contacts rated 3 amperes, 120 volts A.C., non-inductive. Ideal for "Talk-Listen" switches in Inter-Communication Systems, Electro-musical equipment, Test equipment, Electro-therapy and X-Ray equipment.

"LITTEL-SWITCH"			"FF-SWITCH"		"RS-SWITCH"			Schematic Circuit
Part No. Red-Button	Part No. Black-Button	U.S.A. List Price	Part No.	U.S.A. List Price	Part No.		U.S.A. List Price	
					Non-Locking	Locking		
101	201	\$0.85	1001	\$0.95	2001	2001L	\$1.00	Schematic Circuit
102	202	\$0.85	1002	\$0.95	2002	2002L	\$1.00	
103	203	\$0.90	1003	\$1.10	2003	2003L	\$1.20	
			1004	\$1.20	2004	2004L	\$1.25	
			1005	\$1.20	2005	2005L	\$1.25	
			1006	\$1.45	2006	2006L	\$1.65	



# SWITCHES • ATTENUATORS • POTENTIOMETERS

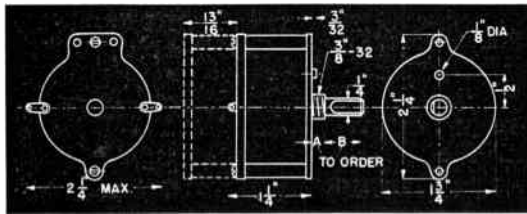
## New PRECISION INSTRUMENT SWITCH



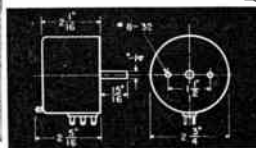
### TYPE 2A SPECIFICATIONS:

Contact res.: 1-2 milliohms.  
Contact material: Silver Alloy.  
Contact design: Wiping, shorting and non-shorting.  
No. of contacts: 2-21 per deck single pole, 2-5 four pole.  
Spacing: 15° sh., 30° non-sh.

No. of poles per deck: One to four.  
No. of decks: As desired. Life: 20,000 cyc. min.  
Curr. carr. cap.: 3 Amp.  
Max. oper. voltage: 120V (Will stand 2,000V between contacts and to ground.)  
Insul. material: Low loss bakelite.  
Insul. res.: 10,000 megohms to ground.  
Mounting: Single hole 3/8"-32 bushing, std. length for up to 1/4" pnl. Special lengths to order. Size: 1 3/4" dia.  
Detent: Ball and spring.



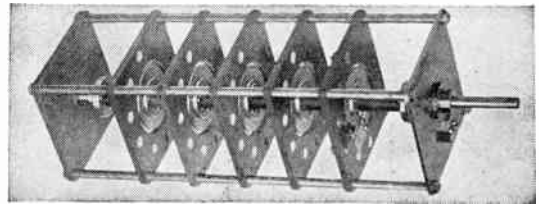
## TYPE 700 ATTENUATORS "T"-PADS



Type	Impedance	No. of Steps	Db Per Step
TA-731.5	600/600	30	1.5
TA-731	600/600	30	1
TA-722	600/600	20	2
TB-731.5	500/500	30	1.5
TB-722	500/500	20	2
TC-731.5	250/250	30	1.5
TC-722	250/250	20	2
TD-731.5	200/200	30	1.5
TD-722	200/200	20	2
TE-731.5	50/50	30	1.5
TE-722	50/50	20	2
TF-731.5	30/30	30	1.5
TF-722	30/30	20	2

## TYPE 1250 R.F. SWITCHES

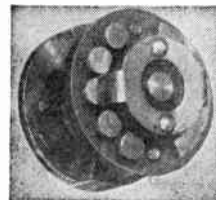
This switch represents a new design necessitated by the increasing demands for switches capable of withstanding higher voltages and heavier currents.



### SPECIFICATIONS:

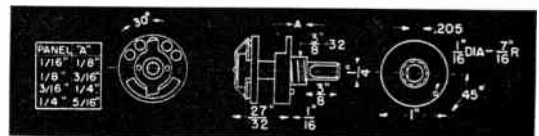
Size: Each panel 4 1/2" x 4 1/2". For depth, see table.  
Insulation: Mykroy insulation good for at least 25,000V to ground, 12,500V between contacts.  
Contacts: Phosphor bronze with silver plated collector ring.  
Spacing: 36° std. unit has 6 position on 180°, special units to order.  
Shaft: Mykroy sections with flanges so decks can be added or taken off to suit. Stainless steel shaft 3/8" dia. on both ends, can be furnished with 4" hand wheel.  
Current Carrying Capacity: 50 Amps. max. for steady load, no load switching.  
Bearing: Ball bearings at both ends.  
Detent: Ball and gear detent for positive location on contacts.  
Mounting Holes: For No. 10-32 screws on 3 3/4" centers.  
Weight: Single pole unit—4 pounds; add approximately 1 lb. for each additional deck.

## New MINIATURE TAP SWITCH (2B)



The Type 2B miniature rotary tap switch is a development widely used in military and other equipment where space is at a premium.

Price Upon Request



### SPECIFICATIONS:

Diameter 1" max., up to 12 pos. shorting, 6 pos. non-shorting. Silver contacts, wiping rotors, 30° spacing single hole mounting, low loss insulation, 3A, 120V. AC.

# TECH LABORATORIES INC.

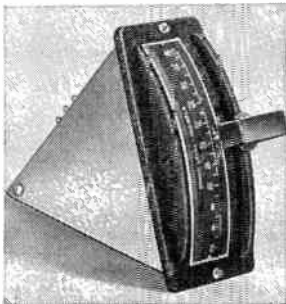
PALISADES PARK  
NEW JERSEY

## WRITE FOR NEW BULLETINS

on Gain Sets • Decade Resistors  
Potentiometers • Viscosity Meters  
Micro-Volters etc.

# SPLICING BLOCKS. PRECISION AND VERTICAL ATTENUATORS

## VERTICAL ATTENUATORS



Precision designed and manufactured to perform satisfactorily in every conceivable type of sound equipment, from the most elaborate broadcasting station to the simplest P.A. installation. Easily operated, completely shielded and dustproof. Narrow construction permits as many as seven mixers in one row on a standard 19" rack.

### SPECIFICATIONS:

Noise Level: 130-140 db. below zero level.

Range: Standard units are furnished with 20 steps at 2 db. and inf. loss (off) on last contact.....22 contacts.

Circuit: Ladder "T" or potentiometer is standard, other circuits can be furnished to order.

Impedance: Standard values 30, 50, 150, 200, 250, 500 and 600 ohms for ladders, and 250,000 ohms for potentiometers.

Pilot Light Switch: Normally closed, open in off position, S.P.S.T.

Size: 2 1/8" x 5 1/2", depth 4 3/4".  
\*(T-Pads are 2 5/8" wide.)

Insertion Loss: 2 to 5 db. depending on circuit.

Mounting: Two 6-32 screws in center line 4 1/8" c. to c. Cut hole in panel 2 3/8" x 4 1/2".

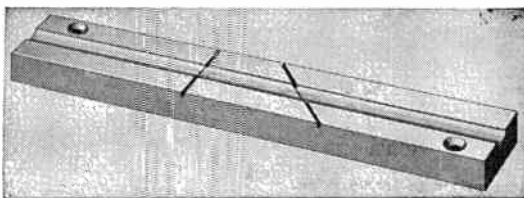
Dial: Linear, etched, easily read.

Contact Arms: Multiple laminated—wiping action.

Shielding: Electrostatic shield, dust proof.

Frequency Response: Flat to 50 kilocycles.

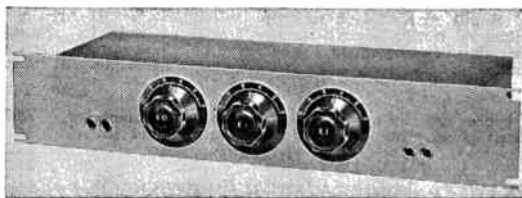
## EDITALL TAPE SPLICING BLOCK



A new exclusively designed tape splicing block that can be used in conjunction with any tape recorder using standard tape. Splices can be easily and quickly made with a minimum of time and effort. Made of lifetime Duraluminum with no clips or mechanical parts to go out of order. Can be used as a separate unit or mounted as part of the tape recorder itself. Approximate overall dimensions—6 1/2" long x 1" wide x 3/8" high. Furnished with drilled and countersunk holes for easy mounting.

## TYPE 850 PRECISION ATTENUATOR

With the increased demand for precision in laboratory measurement of volume levels, transmission losses, gains of amplifiers, etc., the older methods and standards have become obsolete. The present units are a complete redesign of our older precision attenuators and will serve as laboratory standards. These precision units are now furnished with jack terminals and are completely shielded. They are flat for all frequencies in the audio range and reasonably flat to 200 kc. up to 70 db. They are furnished with either rack or box mounting in gray finish.



### SPECIFICATIONS:

Mounting: Type 850-AT and 850-AH, standard rack panels, 3 1/8" x 19" x 1/8". Type 850-B furnished with dust cover.

Switches: Multiple leaf, silver alloy blades with silver contacts. Ball type detent.

Terminals: Telephone type jacks are used for input and output connections. Solder terminals are provided on rear panels for permanent connections. Insertion of plugs into twin-jacks lifts rear terminal connections.

Type of Resistors: All resistors are non-inductively wound. Negligible phase angle.

Accuracy of Resistors: All windings are adjusted to within 0.1% of the calculated value except on very low resistance values which are adjusted to within 0.25%.

Frequency Characteristics: For "T" configuration, the frequency error is negligible up to 80 db. loss, below 50 kilocycles. Balanced "H" configuration should be used where measurements above 50 kilocycles are necessary.

### NEW TYPE 850 PRECISION ATTENUATORS

Type	Mounting	Circuit	Range	Db/Step	Size Rack Panel
850-AT	Rack	"T"	111 db.	0.1	3 1/8" x 19" Std.
850-AH	Rack	Bal. "H"	111 db.	0.1	3 1/8" x 19" Std.
850-BT	Box	"T"	93 db.	0.1	9 1/2" x 4" x 4 3/4"
850-BH	Box	Bal. "H"	93 db.	0.1	9 1/2" x 4" x 4 3/4"
850-CT	Box	"T"	111 db.	0.1	12 3/4" x 4" x 4 3/4"
850-CH	Box	Bal. "H"	111 db.	0.1	12 3/4" x 4" x 4 3/4"

# TECH LABORATORIES INC.

PALISADES PARK • NEW JERSEY



# GENERAL CONTROL COMPANY

1203 SOLDIERS FIELD ROAD, BOSTON 34, MASSACHUSETTS



## A complete line of Lever Switches by GENERAL CONTROL COMPANY



**MCS**



**MCT-1**



**MCT-4**



**MCM**



**MCL**



**MCF**

**MCS** A new, light-weight, miniature switch for instruments and communication systems. Positive lock or non-lock lever operation, various contact forms.

**MCT-1** Small size, telephone-type switch for control of multiple circuits. Single-hole mounting simplifies layout and fabrication of switchboard panels.

**MCT-4** Similar to MCT-1 but with two sets of four standard mounting holes. Same static shield between contact assemblies for low capacity circuits.

**MCM** Utilizes a stainless steel detent and a ball for smooth, positive lever action. Waterproof lever, rotary and angle actuators available. All parts non-corrosive.

**MCL** A heavy-duty switch for severe, constant use in electrical controls. Low-friction assembly, rugged cam, insure smooth lever action for complex buildups.

**MCF** A new switch — one neutral and four switch positions. Stainless steel detent, single hole mounting. Lock or non-lock with any contact combination.

Many types are in stock for immediate shipment. Quotations given promptly. Write for Data Sheet LS.

**SPECIAL SWITCHES** Our Engineering Department will be glad to supply information on special Lever Switches, and the use of various contact arrangements for other than manual actuation.

TYPE	AMPS.*	HIGH	WIDE	LONG**
MCS	1	7/8"	7/8"	2-1/16"
MCT-1	1	1 1/4"	3/4"	2-5/16"
MCT-4	1	1 1/2"	3/4"	2-17/32"
MCM	5	1 3/4"	1 1/4"	2-25/32"
MCL	10	1 3/4"	1 3/4"	3-15/16"
MCF	5	1 3/4"	1 3/4"	3"

\* 125 volts, 60 cycles, non-inductive.

\*\* From back panel to end of terminals.

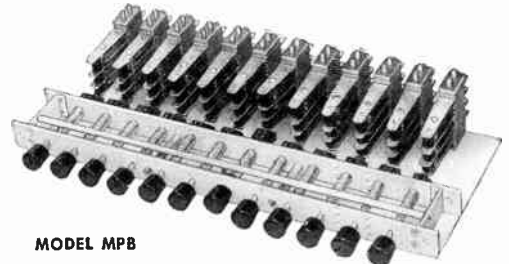
To obtain list price: — add contact prices to frame price.

FRAME TYPES AND PRICES	CONTACT FORMS	A	B	C	D	E	F	G	H	O
	CIRCUIT									No Contacts
MCS \$1.35	MCS	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCT-4 \$1.60	MCT-4	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCT-1 \$2.00	MCT-1	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
MCM \$3.00	MCM	.60	.60	.75	.95	1.20	.75	.75	.75	—
MCL \$4.00	MCL	.95	.95	1.05	1.30	2.00	1.05	1.05	1.05	—
MCF \$13.75	MCF	.60	.60	.75	.95	1.20	.75	.75	.75	—

NOTE: Add 20% to MCS and MCT contact prices for contacts of palladium-silver alloy.

## MASTER PUSH-BUTTON SWITCHES

A complete heavy duty push-button switch with high current-handling ability. Furnished in from two to a maximum of twelve positions. Standard frame types are: (1) locking, (2) non-locking, (3) release-lock, and (4) accumulative locking with single-button release. Besides standard mounting illustrated, MPB switches can be furnished on right-angle frame for use where back of panel space is limited. Std. mtg. 4-7/16" deep; rt. angle mtg. 1-9/16" plus ht. of contact assembly. Pure silver contacts, phosphor bronze springs. Rating: 5 amps., 125 volts a-c (non-ind.). Write for data sheet PB.



MODEL MPB

To obtain list price: — add contact prices to frame price.

CONTACT FORMS	A	B	C	D	E	F	G	H	O		
Circuit									No Contacts		
Price	\$0.60	\$0.60	\$0.75	\$0.95	\$1.20	\$0.75	\$0.75	\$0.75	—		
FRAME TYPES	MPB-2	MPB-3	MPB-4	MPB-5	MPB-6	MPB-7	MPB-8	MPB-9	MPB-10	MPB-11	MPB-12
CONTACT POSITIONS	2	3	4	5	6	7	8	9	10	11	12
Lock Release	\$5.00	\$5.20	\$6.40	\$7.60	\$8.80	\$10.00	\$11.20	\$12.40	\$13.60	\$14.80	\$16.60
No Two Interlock	5.50	5.95	7.40	8.85	10.30	11.75	13.20	14.65	16.10	17.55	19.60
* Accumulative Lock	See note	6.70	8.65	10.60	12.55	14.50	16.45	18.40	20.35	22.30	24.85

\*Reset button requires one position in addition to standard contact positions. Reset button is on right-hand side unless otherwise specified.

\*Reset button normally actuates no contacts but can be used to actuate momentary contacts if required.

NOTICE: All prices and specifications subject to change without prior notice. General Control Company



# GENERAL CONTROL COMPANY

1203 SOLDIERS FIELD ROAD, BOSTON 34, MASSACHUSETTS



## FOOT SWITCHES

Models to meet every need. Sturdy cast-iron cases with durable finish. Standard rating 20 amp. 125 v. a-c. non-inductive. For heavy duty rating — 20 amp. 125/250/460 v. a-c.; 3/4 HP, 115 v. a-c. 1 1/2 HP 230 v. a-c. — add \$1.00 to price shown. Sizes: MX — 4 1/2" x 4" x 2"; MC — 4" dia. x 2 1/8" h; MI — 6 3/4" x 4" x 3"; MB — 8" x 5 1/4" x 5". Write for Data Sheet FS.

TYPES				CONTACT TYPES	CONTACT OPERATION
MX-3 \$3.50	MC-13 \$6.50	MI-23 \$9.80	MB-33 \$13.65	C	Double throw (ONE NORMALLY OPEN, ONE NORMALLY CLOSED) Spring return
—	—	MI-25 \$11.25	MB-35 \$16.25	ACO-C	First press transfers switch contacts Second press restores switch contacts (ONE NORMALLY OPEN, ONE NORMALLY CLOSED)
—	—	MI-26 \$13.65	—	TS-AA	1st half-throw closes 1st switch 2nd half-throw closes 2nd switch Spring return
—	—	MI-27 \$15.00	—	2-C	Double pole Double throw Spring return (TWO NORMALLY OPEN, TWO NORMALLY CLOSED)

Add \$1.00 to price shown, for foot switch with heavy duty 20-ampere rating.  
Add \$1.65 to price shown, for foot switch with direct current rating.



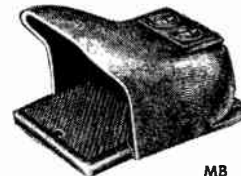
MX



MC



MI



MB

## PRECISE MACHINE CONTROL depends upon PRECISE LIMIT SWITCHING



CUT-AWAY VIEW

COMPACT MOLDED HOUSING

### BASIC du-op SWITCH

The type DU-S "du-op" is a precise action limit switch. The centrally-located plunger acts directly on the wide phosphor-bronze blade to insure instantaneous contact at each point of repetitive plunger travel. Delays of pre-travel blade action are eliminated — an important factor at high switching speeds.

Write for Data Sheet DU

Ratings: 20 amps, 125 volts a-c, non-inductive  
Size: 1-15/16" x 29/32" x 11/16"  
Price: Type DU-S . . . \$1.90 each, list

## LIMIT SWITCHES

These two new limit switches . . . the spring-return "du-op" and the maintained alternate contact operation "A-C-O" . . . are designed to meet the latest requirements for precise limit switching at high speed machine operation. General Control Company limit switches are compact in size, and are provided with a variety of mounting arrangements. Quality manufacturing and materials insure long life and dependable operation.

OPEN VIEW



METAL HOUSING FURNISHED

### NEW A-C-O SWITCH (Alternate Contact Operating)

The type "A-C-O" is a maintained position limit switch, particularly well adapted for rugged industrial use. Operation is such that the first press of the plunger transfers the contacts, the second press restores them. Unusually fast and dependable switching is obtained from the unique cam arrangement.

Write for Data Sheet AC.

Ratings: 20 amps, 125 volts a-c, non-inductive  
Size: 2-25/32" x 1-1/16" x 1-15/16"  
Price: Type A-C-O . . . \$10.00 each, list

## PROMATIC CONTROL EQUIPMENT

Years of experience have provided the basis for the well-rounded line of Promatic Control Equipment. Timing, counting, photo-electric control — are only a part of the design service offered by the General Control Company.



ELECTRONIC TIMERS



SYNCHRONOUS-MOTOR TIMERS



POST PROMATIC COUNTERS

Promatic Electronic Timers, type ET, to control short time periods from .060 second to 60 seconds, are available in a variety of frame types, terminal arrangements, and mountings. Double pole double throw auxiliary load contacts are rated at 10 amps, 125 volts a-c, n.i. Selection of control circuits to handle any timing application. Prices from \$35.00 each, list. Write for Data Sheet ET.

Promatic Synchronous-motor Timers, type SY, to control long time ranges up to 26 hours, are available to match cast frame type ET timers. New patented "O"-ring clutch eliminates gears and costly maintenance problems. Time period easily adjusted, and continuously indicated on the large dial. Prices from \$55.00 each, list. Write for Data Sheet SY.

A precise instrument for industrial use which will count at rates in excess of 10,000 units per second. Either pre-determined or accumulative types available. Actuation by means of photo-cell, pulse, or magnetic pick-up. Prices from \$225.00 each, net. Write for Data Sheet CO.

NOTICE: All prices and specifications subject to change without prior notice. General Control Company



# SPECIALTIES MANUFACTURING CO.

*Spemco Products*

4149 CASS AVE.

DETROIT 1, MICH., U. S. A.

FOR THE LATEST IN DESIGN  
AND DEVELOPMENT, BE SURE  
IT IS

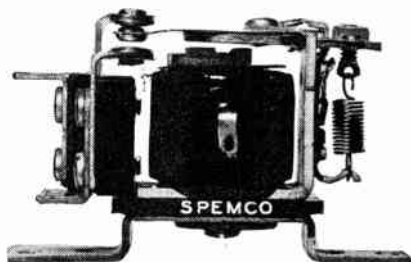
## SPEMCO ALL-PURPOSE RELAYS

The Spemco Relays are an entirely new design from both mechanical and electrical standpoint.

These relays are not designed to meet a price but built of the highest quality material and workmanship. A trial of one of these Spemco Relays will convince you.

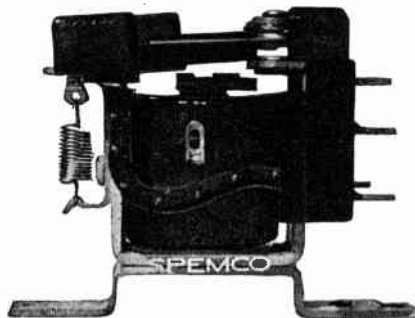
.... "It's Just a Relay to You, But a Reputation to Us"

S. P. D. T. SERIES 1500  
S. P. D. T. SERIES 1200



2 1/8" length 1 3/4" high 1 1/2" width

D. P. D. T. SERIES 1400



2 1/8" length 2 1/8" high 1 3/4" width

### AC

Description	OHM Subject to Plus or Minus 10%	AC Non-Inductive* Ampere Rating		Maximum Single Phase Horse Power		Coil Terminal Location	Coil Rating Volt Amperes		Approx. Net Weight in Ounces	Type	Catalogue No.	Net Price
		110V	220V	110V	220V		Inrush	Sealed				
S.P.D.T. 110 V	580	10	5	1	1	on Coil	7.4	6	4.8	Q	1200	\$4.15 ea.
S.P.D.T. 12 V	9.2	10	5	1	1		7.4	6	4.8	N	1201	4.15 ea.
S.P.D.T. 6 V	1.5	10	5	1	1		7.4	6	4.8	A	1202	4.15 ea.
S.P.D.T. 24 V	38	10	5	1	1		7.4	6	4.8	B	1203	4.15 ea.
S.P.D.T. 220 V	2150	10	5	1	1		7.4	6	4.8	D	1204	4.15 ea.
D.P.D.T. 110 V	500	10	5	1	1		9.8	7.2	6.5	QQ	1400	5.50 ea.
D.P.D.T. 12 V	4	10	5	1	1		9.8	7.2	6.5	NN	1401	5.50 ea.
D.P.D.T. 24 V	16	10	5	1	1		9.8	7.2	6.5	PP	1402	5.50 ea.
D.P.D.T. 220 V	2000	10	5	1	1		9.8	7.2	6.5	RR	1403	5.50 ea.
D.P.D.T. 6 V	1.5	10	5	1	1		9.8	7.2	6.5	TT	1404	5.50 ea.

### DC

Description	OHM Subject to Plus or Minus 10%	CONTACT RATING IN AMPERES* (Non-Inductive Load)			Coil Terminal Location	Coil Rating in Watts (20° C)	Approx. Net Weight in Ounces	Type	Catalogue No.	Net Price
		24V D.C.	110V A.C.	220V A.C.						
S.P.D.T.	2500	10	10	5	on Coil	1.8	4.5	SR 2.5	1500	\$4.15 ea.
S.P.D.T.	5000	10	10	5		1.8	4.5	SR 5	1501	4.90 ea.
S.P.D.T.	10000	10	10	5		1.8	4.5	SR 10	1502	4.95 ea.
D.P.D.T. 6 V	80	10	10	5		1.8	6.3	SS	1405	5.50 ea.

\*Open type rating. Enclosed rating—90% of open rating.

RELAYS DESIGNED IN ACCORDANCE WITH OUR INTERPRETATION OF UNDERWRITERS SPECIFICATIONS.

These Spemco magnetic relays can be used for remote control of electric power and lighting loads, pilot lights and audible signals. It may also be used for controlling small single phase motors, serve as circuit switching relays for machine tools, processing control, electrical interlocking systems, electronic applications, follows a "Bug" F B and many other applications too numerous to mention; however, relays serve as control devices only and do not provide motor overload or short circuit protection.

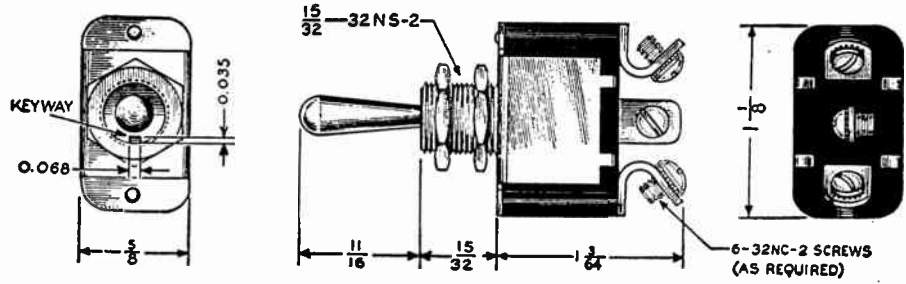
MAGNET COILS for AC Coils only. Relay coils are available for voltages ranging from 1 1/2 to 220 volts with commercial frequencies of 25, 50 and 60 cycles. Coils are designed for continuous service and will operate safely at plus 10% or minus 15% rated voltage.

All coils are designed for 50/60 cycle service for any given voltage rating. Coils will pick up readily at 80% of rated voltage. All magnet coils are impregnated and baked.

POINTS. Fine silver to silver contacts provide long life and low contact resistance. Silver contacts never require cleaning or dressing and do not corrode, thus reducing maintenance. Substantial contact pressure assures dependable contact action even on light loads or low voltages.

All wiring terminals are accessible from the front of the relays and are so arranged that relays may be mounted on minimum centers without obstructing wiring terminals of adjacent relays. All Steel parts are plated.

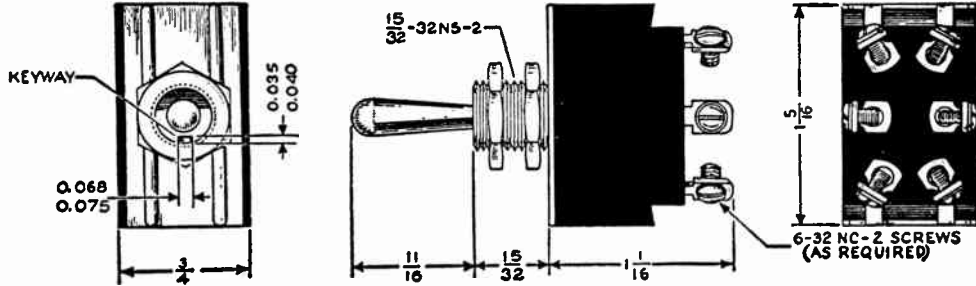
# Single Pole Switches— Toggle Type



Carling Catalog Numbers

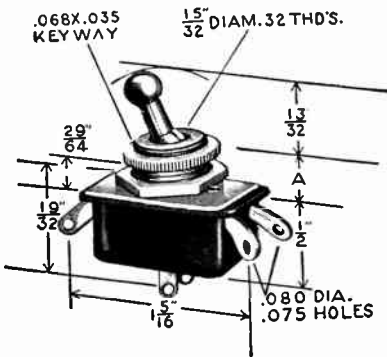
Government Type Conforming to Specs.			Commercial Type—UL				Electrical Circuit Characteristics		
JAN		Mil	15 Amp.-125 V. AC. 10 Amp.-250 V. AC. 3/4 HP-115-230 V. AC.		6 Amp.-125 V. AC. 3 Amp.-250 V. AC. 1/2 HP-115-230 V. AC.		Up Position	Center Position	Down Position
Screw Terminals	Solder Lugs	Screw Terminals	Solder Lugs	Screw Terminals	Solder Lugs	Screw Terminals			
ST40A	ST42A	AN3021-2	2FA53	2FA54	2FA63	2FA64	SINGLE POLE	—	SINGLE THROW
ST40B	ST42B	AN3021-9	6FA57	6FA58	6FA67	6FA68	On	—	Off
ST40C	ST42C	AN3021-8	6FA53	6FA54	6FA63	6FA64	On	—	Momentarily Off
							Off	—	Momentarily On
ST40D	ST42D	AN3021-3	2FB53	2FB54	2FB63	2FB64	SINGLE POLE	—	DOUBLE THROW
ST40E	ST42E	AN3021-1	2FC53	2FC54	2FC63	2FC64	On	—	On
ST40F	ST42F		6FB53	6FB54	6FB63	6FB64	On	Off	On
ST40G	ST42G	AN3021-7	6FC53	6FC54	6FC63	6FC64	Momentarily On	Off	Momentarily On
ST40H	ST42H	AN3021-5	6FC57	6FC58	6FC67	6FC68	On	Off	Momentarily On

# Double Pole Switches— Toggle Type



Carling Catalog Numbers

Government Type Conforming to Specs.			Commercial Type—UL				Electrical Circuit Characteristics		
JAN		Mil	15 Amp.-125 V. AC. 10 Amp.-250 V. AC. 1/2 HP-115-230 V. AC.		6 Amp.-125 V. AC. 3 Amp.-250 V. AC. 1/2 HP-115-230 V. AC.		Up Position	Center Position	Down Position
Screw Terminals	Solder Lugs	Screw Terminals	Solder Lugs	Screw Terminals	Solder Lugs	Screw Terminals			
ST50K	ST52K	AN3027-2	2GK53	2GK54	2GK63	2GK64	DOUBLE POLE	—	SINGLE THROW
ST50L	ST52L	AN3027-4	6GK57	6GK58	6GK67	6GK68	On	—	Off
ST50M	ST52M	AN3027-5	6GK53	6GK54	6GK63	6GK64	On	—	Momentarily Off
							Off	—	Momentarily On
ST50N	ST52N	AN3027-3	2GL53	2GL54	2GL63	2GL64	DOUBLE POLE	—	DOUBLE THROW
ST50P	ST52P	AN3027-1	2GM53	2GM54	2GM63	2GM64	On	—	On
ST50R	ST52R	AN3027-6	6GL53	6GL54	6GL63	6GL64	On	Off	On
ST50S	ST52S	AN3027-7	6GM53	6GM54	6GM63	6GM64	Momentarily On	Off	Momentarily On
ST50T	ST52T	AN3027-8	6GM57	6GM58	6GM67	6GM68	On	Off	Momentarily On



## OTHER TOGGLE SWITCHES—SINGLE AND DOUBLE POLE—UL

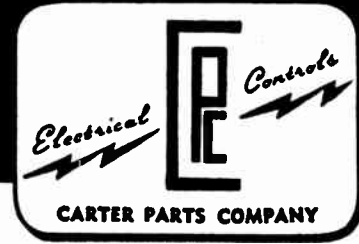
Catalog No.	Rating	Type	Terminal
ST10A also ST11A	6 Amp. 125 V.—3 amp. 250 V.	(SPST-Gov't. Type Approved For Airborne Electronics)	—End Solder Lugs
110-6		Single Pole	—Bottom Solder Lugs
111-6		Single Pole	—Leads
112-6		Single Pole	—Lugs
112-6A		Single Pole	—Leads
216-6		Double Pole	—Lugs
216-6A		Double Pole	—Leads
316-6		Double Pole	—Lugs
516-6		Single Pole	—2 Circuit —Lugs
516-6A		Single Pole	—2 Circuit —Leads
138 (1 Amp.)		Double Pole	—Double Throw —Center Off—Lugs

**CARLING ELECTRIC, INC.**

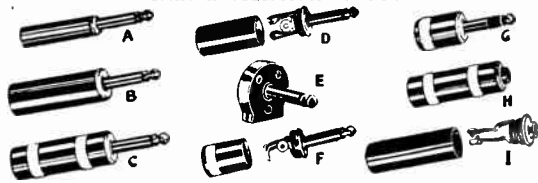
WEST HARTFORD 10, CONN.

# Carter

## PARTS COMPANY



### CARTER TELEPHONE PLUGS



Tip and sleeve circuits: Fit standard 2-conductor jacks. New types now stocked for wide range of uses. For headphones, microphones, speakers, musical instruments, medical and test equipment, many others.

Molded Bakelite handles. Metal Shield handles: Bright nickel-plated, with interpal 2-layer, high-quality tubular insulators, preventing short-circuits in handle.

(A) "Imp" PHONE PLUG, 250 SERIES—Trend to miniaturization is reflected in the new "Imp" phone plug. All features same as standard plug but  $\frac{1}{2}$  size.

(B and C) CARTER TWO-CONDUCTOR PHONE PLUGS—A general-purpose type popular for years. Terminals flat with grooves for one or two tips, terminals or wires. Broad-headed knurled binding screws with screw driver slots. Handles  $\frac{1}{4}$ " diameter,  $2\frac{1}{4}$ " long.

(D) ONE-WAY PLUG. Spring-grip terminals for one pair phone tips. No set screws. Stay-cord anchor. Handles  $\frac{1}{4}$ " diameter,  $1\frac{1}{2}$ " long.

(E) TWO-CONDUCTOR FLAT PLUG—Molded black bakelite body  $\frac{1}{4}$ " thick,  $1\frac{1}{4}$ " diameter. Ideal for panel or wall-plate. Phone tips gripped by set-screws. Stay-cord anchor.

(F) TWO-CONDUCTOR PLUG SHIELDED—Designed for cords with center conductor and braided return-conductor shield. Perfect anchoring; sleeve terminal bends to clamp shield braid after soldering in  $\frac{3}{8}$ " hole. Shield handle  $\frac{1}{4}$ " diameter,  $1\frac{1}{2}$ " long.

(G) TWO-CONDUCTOR PLUG SHIELDED—Insulation 19/64" wide between tip and sleeve. Used with 3-conductor plugs short "ring" spring to sleeve; this plug leaves it open, for circuit switching. Also fits 2-conductor jacks. Shield handle  $\frac{1}{4}$ " diameter,  $1\frac{1}{2}$ " long.

(H and I) TWO-CONDUCTOR PORTABLE JACKS—Used on end of extension cord. Fit 2-conductor plugs. Screw terminals take one pair phone tips, terminals or wires. Shield handles have tubular insulator to prevent short circuits.

### "Imp" PUSHBUTTON SWITCHES



These switches are similar in general construction to the widely popular Carter "Imp" Short Jacks. Finest nickel-silver springs with integral contacts. High grade phenolic insulation. Body, nuts and washers bright nickel-plated. Red or black Kolonite 1-piece shaft and button. Springs fully insulated from the mounting bushing and shaft.

Made in three circuit arrangements:

- IS-10 Series: "Make" contact, single circuit, normally open
- IS-20 Series: "Break" contact, single circuit, normally closed
- IS-30 Series: "Break-Make" contacts, single circuit, double throw

Description	Circuit	Contact Arrangement	Red Pushbutton Stock No.	Black Pushbutton Stock No.
One-piece combined shaft and pushbutton. Mount in $\frac{3}{8}$ " hole in panels up to $7/32$ " thick. Supplied with one nickel-plated hex. nut and washer.		"Single Make"	IS-11	IS-13
		"Single Break"	IS-21	IS-23
		One "Break-Make"	IS-31	IS-33

### CARTER'S "Imp" PLUNGER SWITCH

- Wiping-Rotating Action • Minimum Arcing
- No Impact Load on Plunger • Longer Life
- No Corroding Carbides or Oxides
- Silver Plated Contactor and Terminals

Electrical Specifications and Types Available: Carter's "Imp" Plunger switch is available in a variety of styles to meet most demands for this type of a switch.

Electrical Specs: "Imp" plunger switch is designed to handle  $\frac{3}{4}$  Amperes at 100-125 Volts,  $\frac{1}{4}$  Amperes at 250 Volts.

CIRCUITS: "Imp" plunger switch is available in "make" or "break" when plunger is operated. "Imp" is available in both "grounded" or "ungrounded" types.



### CARTER TELEPHONE JACKS



Circuit	Function	Part Numbers		
		AJ-Frame	BJ-Frame	CJ-Frame
	Break Contact on Tip Spring	AJ-181	BJ-181	CJ-181
	Open Circuit	AJ-211	BJ-211	CJ-211
	Separate Make	AJ-151	BJ-151	CJ-151
	Break Contact on Tip Spring, and Separate Break Contacts	AJ-161	BJ-161	CJ-161
	Break Contact on Tip Spring, and Separate Make Contacts	AJ-251	BJ-251	CJ-251
	Break Contact on Tip Spring, and Separate Break-Make Contacts	AJ-361	BJ-361	CJ-361

### SPECIFICATIONS

CONTACTS: Zinc-silver alloy is standard. Coin silver, fine silver and others can also be supplied in production quantities. For coin silver, the last digit of part number is changed from 1 to 2. Example: AJ-182.

BUSHING: Plain brass is standard. Available with nickel-plate when specified. For nickel plated bushings, last digit of part number is changed from 1 & 2 to 3 & 4 respectively.

SPRINGS: Spring tempered phosphor bronze, nickel plated, with soldering terminals hot tinned.

INSULATION: Spacers made of natural, grade XXP laminated phenolic, wax impregnated; screw insulating tubing is polystyrene or hard rubber depending on the required length. Lifters, when used, are made of dark bone fibre, wax impregnated. The leaf insulators, when used, are made of natural fabric base laminated phenolic, wax impregnated.

FRAME: Cold rolled steel, cadmium plated.

### LONG AND SHORT FRAME JACKS

LONG JACKS . . . The original long jacks were adapted from the telephone switchboard jacks. Long rugged, phosphor-bronze springs parallel to the plug axis give precise action. These jacks take minimum panel mounting space, less than the short jacks. Supplied with nickel-plated hex. shoulder mounting nut and nickel-plated washer.

SHORT JACKS . . . Carter short jacks are small and compact, but do a full-sized job. Depth behind the panel is cut down by placing the tempered nickel-silver springs parallel to the panel. High quality sheet bakelite and tubular ebonite insulators are used throughout—no paper or fibre used in Carter Jacks. Supplied with nickel-plated hex. mounting nut and nickel-plated washer.

Short and long jacks mount in single  $\frac{3}{8}$ " hole in panels up to  $\frac{1}{8}$ " thick. Fit of the plug in the jack is not affected by the thickness of the panel. Fit all standard plugs in two and three conductor types. Strong bright cadmium plated steel frame. All contacts between springs are fine silver, giving minimum contact resistance.



"Imp" TAP SWITCH Bushing length  $\frac{3}{8}$ " Shaft  $\frac{1}{8}$ " from end of bushing.

Stock No.	No. of Positions	Stock No.	No. of Positions
602	2	608	8
603	3	609	9
604	4	610	10
605	5	611	11
606	6	612	12
607	7		

Positive snap action—strong wiping contact grounded to shaft and bushing. In operation, contact breaks between makes—non-shorting.



**CARTER PARTS COMPANY**

# Carter

**PARTS COMPANY**

### CARTER JACK SWITCHES

Rotary Two and Three Position  
Long and Short Types

**SHORT JACK SWITCHES**—Similar in design to Carter short jacks, these switches are small and compact.

**LONG JACK SWITCHES**—Similar in design to Carter long jacks, these are full-size switches, but take less panel space than the short jack switches.

#### TWO POSITION SWITCHES

Circuits and Stock Nos.	Contact Arrangement	Stock Nos.	
		Long Jack Switches	Short Jack Switches
	33 Single make (SPST)	22	322
	333 Single break-make (SPDT)	33	333
	55 Two makes (DPST)	44	344
	355 One make-break, one make (1 SPDT-1 SPST) (Nor. Op.)	55	355
	660 Two break-makes (2 SPDT)	66	366
	306 Three makes (3 SPST-Normally Open)	660	306
	880 Four makes (4 SPST-Normally Open)	880	388

#### THREE POSITION SWITCHES

	88 Single pole double throw, center off	77	333-B
	366-B Two pole double throw, center off	88	366-B
	120 Three pole double throw, center off	90	399-B
	312-B Four pole double throw, center off	120	312-B

#### "Imp" SHORT JACKS



**No. 1 Open Circuit "Imp" Short Jack**—Has tip and sleeve circuits only. Electrical equivalent of Nos. 101 and 501.



**No. 2A—Closed Circuit "Imp" Short Jack**—Similar to No. 1, with an additional spring making contact with tip spring until plug is inserted. Electrical equivalent of Nos. 102-A and 502-A.



**No. 2B Microphone "Imp" Short Jack**—A new 3-conductor jack, having tip, ring and sleeve circuits. Fits standard 3-circuit microphone plugs. Electrical equivalent of Nos. 102-B and 502-B.

Inquire regarding JAN Specs. Jacks and Plugs

#### SHORT PUSHBUTTON SWITCHES

Non-Locking and Locking Types

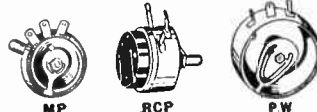


Silver contacts for minimum resistance. High-quality, nickel-silver spring. Bright cadmium-plated steel frame. Highest quality insulation used throughout.

Mount in single  $\frac{3}{8}$ " hole in panels up to  $\frac{3}{8}$ " thick. Supplied with  $\frac{1}{2}$ " polished black bakelite button and set-screw, 1 nickel-plated hex. mounting nut and washer.

Stock Nos.	Contact Arrangements	Non-Locking Type	Locking Type
	422-M Single Make Contact	422-M	422-AM
	422-AM Single Break Contact	422-B	422-AB
	433 Single Break-Make Contact	433	433-A
	444-M Two Make Contacts	444-M	444-AM
	444-B Two Break Contacts	444-B	444-AB
	666 Two Break-Make Contacts	666	666-A
	555 Combination Break One and Make Two Contacts	555	555-A

### VARIABLE RESISTORS — Wire Wound Type



#### Standard Specifications

Most Carter control units are made of standard stock parts. The shaft and housing are constructed of steel, cadmium plated. Busting and hex. nuts are brass, but can be supplied nickel-plated.

Terminals are made of steel, silver-plated over copper plate. Insulating material as described for individual types. Low temperature — coefficient wire used on all units except where physical size of wire will not permit.

Stock Number		Resist. Ohms	Stock Number		Resist. Ohms
Pots.	Rheos.		Pots.	Rheos.	
MP-1/2	MR-1/2	1/2	MP-40	MR-40	40
MP-1	MR-1	1	MP-50	MR-50	50
MP-2	MR-2	2	MP-75	MR-75	75
MP-3	MR-3	3	MP-100	MR-100	100
MP-6	MR-6	6	MP-200	MR-200	200
MP-10	MR-10	10	MP-400	MR-400	400
MP-15	MR-15	15	MP-500	MR-500	500
MP-20	MR-20	20	MP-1000	MR-1000	1000
MP-25	MR-25	25	MP-1500	MR-1500	1500
MP-30	MR-30	30			

#### Type MP

Stock No.	Value in Ohms	Stock No.	Value in Ohms	Stock No.	Resist. Ohms	Stock No.	Resist. Ohms
RCP-10	10	RCP-800	800	PW-100	100	PW-1M	1000
RCP-20	20	RCP-1M	1000	PW-150	150	PW-2M	2000
RCP-30	30	RCP-2M	2000	PW-200	200	PW-3M	3000
RCP-50	50	RCP-3M	3000	PW-250	250	PW-5M	5000
RCP-100	100	RCP-4M	4000	PW-300	300	PW-7500	7500
RCP-200	200	RCP-5M	5000	PW-400	400	PW-10M	10000
RCP-300	300	RCP-6M	6000	PW-500	500	PW-20M	20000
RCP-400	400	RCP-10M	10000	PW-800	800	PW-50M	50000
RCP-500	500	RCP-15M	15000				
RCP-600	600						

#### Type RCP

#### Type PW

### CARTER "T" & "L" PAD WIREWOUND ATTENUATORS



(LW) 4-WATT "L" PADS ENCLOSED SINGLE TYPE. BODY:  $1\frac{1}{8}$ " diameter,  $\frac{1}{4}$ " deep. BUSHING:  $\frac{3}{8}$ " diameter,  $\frac{3}{8}$ " long. SHAFT:  $\frac{1}{4}$ " diameter,  $1\frac{1}{2}$ " long from bushing. Mount in single  $\frac{3}{8}$ " hole.

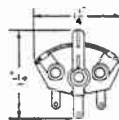
(TA) 10-WATT "T" PADS OPEN FRAME TYPE. BODY:  $2\frac{1}{4}$ " diameter,  $\frac{1}{4}$ " deep. BUSHING:  $\frac{1}{2}$ " diameter,  $\frac{3}{8}$ " long. SHAFT:  $\frac{1}{4}$ " diameter,  $\frac{1}{8}$ " long, from bushing.

(LE) 8-WATT "L" PADS ENCLOSED DUAL TYPE. BODY:  $1\frac{1}{8}$ " diameter,  $1\frac{1}{2}$ " deep. BUSHING:  $\frac{3}{8}$ " diameter,  $\frac{3}{8}$ " long. SHAFT:  $\frac{1}{4}$ " diameter,  $1\frac{1}{2}$ " long, from bushing.

(LA) 15-WATT "L" PADS OPEN FRAME TYPE.

STOCK NO.	IMPEDANCE
LW/TA/LE/LA—8	8 Ohms
LW/TA/LE/LA—16	16 Ohms
LW/TA/LE/LA—50	50 Ohms
LW/TA/LE/LA—200	200 Ohms
LW/TA/LE/LA—500	500 Ohms
LW/TA/LE/LA—1000	1000 Ohms

### TYPE AD ADJUSTABLE WIREWOUND RESISTOR



The Carter Type AD Resistor is an inexpensive and compact adjustable resistor capable of dissipating one watt. The arm is slotted for ease of adjustment.

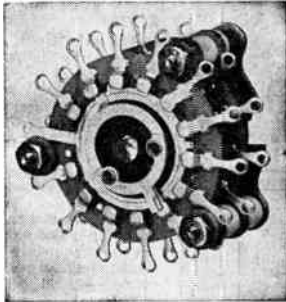
Its sturdy construction permits mounting either by its terminals or through the large eyelets.

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
AD-10	10	AD-200	200
AD-20	20	AD-250	250
AD-25	25	AD-400	400
AD-40	40	AD-500	500
AD-50	50	AD-750	750
AD-75	75	AD-1000	1000
AD-100	100	AD-2000	2000



# INSTRUMENT AND TESTER SWITCHES (LAMINATED)

## Rotary Selector — Single and Multi-Gang — Non-Shorting and Shorting



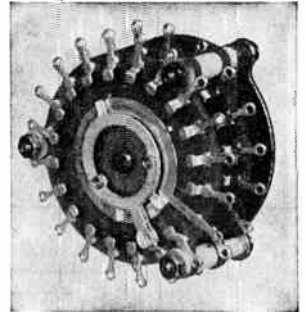
SS-14-2

JBT Instrument-type Rotary Selector Switches are used widely in quality test equipment, portable instruments, inspection setups and avionics where trouble-free, dependable performance is of major importance. Available in two basic types—14 and 20 position—the design gives extra contacts in minimum space. One to six decks.

**FEATURES:**

**Reliability**—Rigid, 3-post deck suspension, instead of the usual 2; all current carrying parts are brass or phosphor bronze, nickel coated and then heavily plated with pure silver to meet 100 hour salt spray test; ball bearing action, beryllium-copper spring on SS-14; phosphor bronze on SS-20, and sharp detent assure positive indexing. Springs of both switches are generally replaceable without disturbing soldered connections. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength.

**Exceptional Compactness**—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23/32" circle. Extra decks add only 5/16".



SS-20-2

**Low Contact Loss**—Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

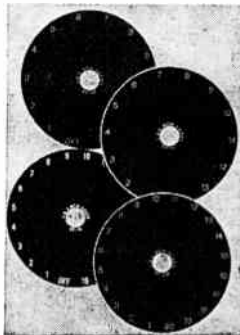
**Ample Dielectric**—AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts and ground, 1000 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

**BASIC 14-POSITION:** 1/4" Bar knob supplied only on individually packed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat of shaft, unless otherwise specified. Contact lugs and common lugs positioned as shown, 13 contacts per deck. One to six decks; for each additional deck (or gang) add 5/16" to depth. Continuous rotation type supplied unless otherwise specified. Adjustable Stop normally is supplied on standard cataloged switches. Panel locator positioned as shown unless otherwise specified on bulk orders.

**BASIC 20-POSITION:** 2" Bar knob supplied only on individually packed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat on shaft, unless otherwise specified. Contact lugs and common lugs positioned as shown, 19 contacts per deck, continuous rotation types. One to six decks; for each additional deck, add 5/16" to depth. Continuous rotation type supplied unless otherwise specified. Panel locator positioned as shown unless otherwise specified on bulk orders.

**SWITCH KIT (Laminated Phenolic)**

Many of the 14 and 20 position laminated switches shown on this page, plus special variations as needed, can be assembled quickly from the kit shown on the preceding page. Designers, service engineers, laboratories, and industrial maintenance departments will especially appreciate the convenience, flexibility, and time saved.



**ETCHED DIAL PLATES**

For SS-14 or MS-14 Series; and for SS-20 or MS-20 Series. Dull black finish — with raised bright metal numerals. 2 1/2" diameter.

- EP-13 off thru 13.....\$0.21
- EP-14 1 thru 14......21
- EP-19 off thru 19......21
- EP-20 1 thru 20......21

**Military Variations**—The following can be supplied on special order at extra cost: (a) laminated plastic, Grade LTS-E-3 or better, per Spec. JAN-P-13; (b) vacuum impregnation of rotors, decks, spacers, and ceramic spacers with approved fungicides; (c) hot tin dip on contact surfaces to be soldered, presently available in 14 positions only; (d) 14 or 20 live positions, no off (add suffix F, as SS-14-2F).

**Non-Shorting—Break before make. Shorting—Make before break. LAMINATED SWITCHES, SS-14 TYPE (14 positions; angular indexing 25° 43')**

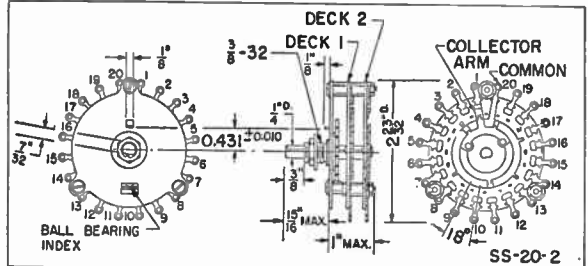
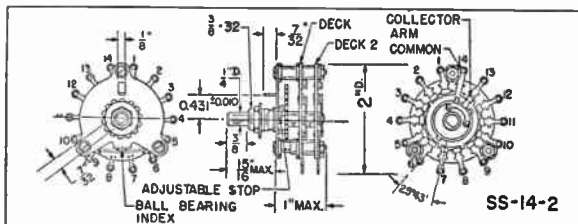
Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Boxed, Including Knob
SS-14-1	14	1	1	N-S	\$1.50
SS-14-1A*	5†	2	1	N-S	1.55
SS-14-1S*	14	1	1	N-S	1.50
SS-14-1CS‡	14	1	1	CS	1.85
SS-14-2	14	1	2	N-S	1.80
SS-14-2A*	5†	2	2	N-S	1.95
SS-14-2S	14	1	2	S	1.80
SS-14-2CS‡	14	1	2	CS	2.55
SS-14-3	14	1	3	N-S	2.25
SS-14-3S*	14	1	3	S	2.25
SS-14-4	14	1	4	N-S	2.90
SS-14-6	14	1	6	N-S	4.25

\*Standard items, but not regularly stocked; check with your electronic parts distributor.  
 †Denotes correction in former catalogs; 5 positions include 4 "live" and 1 "off".  
 ‡Complete shorting — all contacts shorted except one in use.

**LAMINATED SWITCHES, SS-20 TYPE (20-positions; angular indexing 18°)**

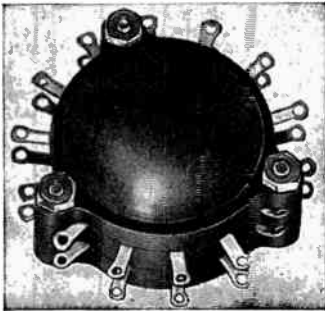
SS-20-1	20	1	1	N-S	\$1.95
SS-20-1A*	6‡	2	1	N-S	2.00
SS-20-1S*	20	1	1	S	1.95
SS-20-2	20	1	2	N-S	2.40
SS-20-2S*	20	1	2	S	2.40
SS-20-3	20	1	3	N-S	3.25
SS-20-4	20	1	4	N-S	3.95
SS-20-6	20	1	6	N-S	5.60

\*Standard items, but not regularly stocked; check with your electronic parts distributor.  
 ‡Denotes correction in former catalogs; 6 positions include 5 "live" and 1 "off".



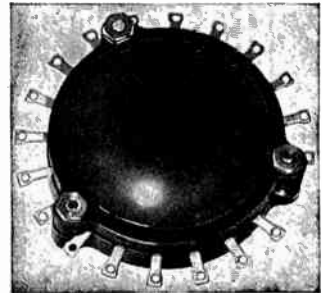
# NEW-BUT PROVED-MOLDED ROTARY SELECTOR SWITCHES

Fully Enclosed — Single and Multi-Gang — Shorting and Non-Shorting



MS-14-2

- All moving contacts enclosed — minimizes dirt and corrosion.
- Contact lugs permanently integrated into switch assembly.
- Sturdy construction with 3-post deck suspension, double grip collector arms, and rectangular drive shaft through decks for precision indexing.
- Interchangeable, electrically and mechanically, with J-B-T 14- and 20-position laminated switches, widely used by industry and Armed Services.



MS-20-1

**FEATURES:**

For description of rigid 3-post construction; heavy pure silver plating to meet 100-hour salt-spray test; excep-

tional compactness; .007 ohm average contact resistance; current-carrying capacity and voltage breakdown, see adjoining page on SS-14 and SS-20 laminated switches. Besides fully enclosing all the moving contact parts, the molded switches differ from the laminated construction in the design of the detent mechanism, but both types provide the positive indexing which quickly identifies the superior quality of J-B-T switches.

**BASIC 14-POSITION MOLDED (MS-14):** 13 circuits and "off" per deck in 2" circle for compactness. Molded end cover regularly supplied on MS-14 series. 1 1/4" Bar knob included with individually boxed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat of shaft, so that knob pointer points to live contact. Common or "off" contact lug is bent down for ready identification. Internal construction: double-grip collector arms hold contact lug on upper and lower surfaces; collector ring is self-wiping. One to ten decks add 1/8" per deck (or gang) to depth; for eleven decks and over, add 1/4" to depth for double indexing mechanism; add 1/8" to depth for adjustable stop mechanism. Continuous rotation type supplied unless adjustable stop (type MAS) is ordered or, on quantity orders, pre-set fixed stops are specified. Panel locator is available on quantity orders when specified; on MS-14-4 and MS-14-6, extra hex nut and longer screw are supplied for inverting supporting screw nearest common, thus converting into panel locator.

**BASIC 20-POSITION MOLDED (MS-20):** 19 circuits and "off" per deck in 2 1/2" circle for compactness. Molded end cover regularly supplied. 2" Bar knob included with individually boxed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat of shaft, so that knob pointer points to live contact. Common or "off" contact lug is bent down for ready identification. Internal construction: double-grip collector arms and self-wiping collector ring are standard construction. One to seven decks; add 1/8" per deck (or gang) to depth. Continuous rotation type supplied; on quantity orders, pre-set fixed stops are available. Panel locator available on quantity orders when specified; on MS-20-4 and MS-20-6, extra hex nut and longer screw are supplied for inverting supporting screw nearest common, thus converting into panel locator.

**MOLDED SWITCHES, MS-14 TYPE**

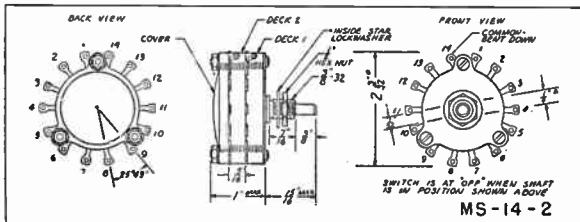
(14 positions; angular indexing 25° 43')

Continuous rotation, no stops

Non-Shorting—Break before make. Shorting—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting or Non-Shorting	Depth Behind Panel	Boxed Including Knob
MS-14-1	14	1	1	N-S	1 1/8"	\$1.50
MS-14-1S*	14	1	1	S	1 1/8"	1.50
MS-14-2	14	1	2	N-S	1 1/8"	1.80
MS-14-2S*	14	1	2	S	1 1/8"	1.80
MS-14-3	14	1	3	N-S	1 1/8"	2.25
MS-14-4	14	1	4	N-S	1 1/8"	2.90
MS-14-6	14	1	6	N-S	2 3/8"	4.25

\* Standard items, but not regularly stocked; check with your electronic parts distributor.



**MOLDED SWITCHES, MS-20 TYPE**

(20 positions; angular indexing 18°)

Continuous rotation, no stops

Non-Shorting—Break before make. Shorting—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting or Non-Shorting	Depth Behind Panel	Boxed Including Knob
MS-20-1	20	1	1	N-S	1 1/8"	\$1.95
MS-20-1-6DT	2	6	1	N-S	1 1/8"	2.70
MS-20-1S*	20	1	1	S	1 1/8"	1.95
MS-20-2	20	1	2	N-S	1 1/8"	2.40
MS-20-2-6DT	2	6	2	N-S	1 1/8"	3.90
MS-20-2S*	20	1	2	S	1 1/8"	2.40
MS-20-3	20	1	3	N-S	1 1/8"	3.25
MS-20-4	20	1	4	N-S	1 3/4"	3.95
MS-20-6	20	1	6	N-S	2 3/8"	5.60

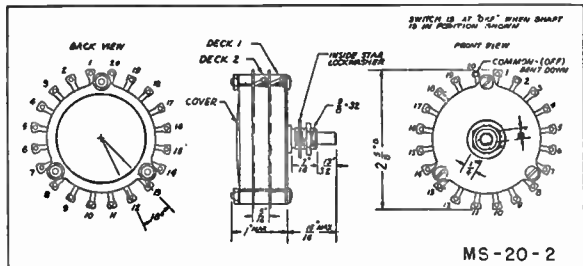
**ADJUSTABLE STOP MOLDED SWITCHES, MAS-14 TYPE**

(14 positions; angular indexing 25° 43')

**IMPORTANT:** Enclosed adjustable stop mechanism located on panel side of switch increases switch length 1/8" behind panel; decreases effective bushing length by 1/8"; and shortens shaft extending from bushing by 1/8".

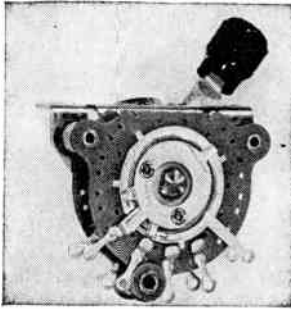
Non-Shorting—Break before make. Shorting—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting or Non-Shorting	Depth Behind Panel	Boxed Including Knob
MAS-14-1	14	1	1	N-S	1 1/8"	\$1.95
MAS-14-1S*	14	1	1	S	1 1/8"	1.95
MAS-14-2	14	1	2	N-S	1 1/8"	2.25
MAS-14-2S*	14	1	2	S	1 1/8"	2.25
MAS-14-3	14	1	3	N-S	1 1/8"	2.70
MAS-14-4	14	1	4	N-S	1 1/8"	3.35
MAS-14-6	14	1	6	N-S	2 1/8"	4.70



## LEVER ACTION SWITCHES, KITS AND SPECIAL SWITCHES

### 4-Position Lever Switches with Standard Mounting — New 12-Circuit Double-Pole



**SS-14-1L4F-2**  
Two-Deck Lever-Action Switch

**SPRING-RETURN TYPE.** The same instrument-quality, single-deck, 3-position lever switches as above may be ordered with spring return. Lever returns to one end, giving momentary action on the other two positions. Individually boxed with 6-32 hardware.

**SS-14-1L3-R**, 3 live positions, no off; non-shorting .....\$0.85

**SS-14-1L3S-R**, 3 live positions, no off; shorting ..... .85

**Positive Type, 3 or 4 position.** These sturdy lever switches are adapted from the well known J-B-T SS-14 series rotary switches, widely specified where quality is the first consideration. Single deck lever models, not illustrated, now are built into tube checkers, inspection apparatus, communications set-ups, and hobby equipment. The new 4-position types, interchangeable except in slot length with the standard 3-position, make an excellent replacement wherever an extra circuit is needed. Mounting dimensions are given below. Holes for 4-36 screws or 1/8" rivets can be supplied on long runs involving set-up charges. Individually boxed with 6-32 mounting hardware and KN-19 black knob, as shown. Spacing between single deck switches: recommended, 3/4"; minimum, 9/16". Also, see list of available mounting plates.

Model No.	Pos. per Circuit	Circuits per Deck	No. of Decks	Shorting or Non-Shorting	Stand Cont. Locations	Length of Lever Slot	Boxed, Including Knob
SS-14-1L3	3 pos., no "off"	1	1	N-S	common at 12 contacts 9, 10, 11	15/16"	\$0.75
SS-14-1L4	3 pos. & "off"	1	1	N-S	common & off at 12 contacts 9, 10, 11	1-5/16"	.85
SS-14-1L4F	4 pos., no "off"	1	1	N-S	common at 12 contacts 8, 9, 10, 11	1-5/16"	.85
SS-14-1L3S	3 pos., no "off"	1	1	S	common at 12 contacts 9, 10, 11	15/16"	.75
SS-14-1L4S	3 pos. & "off"	1	1	S	common & off at 12 contacts 9, 10, 11	1-5/16"	.85
SS-14-1L3A	3 pos., no "off"	2	1	N-S	common at 9 & 10 conts. 6, 7, 8, 12, 13, 14	15/16"	.90

**TWO-DECK LEVER-ACTION SWITCHES.** These new 3- or 4-position, 2-deck switches cost a bit more than conventional types, but one look shows why they are worth it, and more! They use the same strong parts, 3-pole suspension, and double-grip collector arms which feature the SS-14 laminated phenolic rotary switches on the next page and the 1-deck lever switches on this page. Spacing is 3/8" between decks, the same distance as on TV twinlead wires. Excellent for centralized systems in radio, sound, intercommunication, or public address equipment. Convenient for connecting 3 or 4 single channel TV antennas to one receiver. Bracket mounting holes 1 3/8" apart. Recommended spacing between switches, 15/16"; minimum spacing, 13/16". Non-shorting (break before make), positive action, individually boxed, including KN-19 knob and 6-32 hardware.

Model No.	Pos. per Circuit	Circuits per Deck	No. of Decks	Shorting or Non-Shorting	Stand Cont. Locations	Length of Lever Slot	Boxed, Including Knob
SS-14-1L3-2	3 pos., no "off"	1	2	N-S	common at 12; conts. 9, 10, 11 on decks 1 & 2	15/16"	\$1.35
SS-14-1L4F-2	4 pos., no "off"	1	2	N-S	common at 12; conts. 8, 9, 10, 11 on decks 1 & 2	1-5/16"	1.45

### MOUNTING PLATES

These .035" stamped steel plates in black crackle finish simplify alignment of standard 3-position, 1-deck switches (Models SS-14-1L3, SS-14-1L3-R, SS-14-1L3S, SS-14-1L3S-R, and SS-14-1L3A, using 6-32 hardware). Separation is 3/4" between switches; all plates are 2-3/16" high.

- PL-36, 3/4" long, for one switch .....\$0.25
- PL-37, 1 1/2" long, for two switches ..... .35
- PL-38, 3" long, for 4 switches (illus.) ..... .40

### KNOB S

Spare Knobs of the push-on type may be purchased as follows:

**KN-17**, black, modern pointed design, including metal insert, shown at left (out of stock when catalog published) .....\$0.06



**KN-18**, walnut, same as KN-19 ..... .05  
**KN-19**, black, round, flat-type, as shown at right and regularly supplied; no insert required ..... .05

### SWITCH KIT—14 and 20 POSITIONS



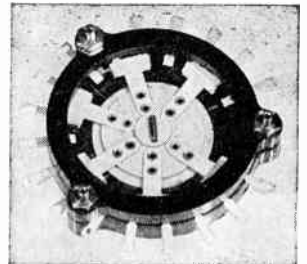
**MODEL K-1.** The instrument-quality, laminated phenolic switches described on the next page now are available in kit form for quick assembly. This arrangement is especially helpful to engineers, experimenters, hams, and electronic maintenance departments, for special assemblies or emergency requirements. The sturdy, 4-drawer, steel cabinet with 48 compartments contains 15 SS-14 index assemblies; 11 SS-20 index assemblies; 50 14-position decks, including non-shorting (break before make), shorting (make before break); A-type (2 circuits); CS-type (complete shorting); F-type (14 live positions); and

33 20-position decks including non-shorting, shorting; A-type (2 circuits); and F-type (20 live positions). One simple tool for pushing rotors on switch shafts is supplied with each kit. A replacement parts list is supplied for ordering refills through distributors, to keep the kit ready for instant use.

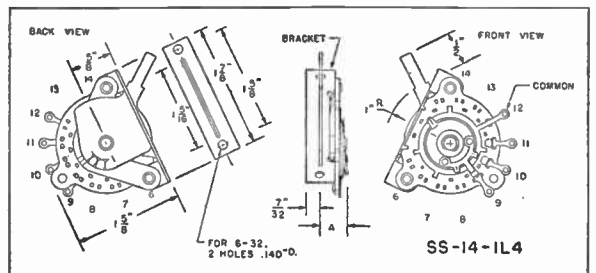
**K-1** .....\$76.00

### 6-POLE or 12-POLE DOUBLE THROW (Molded Type)

**6DT SWITCHES.** Double-throw switching, 6 circuits per deck, becomes easy with this unique rotary-type molded switch. It is fully enclosed and similar in appearance to the molded MS-20 switches described later in this catalog. The illustration at the right shows internal construction with back protective cover cut away. Circuit arrangement is designated on the metal front of the switch. Quality features include .007 ohm average contact resistance; heavy, pure-silver plating for 100-hour salt spray test; double-grip collector arms, and 3-post deck suspension. Available only in non-shorting (break before make). 2 5/8" maximum diameter; one-deck, 13/16" behind panel; two-deck, 1 1/8" behind panel.



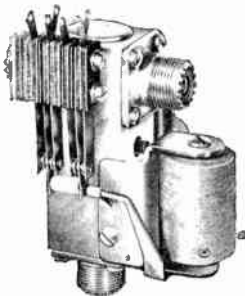
**MS-20-1-6DT**, 6-pole, double throw, 1 deck .....\$2.70  
**MS-20-6DT**, 6-pole, double throw, 2-deck ..... 3.90



Dimension A = 13/32" on 1-deck Switches; 23/32" on 2-deck. Non-shorting (break before make) is shown.

# Advance RELAYS

## COAXIAL RELAY



Type 7204

This relay, for use with 52 ohm RG coaxial cable, has SPDT internal contacts, rated at 880 watts maximum. If desired, DPDT auxiliary contacts (as illustrated) may be had. Tests on a 52 ohm line show VSWR of 1.02:1.0 at 100 meg.

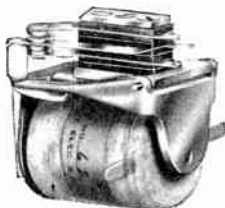
\*List Prices: (Up to 115 V A.C. or 40 V D.C.)

A.C.	D.C.		
7200	8200	.....	\$16.63
7204	8204	With auxiliary contacts.....	20.63

\*For higher voltages up to 440 V A.C. or 240 V D.C., or for other Advance Coaxial Relays, see your nearest jobber.

Size (without auxiliary contacts): 1 3/8" x 2 7/8" x 3 1/2"

## MIDGET TELEPHONE RELAY



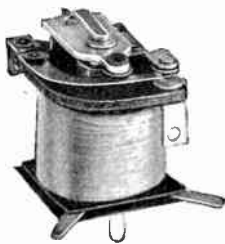
Type 5203A  
"A" denotes  
5-amp. contacts

This small, yet sturdy relay is offered in any contact combination from SPST to 4PDT; with 1/8", 1.5 amp. contacts, or with 3/16", 5 amp. contacts. Coils draw from .1 to 2 watts D.C. or 1 to 1 1/2 watts A.C. List prices below are for coils up to 115 V A.C. or 1000 ohms D.C.

A.C.	D.C.				
5201	6201	SPST	N. O.....	\$4.65	For higher voltage coils, up to 220 V A.C. or 16,000 ohms D.C., see your nearest jobber. He can also show you other Advance Telephone Relays.
5201A	6201A	SPST	N. O.....	4.92	
5203	6203	SPDT	.....	4.98	
5203A	6203A	SPDT	.....	5.51	
5204	6204	DPDT	.....	5.98	
5204A	6204A	DPDT	.....	7.05	

## TINY MITE RELAYS

(FOR D.C. ONLY)

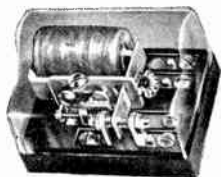


Type 003

In these tiny relays, which require less than 1/2 cubic inch mounting space, all switching is above ground. Contacts are rated at .35 amperes at 115 V A.C. (non-inductive). Power required is .2 to .5 watt. Coils are available for any D.C. voltage 1 to 80; resistances up to 5000 ohms. Weight: 10 grams. (45 relays per lb.). List prices below are for any coil up to 800 ohms (24 V D.C.). For higher resistances see your nearest jobber.

Type		List	Size: 3/8" x 3/8" x 3/16"
003.....	SPST N. O.....	\$3.52	(Overall dimensions with lugs as illustrated).
005.....	DPST N. O.....	3.85	If desired, can be supplied with leads.

## ULTRA-SENSITIVE D.C. RELAYS



Type 1200

This relay combines many superior features — transparent plastic cover-molded Bakelite base — counter-balanced armature — high overall sensitivity . . . 5 milliwatts for positive operation — 2 1/2 milliwatts with careful adjustment, and light contact load . . . Three adjustments with vernier screws: spring, and each contact. Contacts are SPDT, pure silver rated at 1.5 amperes at 115 V A.C. (non-inductive). Supplied in coil resistances up to 40,000 ohms. Be sure to specify resistance desired!

List Prices:

Up to 2200 ohms.....	\$10.97	8700 ohms.....	\$11.98	30000 ohms.....	\$15.30
3500 ohms.....	11.31	14000 ohms.....	12.64	40000 ohms.....	18.63
5500 ohms.....	11.64	20000 ohms.....	13.31		

Base Dimensions: 2" x 2 3/16". Height: 1 1/2". Weight: 6 1/4 ounces.  
Currently available only with DO priority

## MIDGET RELAY



Series K1500 and K1600

Of particular interest where size and cost are factors, this new series of Midget Relays, of improved design, incorporates all of the fine construction features typical of the ADVANCE line. This unit measures only 1 1/2" x 3/4" x 1 1/8" high. Pure Silver contacts are used, 1/8" in diameter. Standard coils are obtainable from 2 to 40 V D.C. and 1 to 115 V A.C. The following switch combinations can be supplied:

	TYPE			
A.C.	D.C.	CONTACT COMBINATION	LIST PRICES	
K1503S	K1603S	SPDT .....	\$4.31	
K1504	K1604	DP-DT .....	4.65	

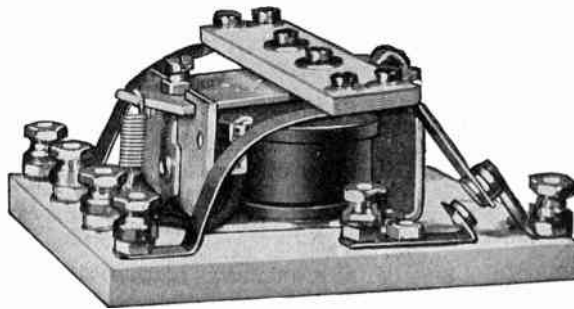
# Advance RELAYS

Isolantite model Antenna Change-Over. Designed for use in Amateur Transmitters.

The contact system is Double Pole-Double Throw, using  $\frac{1}{4}$ " Pure Silver contacts, with exceptional wiping action.

For high radio frequency control. Entirely hum-free where intended for

## TRANSMITTER RELAYS



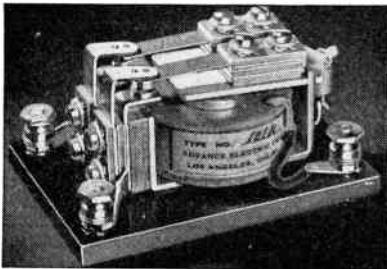
Type 400

A.C. operation, and highly efficient on D.C. supplies. All metallic parts are cadmium and chromium plated.

Standard coils are for 110V A.C. They will also be supplied for lower A.C. or D.C. voltages at no increase in price.

List Price.....\$13.17

## KEYING RELAYS

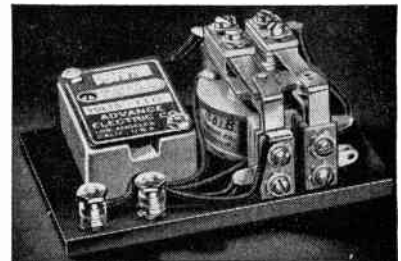


Type 101K—A.C.  
Type 201K—D.C.

Designed expressly for use in Keying Circuits where it is desired to use low voltage across the key to control high voltage transmission through the Relay contacts. The heavy duty coil and strong return spring makes possible an exceptional keying speed. Two sets of  $\frac{1}{4}$ " Pure Silver contacts in series allow a carrying capacity of 2500 volts. The complete unit, mounted on a  $\frac{3}{16}$ " Bakelite base with binding posts for coil connections, has over-all dimensions of 3" x 2" x 1 $\frac{3}{8}$ " and is obtainable for A.C. operation to 115 volts or D.C. operation to 60 volts.

List Price .....\$7.32

## TIME DELAY RELAYS

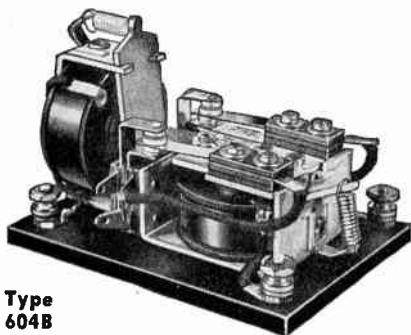


Type 304B  
Type 354B

Available either with delay before make, 304B, or delay before break, 354B. This relay is provided with an adjustable range of 10 seconds to one minute. Recycling time is approximately 10 times the delay period. Both models are DPDT with  $\frac{1}{4}$ " 10 ampere contacts (non-inductive). Available in voltages from 3 to 230 volts A.C. or D.C. Standard price applies up to 115V A.C., or 40V D.C. Dimensions 3 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ ".

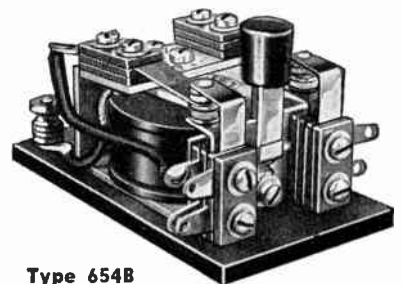
List Price .....\$15.65

## LATCHING RELAYS



Type 604B

These Relays are highly desirable for applications where it is impractical to have the holding coil in constant service. When the coil actuating the contact arrangement is momentarily energized, the armature is locked in the closed position, and may be released electrically (Type 604B) or manually (Type .654B).



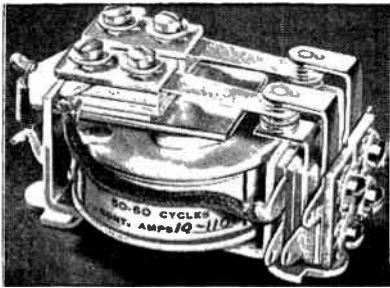
Type 654B

	List		List
Type 604B	\$12.77	.....Double Pole-Double Throw .....	Type 654B \$9.50

The above list prices are for  $\frac{1}{4}$ " contacts. For  $\frac{3}{16}$ " points deduct 25c—for  $\frac{1}{8}$ " points deduct 50c. When ordering these types SPECIFY THE VOLTAGE.

# Advance RELAYS

## INDUSTRIAL CONTROL RELAYS



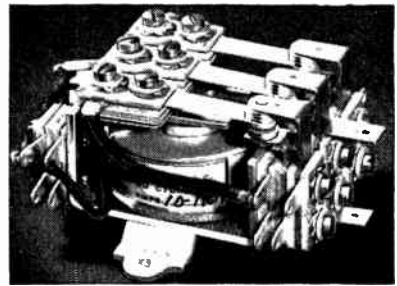
**Type 964B**

type without sacrificing the desirable qualities of the midget style. Available in DPDT, and to operate on standard A.C. and D.C. voltages.

Type 964B—Double Pole-Double Throw ..... List \$7.32

Designed mainly for industrial applications — air conditioning, lighting, and power transfer systems, the Type 964B Relays embody all of the rugged construction features demanded in units of this

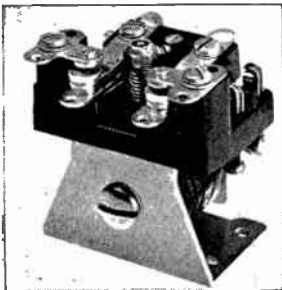
This three pole, double throw relay has the same general characteristics as the Type 964B except that it requires a slightly larger mounting area. Contacts are 1/4" silver, rated at 10 amperes at 115 V A.C. non-inductive. Solder lug terminals are provided for all connections and the metal mounting bracket has two tapped holes on 2" centers for 6-32 screws.



**Type 979B**

Type 979B ..... List \$8.78

## GENERAL PURPOSE RELAY



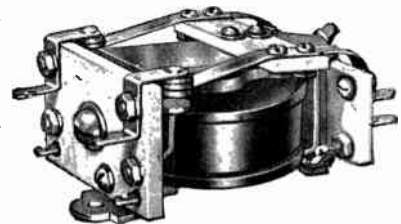
This Advance relay, with molded bakelite insulation, is compact, sturdy, and all electrical connections are well spaced and easily accessible. Contacts are 1/4" diameter pure silver, rated at 15 amps. at 115 V. A.C. or 24 V. D.C. non-inductive. **BE SURE TO SPECIFY CORRECT TYPE NUMBER AND OPERATING VOLTAGE WHEN ORDERING. PRICES**

BELOW ARE FOR A.C. COILS UP TO 115 VOLTS OR D.C. COILS UP TO 40 VOLTS.

D.C.	A.C.		List
Type 9003	9103	SPDT—Double Make and Break.....	\$8.47
Type 9004	9104	DPDT—Single Make and Break.....	8.47

## MIDGET TYPE R.F. RELAYS

These models are sturdy, compact Double Pole - Double Throw Transmitter Relays, designed expressly for use in all types of mobile-portable communications equipment where space is



**Series 1000—A.C. Series 2000—D.C.**

at a premium. The insulation on this, as on the Type 400's, is Isolantite for both the cross-arm and end pieces, with all holes adequately well spaced to prevent structural weakness and possible "creepage." Coils are obtainable for all A. C. and D. C. voltages, and will operate in any position, the former consuming approximately four watts—the latter, two watts of power. Dimensions are 2 3/4" x 1 1/2" x 1 1/4".

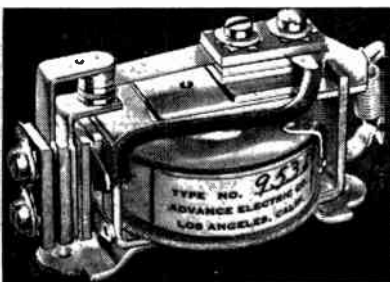
List Price.....\$10.97

## GENERAL PURPOSE RELAYS

**Type 953B**

This relay affords maximum power and efficiency at low cost. Contacts are SPDT, rated at 10 amperes at 115V A.C. and are 1/4" pure silver. Solder lug terminals are provided and the relay is mounted on a metal bracket, same as the 964B and 979B. Coils available up to 40V D.C. and 115V A.C. at standard prices.

List Price .....\$5.12



## GEN-E-MOTOR STARTING RELAY,

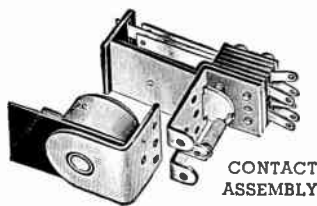
**Type 951C**

An exceptionally sturdy power transfer Relay, easily capable of handling the heavy current surge encountered on "cold" starts in motor-generator systems. The contacts are 3/8" Pure Silver and have ample carrying capacity for the usual 200-500V converters. Heavy-duty in every phase of construction, this unit is not to be compared with the common five and ten ampere circuit controls. Base dimensions are 3" x 2" and each unit is complete with a braided generator-cable pig-tail and binding posts for all connections. Coils for 5 1/2 to 32V D. C. or 1 to 115 A.C..... List Price 8.78



# RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS



CONTACT ASSEMBLY

**COIL ASSEMBLY**

**CONTACT SWITCH ASSEMBLIES**

Type 200-1—Stand., with SPDT Contact Ass'ly, 8 Amps.....	<b>\$2.25</b>
Type 200-2—Stand., with DPDT Contact Ass'ly, 8 Amps.....	<b>3.05</b>
Type 200-4—Standard, DPDT, 12.5 Amps.....	<b>3.55</b>
Type 200-M1—Midget, with SPDT Contact Ass'ly, 8 Amps.....	<b>2.20</b>
Type 200-M2—Midget, with DPDT Contact Ass'ly, 8 Amps.....	<b>2.70</b>

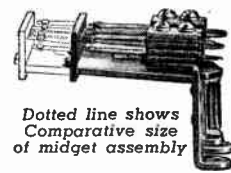
**AC COILS\***

6 Volt.....	<b>\$2.70</b>
12 Volt.....	<b>2.70</b>
24 Volt.....	<b>2.70</b>
115 Volt.....	<b>3.40</b>

\*All AC coils available in 25 and 60 cycles.

## SERIES 200—INTERCHANGEABLE

Two basic parts—a coil assembly and a contact assembly—comprise this simple, yet versatile, relay. Coil assembly consists of coil and field piece. Contact assembly consists of switch blades, armature, return spring and mounting bracket. The new midget contact assembly, which is interchangeable with the standard assembly, is also available in either single pole double throw, or double pole, double throw. The standard contact assembly is 2 7/8" long, 1 3/4" high, 1" wide. The midget assembly is 1 5/8" long, 1 1/2" high, 1" wide. The four contact assemblies can be used with any one of 13 coils to make a required relay. Contact points are rated at 8 amps., 115 volts, 60 cycles AC, non-inductive load.



Dotted line shows Comparative size of midget assembly  
**MIDGET CONTACT ASSEMBLY**

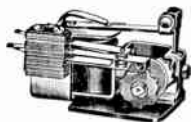
**DC COILS**

6 Volt.....	<b>\$2.70</b>
12 Volt.....	<b>2.70</b>
24 Volt.....	<b>2.70</b>
32 Volt.....	<b>2.70</b>
110 Volt.....	<b>3.40</b>
500-D—For Current Type Operation.....	<b>3.55</b>

**CONTACT PARTS KIT 200-3.** Assortment of contact parts to make other switch combinations. May be used with SPDT or DPDT contact assemblies to make 3PST, 4PST, 4PDT combinations, etc. Either contact assembly takes any combination up to four pole double throw. Includes complete assembly and wiring information for all possible combinations. Complete with all necessary hardware. Shipping weight 4 oz.

List Price.....**\$2.25 ea.**

## RC-100 REMOTE LOCKING CONTROL RELAY



A Guardian development of the momentary impulse locking control relay. The circuit to the coil needs to be energized only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts.

Standard coils operate on 115 volts, 50-60 cycles AC. Coils for other voltage and currents on specification.

Contacts, 1/4" fine silver metal rated at 1500 watts at 115 volts, 60 cycle, non-inductive. Can also be used in AC primary circuits of any power supply delivering up to 1 KW. 3" long, 2 1/8" wide, 1 3/8" high.

**Applications**—break-in control and phone to CW switching. Any circuit control where locking circuits are used.

	Shp. Wt.	List Price
RC-100-AR—(4PST).....	8 oz.	<b>\$8.70 ea.</b>
RC-100-BR—(3PDT) (SPDT) (DPST).....	8 oz.	<b>9.05 ea.</b>

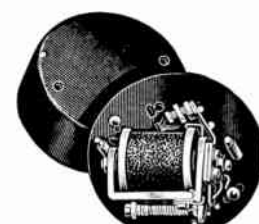
## U-100 AND U-200 ADJUSTABLE UNDERLOAD RELAYS

Sensitive, precise, designed and constructed for long, trouble-free service. Relays are encased in attractive black finished metal containers, protecting them from dirt, dust and maladjustment. Normal current through the coil on the U-100 is 300 milliamperes with an adjustable range of 100 to 200 milliamperes DC. Normal current through the coil on the U-200 is 600 milliamperes with an adjustable range of 200 to 400 milliamperes. Oversize contacts of fine silver, rated for the AC primary of any power supply delivering up to 500 watts.

**Radio Application**—protection of class "B" audio equipment in case of class "C" load failure, also class "C" amplifier in case of excitation failure.

**Industrial Application**—Any DC circuit where it is desirable to maintain currents above a set value.

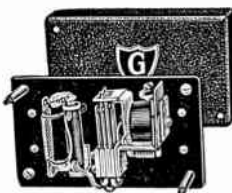
U-100 and U-200 are 3 1/8" in diameter, 2 1/4" high. Shipping weight 14 oz.....**List Price \$13.00 ea.**



## T-100 AND T-110 TIME DELAY RELAYS

Standard coils operate on 115 volts, 50-60 cycles non-inductive AC. Coils available on other voltages on specification. Oversize contacts rated at 1500 watts on 115 volts, 50-60 cycles non-inductive. Can also be used in the AC primary of any power supply delivering up to 1 KW. Adjustable time delay for any period between 10 and 60 seconds.

**Applications**—Radio. In transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated. Industrial. Any control problem requiring the changing of circuits after a predetermined interval.



GUARDIAN SERIES T-110 TIME DELAY RELAY

**T-100**—5 1/4" long, 3" wide, 2 1/4" high. Shipping weight 1 1/4 lbs. Laminated construction. List Price.....**\$20.75 ea.**

**The T-110** is a compact, sturdy, economical time delay relay for use in applications not requiring the capacities of the T-100. Contact capacity — 1250 watts on 115 volt, 60 cycle non-inductive AC. Can also be used in the AC primary circuit of any power supply delivering up to, and including, 1 KW. Adjustable time delay between 10 and 60 seconds.

**T-110**—5 5/8" long, 3 1/8" wide, 2 7/8" high. Shipping Weight 8 oz.....**List Price \$20.75 ea.**

# RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS



SERIES R-100  
H.F. RELAY

## HIGH FREQUENCY RELAYS

The Series R-100, R-100B, and A-300 Guardian Relays are primarily designed for high frequency applications. They are low-loss insulated, compact, economical and sturdily constructed. The R-100 and R-100B are AlSiMag insulated, while the A-300 is mounted on a mycalex base with mycalex contact mounting bar.

**Radio Applications**—Antenna changeover, break-in, high voltage keying, grid controlled rectifier keying, remote control of receiver and transmitter, and other high frequency applications.

**Industrial Applications**—Oven control, remote motor control, short wave therapy and diathermy, heating equipment.



SERIES A-300  
H.F. RELAY

	Length	Width	Height	Shpg. Wght. (oz.)	List Price ea.
R-100 —SPST (normally open).....	2¾"	1"	2"	6	\$4.80
R-100-B—SPST (normally closed).....	2¾"	1"	2¾"	6	4.80
R-100-C—SPDT .....	2¾"	1½"	2¾"	6	5.75
R-100-G—DPDT .....	2¾"	1¾"	2¾"	6	10.40
A-300 —DPDT .....	3"	3"	2-1/16"	7	11.00

## X-300-ER

### ADJUSTABLE OVERLOAD RELAY

with Electrical Reset



This relay offers positive, precise protection against current surges and continuous overloads — remote panel installation of the control potentiometer simplifying adjustment of relay to operate on

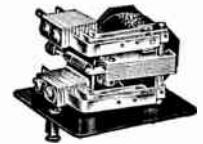
any current value from 250 to 750 milliamperes — auxiliary contacts for pilot light indication of "overload" or "clear" position — reset relay can be operated from any convenient point. Voltage drop across overload coil is less than 10 volts at any current value. Insulation between coil and ground rated at 3000 volts.

**X-300-ER**—4¾" long, 1-15/16" wide, 2" high. Shipping weight 12 oz.

List Price.....\$11.20 ea.

## B-100 BREAK-IN RELAY

Specially designed for break-in operation on amateur transmitters. Low current drain and compact construction, plus the use of a laminated field piece and armature insuring efficient operation, make the B-100 an ideal relay for this application. Standard coil operates on 115 V., 50-60 cycle AC. Silver contacts rated at 1500 watts, 60 cycles AC non-inductive, and in AC primary circuits of any power supply delivering up to 1 KW.

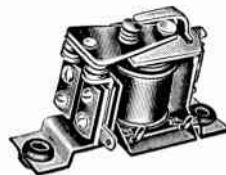


**B-100**—2¾" long, 2½" high, 2¼" wide. Shipping weight 11 oz.

List Price.....\$13.00 ea.

## K-320 KEYING RELAY

A standard coil operates on 6 volts AC. Coils for other voltages on specification at a minimum of 10% additional to list price. Contacts—special over-size silver. Can handle 5,000 watts on 60 cycle non-inductive 115 volts AC and in AC primary circuit of any power supply delivering up to and including 1 KW. Control capacity—up to 2,000 volts with clean make and break.



**Applications**—Control of filament center tap keying of any stage having up to 2,000 volts on plate; primary keying or control of power supplies up to and including 1,000 watts; and grid-controlled rectifier keying of 3,000 volt power supplies.

**K-320**—3" long, 1½" wide, 1-15/16" high. Shipping weight 4 oz.

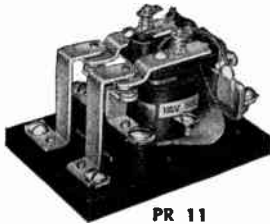
List Price.....\$5.45 ea.





# Potter & Brumfield

## PR Series— HEAVY DUTY POWER RELAYS



PR 11



PR 3

On these pages we list a few of the relay types we class as standard. Stocks of either completed relays or component parts are kept on hand for quick assembly, resulting in unusually prompt delivery and lower prices. From these relays a type can be selected for almost any application.

All contact ratings given are for 115 volt 50-60 cycle, non-inductive load. Coils of all open relays baked varnish impregnated to government specifications, protects against moisture and mechanical damage. Sealed relay coils cellulose acetate wrapped.

Designed for power circuits such as across-the-line, starting, up to 1 HP., heater loads up to 20 amperes, remote break-in control of transmitters, electro plating devices, elevator controls, or any high load circuit requiring fast, positive switching. AC types operate on approximately 10 volt amperes. DC types require approximately 2 watts.  $\frac{5}{16}$ " dia. pure silver contacts rated (double break) 20 A (single break) 15 A. Also available with U/L label under type designator PRAX. Auxiliary contacts up to SPDT with 1A rating can be provided for operation by the armature tail piece. Dimensions: PR1 to PR11  $2\frac{1}{4}$ " x  $2\frac{1}{2}$ " x  $2\frac{5}{8}$ " Max. High. PR11— $3\frac{3}{8}$ " x  $2\frac{1}{2}$ " x  $2\frac{5}{8}$ " high.

When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-12-24-115-230 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110 Volts	
	Normally Open	Net	Normally Open	Net
SPST	PR1A	\$3.50	PR1D	\$3.50
Heavy-Duty SPST-DB	PR3A	3.60	PR3D	3.60
DPST	PR7A	4.25	PR7D	4.25
SPDT	PR5A	3.80	PR5D	3.80
DPDT	PR11A	5.70	PR11D	5.70
Add 65c for coils 150 to 230 V.			Add 65c for coils 50 V. DC to 110 V. DC.	

Other voltages and contact combinations on request.

## KL Series—MULTIPLE CONTACT RELAYS



KL 17

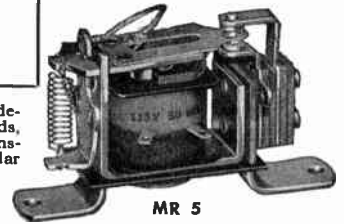
Similar in design to KR but actuating coil approximately twice as long. Permits double the ampere turns giving more power to actuate additional contacts and maintain 25 grams minimum on all. Dimensions: KL17 (4PDT)  $1\frac{1}{4}$ " x  $1\frac{1}{4}$ " x  $1\frac{1}{8}$ " high.

When ordering, specify coil voltage and frequency.

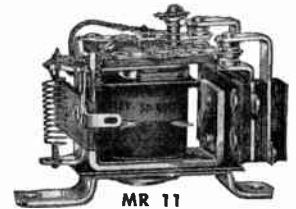
Contacts	A.C. RELAYS 6-12-24-115 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110 Volts	
	Type	Net	Type	Net
SPDT	KL5A	\$2.95	KL5D	\$2.75
DPDT	KL11A	3.40	KL11D	3.20
3PDT	KL14A	4.30	KL14D	4.00
4PDT	KL17A	5.80	KL17D	5.50
Add 65c for coils 50 V. DC to 110 V. DC.				

Other voltages and contact combinations on request.

## MR Series— MEDIUM DUTY POWER RELAYS



MR 5



MR 11

Ideal for safety and signal devices, call systems, heater loads, radio protective circuits, transmitter keying circuits, burglar alarms, photographic applications, electric sign controls, etc. Particularly adaptable to multiple panel mounting. Available in all contact arrangements up to and including 3 pole double throw. AC types operate on approximately 4 volt amperes and DC types on approximately 2 watts. Pure silver contacts rated 8 A. Dimensions: single pole units  $2\frac{3}{16}$ " x  $1\frac{1}{8}$ " x  $1\frac{1}{8}$ " high. Double pole units  $2\frac{1}{2}$ " x  $2\frac{1}{8}$ " x  $1\frac{1}{4}$ " high.

When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-12-24-115-230 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110-220 Volts	
	Normally Open	Net	Normally Open	Net
SPST	MR1A	\$2.25	MR1D	\$2.25
SPST-DB	MR3A	2.90	MR3D	2.90
DPST	MR7A	3.20	MR7D	3.20
SPDT	MR5A	2.40	MR5D	2.40
DPDT	MR11A	3.65	MR11D	3.65
3PDT	MR14A	4.40	MR14D	4.40
Add 45c for coils 150 to 230 V.			Add 45c for coils 50 V. DC to 110 V. DC. Add 70c for coils above 110 V. DC.	

Other voltages and contact combinations on request.

## KR Series—SMALL—LIGHT DUTY



KR 11

Designed for applications where size and weight are important. Sturdy and efficient. Can be made to withstand high vibration and shock with either voltage or current actuated coils. High dielectric phenolic insulation makes the KR series suitable for either power AF or RF switching. Coin silver contacts rated 5 A. Dimensions: KR-11 (DPDT)  $1\frac{1}{4}$ " x  $1\frac{1}{4}$ " x  $1\frac{1}{8}$ " high. Mounting: single 6-32 screw.

When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-12-24-115 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110 Volts	
	Type	Net	Type	Net
SPDT	KR5A	\$2.20	KR5D	\$2.10
DPDT	KR11A	2.75	KR11D	2.65
3PDT	KR14A	3.50	KR14D	3.40
Add 40c to above prices for coils 50 V. to 100 V. DC. For coils above 100 V. add 75c.				

Other voltages and contact combinations on request.

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## KRP—ENCLOSED KR SERIES

The KRP is the KR relay enclosed in a clear polystyrene, dust and weatherproof cover through which the actual working of the relay may be seen. Supplied with standard octal plug only. Dimensions:  $1\frac{3}{8}'' \times 1\frac{3}{8}'' \times 2''$  high.

KRP 11

When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-12-24-115 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110 Volts	
	Type	Net	Type	Net
SPDT	KRP5A	\$5.50	KRP5D	\$5.40
DPDT	KRP11A	6.05	KRP11D	5.95

Add 40c to above prices for coils 50 V. to 100 V. For coils above 100 V. add 75c.

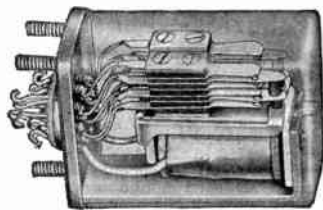
Other voltages and contact combinations on request.

## MH Series—MINIATURE TELEPHONE RELAYS



MH 17

Open Dimensions:  
 $1\frac{1}{32}'' \times \frac{3}{4}'' \times 1\frac{1}{16}''$  high.



MH 17-M

Sealed Dimensions:  
 $1\frac{1}{16}'' \times 1\frac{1}{32}'' \times 2\frac{3}{32}''$  high.

Smallest and most versatile of the telephone type relays. 4 form C (4PDT)  $\frac{1}{8}''$  diameter pure silver contacts rated 5 A. Tinned solder terminals. Stack insulation, laminated phenolic. Vibration and shock resistance to better than 10G with minimum of 1.5 watts in coil. Coils in molded bakelite bobbin, 500 volts RMS breakdown.

The hermetically sealed version resists all environmental conditions and extends relay life indefinitely. The header is all glass with Kovar solder terminals with a minimum leakage resistance of 10,000 megohms at 50% humidity. Will stand extremely high thermal shock. Sealed relays are desiccated and evacuated at high temperature and sealed in one atmosphere of dry nitrogen, which eliminates oxidation and reduces contact arcing. Housing finish hot tin dipped. Mounting three 6-32 studs on  $\frac{1}{2}'' \times 1\frac{1}{4}''$  centers.

When ordering, specify type, voltage and frequency.

### OPEN CONSTRUCTION (4 Form C Contacts)

MH17A	6 V. 50-60 Cy.	\$5.15
MH17A	24 V. 50-60 Cy.	5.30
MH17A	115 V. 50-60 Cy.	5.40
MH17D	6 V. DC	4.85
MH17D	24 V. DC	4.95

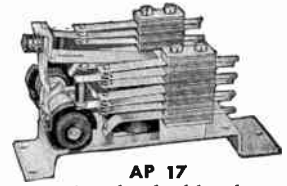
### HERMETICALLY SEALED CONSTRUCTION Solder Header—(4 Form C Contacts)

MH17AM	6 V. 50-60 Cy.	\$12.45
MH17AM	24 V. 50-60 Cy.	12.55
MH17AM	115 V. 50-60 Cy.	12.65
MH17DM	6 V. DC	12.10
MH17DM	24 V. DC	12.20

MH relays for other voltages and sensitive current operation on request. Max. coil winding 22,000 ohms. Min. operating power .050 watt per movable spring. Max. coil power 4 watts. Bar palladium contacts available.

## AP Series—RACHET OR IMPULSE RELAYS

The AP series will actuate on impulses as short as 20 MS. An ingenious stop mechanism prevents overtravel of the cam, giving accurate positive operation on each impulse, regardless of speed. Windings up to 230 volts either AC or DC. Contact combinations up to 4 pole double throw (4 form C). Contacts  $\frac{3}{16}''$  fine silver rated 5 A. Coils wound on molded bobbins with minimum breakdown 500 volts RMS. Phenolic cams, hardened steel pawl and ratchet with pin hinged armature for long life. Tinned solder terminals, hum-free on AC. Dimensions:  $4'' \times 2\frac{1}{8}'' \times 2\frac{1}{8}''$  high.



AP 17

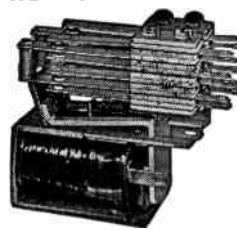
When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS Coil 6-12-24-115 Volts 50-60 Cy.		D.C. RELAYS Coil 6-12-24-110 Volts	
	Type	Net	Type	Net
DPDT	AP11A	\$7.50	AP11D	\$7.50
4PDT	AP17A	9.00	AP17D	9.00

Add 85c for coils 50 V. DC to 110 V. DC.

Other voltages and contact combinations on request.

## SU Series— MULTIPLE LEAF RELAYS



SU 17

Large coil permits most efficient winding for lower dissipation. May be mounted in either vertical or horizontal position. Suitable for applications such as signal or alarm controls, remote indicators, temperature controls, overload or underload protective devices, etc. Pure silver contacts rated at 5 A. Any contact arrangement up to 4 pole double throw (4 form C). DC types require 2.5 watts, AC coils 10 V.A. Dimensions of SU17:  $2\frac{3}{16}'' \times 1\frac{1}{16}'' \times 2\frac{1}{16}''$  high.

When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-12-24-115 Volts 50-60 Cy.		D.C. RELAYS 6-12-24-110 Volts	
	Type	Net	Type	Net
SPDT	SU5A	\$2.35	SU5D	\$2.35
DPDT	SU11A	2.95	SU11D	2.95
3PDT	SU14A	3.45	SU14D	3.45
4PDT	SU17A	4.00	SU17D	4.00

Add 85c for coils 50 V. DC to 110 V. DC.

Other voltages and contact combinations on request.

## POTTER & BRUMFIELD

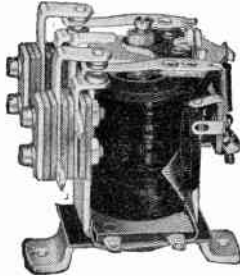
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# POTTER & BRUMFIELD

## LM Series—SENSITIVE PLATE CIRCUIT RELAYS



LM 11

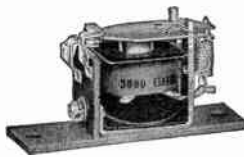
Designed to meet demand for high grade medium cost plate circuit relays in both single and double pole contact arrangements. Large coil for many ampere turns particularly sensitive. The single pole LM operates on as low as .015 watt with standard adjustment .100 watt and the double pole operates on .070 watt with standard adjustment .200 watt. Applicable to photo electric control, packaging, counting and other electronic circuits. Adjustable tail spring and residual screw for regulation of sensitivity and drop out point. Contacts  $\frac{3}{16}$ " fine silver rated 5 A. Dimensions: LM11 (DPDT)  $2\frac{3}{16}$ " x  $2\frac{3}{32}$ " x  $2\frac{1}{2}$ " high.

When ordering, specify coil resistance.

Contacts	Type	Resistance Ohms	Standard Adjustment Pull In MA	Net
SPDT	LM5	2500	6.3	\$2.80
SPDT	LM5	5000	4.5	2.95
SPDT	LM5	10000	3.2	3.30
DPDT	LM11	2500	9.0	4.20
DPDT	LM11	5000	6.3	4.35
DPDT	LM11	10000	4.5	4.70

Other contact combinations and resistances on request.

## LC Series—PLATE CIRCUIT RELAYS



LC 5

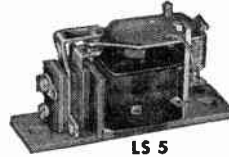
Small, fast acting relay offering dependable operation. Fitted with molded bakelite bobbin with breakdown of 500 volts RMS minimum, baked varnish impregnated coil. Contacts rated 5 A. Sensitivity adjustable by bending tailspring hook. Available in all resistances up to 10,000 ohms. Requires .09 watt minimum actuating power with standard adjustment .2 watt. Dimensions:  $2\frac{5}{8}$ " x  $1\frac{1}{4}$ " x  $1\frac{1}{32}$ " high.

When ordering, specify coil resistance or sensitivity.

Contacts	Type	Resistance Ohms	Standard Adjustment Pull In MA	Net
SPDT	LC5	2500	9.0	\$2.15
SPDT	LC5	5000	6.3	2.25
SPDT	LC5	10000	4.5	2.40

When ordering, specify coil resistance or sensitivity.

## LS Series—PLATE CIRCUIT RELAYS



LS 5

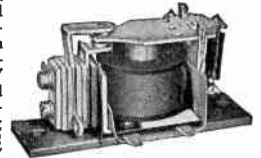
Designed for applications where size and cost are important. Windings up to 10,000 ohms. Contact combination DPDT, pure silver rated 5 A, requires .09 watt actuating power minimum with standard adjustment .2 watt. Sensitivity adjustable by bending tailspring hook. Dimensions:  $2\frac{5}{8}$ " x  $1\frac{1}{4}$ " x  $1\frac{5}{16}$ " high. When ordering, specify coil resistance.

When ordering, specify coil resistance.

Contacts	Type	Resistance Ohms	Standard Adjustment Pull In MA	Net
SPDT	LS5	2500	9.0	\$2.25
SPDT	LS5	5000	6.3	2.35
SPDT	LS5	10000	4.5	2.55

## LP Series—PLATE CIRCUIT RELAYS

The LP is similar to the LS but has a sturdy metal base that can be riveted or bolted to the chassis. Molded bakelite bobbin with minimum breakdown of 500 volts RMS. Adjustable tailspring for sensitivity. Contacts  $\frac{3}{16}$ " silver rated 5 A. Available in all resistances up to 10,000 ohms. Requires .09 watt minimum actuating power with standard adjustment .2 watt. Dimensions:  $2\frac{3}{16}$ " x  $1\frac{1}{4}$ " x  $1\frac{5}{8}$ " high.



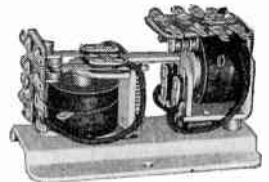
LP 5

When ordering, specify coil resistance or sensitivity.

Contacts	Type	Resistance Ohms	Standard Adjustment Pull In MA	Net
SPDT	LP5	2500	9.0	\$2.85
SPDT	LP5	5000	6.3	2.95
SPDT	LP5	10000	4.5	3.15

## LK Series—LATCHING RELAYS

Electrical latch, electrical release that will stand 10 G vibration and 50 G shock while operating. For multiple circuit switching of power loads. 35 grams minimum contact pressure. Available open or hermetically sealed in any contact combination up to 4 pole double throw (4 form C). Coil voltages up to 230 volts AC or 110 volts DC. Contacts  $\frac{3}{8}$ " diameter fine silver rated at 5 A. Coils on molded bakelite bobbins with 500 volts breakdown. Dimensions: Open relay  $2\frac{1}{16}$ " x  $1\frac{3}{4}$ " x  $1\frac{1}{16}$ " high; sealed relay  $3\frac{1}{16}$ " x  $1\frac{5}{16}$ " x  $2\frac{3}{16}$ " high.



LK 11

When ordering, specify voltage and frequency for both coils.

### PRICES FOR 4PDT OPEN RELAY BOTH COILS SAME VOLTAGE

Model	Voltage	Frequency	Price	Model	Voltage	Price
LK17A	6 V.	50-60 Cy.	\$6.90	LK17D	6 V. DC	\$6.75
LK17A	12 V.	50-60 Cy.	6.90	LK17D	12 V. DC	6.75
LK17A	24 V.	50-60 Cy.	6.90	LK17D	110 V. DC	8.25
LK17A	115 V.	50-60 Cy.	6.90	LK17D	24 V. DC	6.75

Other voltages and contact combinations on request.

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# Potter & Brumfield

## SM Series—SUPER MIDGET RELAYS



SM5-S

Subminiature relay fits standard miniature tube socket and hold-down shield. Sealed in deep drawn steel can, weighs less than 1 oz. Contacts SPDT, silver-rhodium rated  $\frac{1}{4}$  A at 115 V. AC or  $\frac{1}{2}$  A at 28 V. DC. "D" types for any specified DC voltage up to 110; "L" types, current actuated with windings up to 10,000 ohms. Sensitivity 75 MW. Coil dissipation 1.8 watts max. All sealed types stand 10 G vibration to 55 c.p.s. and pass government environment specs.

When ordering, specify voltage or resistance.

SM5DS			SM5LS		
Nom. Voltage	Pull In V	Net	Coil Resistance Ohms	Pull In MA	Net
6.0	4.0	\$4.35	5000	3.8	\$4.85
24.0	18.0	4.35	10000	2.7	5.55

## MS Series—MOTOR STARTING RELAYS VOLTAGE ACTUATED



MS 2A



MS 4A

Voltage controlled relay insures throw-out of the starting winding when motor reaches rated speed regardless of the load on the motor. May be mounted on the motor or remotely located. Ideally suited for use with hermetically sealed or explosion-proof motors that are capacitor start, induction run. Operates on back EMF of running winding.

Pull in voltage can be varied over a wide range by adjusting armature gap. Unusual design permits an exceptionally wide differential between pull in and drop out voltages. Normal adjustment for 115 volt motors is to pull in at 140 V and release at 40 V or less. For 230 V motors, pull in at 255 V and release at 80 V or less.

MS2A single break relay for capacitor start induction run motors up to 1 HP.

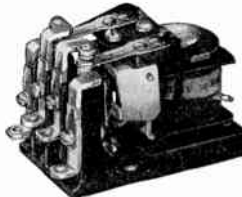
MS4A double break relay with special high current contacts for use on capacitor start induction run motors up to 3 HP. Dimensions:  $2\frac{3}{4}$ " x  $2\frac{1}{16}$ " x  $1\frac{1}{8}$ " high.

When ordering, specify type and voltage or resistance.

Type		Net
MS2A	800 ohms (for 115 volt 50-60 cycle motor)	\$2.55
MS2A	2100 ohms (for 230 volt 50-60 cycle motor)	2.65
MS4A	800 ohms (for 115 volt 50-60 cycle motor)	3.75
MS4A	2100 ohms (for 230 volt 50-60 cycle motor)	3.85

Other voltages and adjustments on request.

## SP Series—HEAVY DUTY SHOCK PROOF RELAYS



SP 11

Constructed to withstand shock and vibration, SP series presents a heavy duty relay of balanced armature construction which may be mounted in any position. Thick molded bakelite base and contact supports, coils wound on molded bakelite bobbins with breakdown of 500 volts RMS minimum. Average power for DC types 1.5 watts, for AC types 3 to 4 V. A. Contacts are  $\frac{3}{16}$ " diameter fine silver rated at 8 A on double break and 5 A on single break. Minimum contact pressure 25 grams. Dimensions of SP11 (DPDT)  $2\frac{7}{16}$ " x  $1\frac{5}{8}$ " x  $1\frac{21}{32}$ " high.

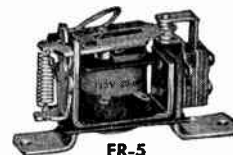
When ordering, specify coil voltage and frequency.

Contacts	A.C. RELAYS 6-115 Volts 50-60 Cy.		D.C. RELAYS 6-24 Volts	
	Type	Net	Type	Net
DPDT	SP11A	\$4.75	SP11D	\$4.30

Other voltages and contact combinations on request.

## FR Series—PHOTO FLASH RELAYS

Designed for photo flash units using a high voltage discharge through a gas filled tube requires a relay with extremely high voltage breakdown insulation. When the bulb is flashed, the contacts must carry an extremely high surge of current without sticking, burning or pitting. The repetitive accuracy must be as uniform as a precision built shutter on a fine camera. Unfailing positive contact is vital to synchronization of the shutter with the high voltage capacitor discharge.



FR-5

The FR relay has been proven under the most severe conditions of temperature, humidity and shock. Special contact material and extremely high breakdown insulation between ground and all current carrying parts combine to give a reliable relay at economy prices. Available in all contact combinations up to DPDT and coil voltages up to 230 V AC and 110 V DC. Coil power 1.5 to 2 watts DC and 3 to 4 VA AC. Breakdown 3,000 volts minimum between current carrying elements and to ground. Dimensions:  $2\frac{1}{32}$ " x  $1\frac{3}{16}$ " x  $1\frac{5}{8}$ " high.

When ordering, specify voltage and frequency.

Contacts	A.C. RELAYS 6 Volts 50-60 Cy.		D.C. RELAYS 2 Volts	
	Type	Net	Type	Net
SPDT	FR5A	\$3.60	FR5D	\$3.60
DPDT	FR11A	4.70	FR11D	4.70

Other voltages and contact combinations on request.

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THERMOSTATIC

# AMPERITE

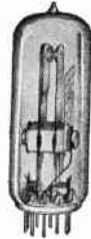
DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT



STANDARD

## AMPERITE THERMOSTATIC DELAY RELAYS



MINIATURE

### EXCLUSIVE FEATURES:

- Actuated by a heater.
- Operates on A.C., D.C., or Pulsating Current.
- Hermetically sealed, Amperite Relays are not affected by altitude, moisture or other atmospheric conditions.
- Compact, lightweight and inexpensive.

### TECHNICAL CHARACTERISTICS

**CIRCUITS:** SPST only—Normally open or normally closed.  
**HEATER WATTAGE:** 2 W prox.—Heaters can be operated continuously.  
**STANDARD CONTACT RATING:** 115V.—3A A.C. (or 440V.—0.5A A.C.);  
 Maximum voltage between contacts and heater—1500V. D.C.  
**MINIATURE CONTACT RATING:** 115V.—2A A.C., other specifications same as standard.  
**AMBIENT TEMPERATURES:** Relays are compensated for temperatures of -55° to +70° C. Tolerances given are for 20° C.  
**LIFE:** With 115 V—IA A.C., non-inductive, at least 500,000 operations.

#### BASE WIRING:

Standard Radio Octal: Prongs 2-3-heater; Prongs 5-7-contacts.  
 9-Pin Miniature: Prongs 1-6-heater; Prongs 3-4-1 contact; Prongs 8-9-2nd contact

**LIST PRICE:** Standard and miniature types listed.....\$4.00  
**RESALE:** Standard and miniature types listed.....\$2.40  
**DELIVERY:** The types shown in bold type are most popular, and usually available from stock. Other types delivered in approximately 6 weeks.

Delay-Seconds	Tolerance-Seconds	NORMALLY OPEN CONTACTS						NORMALLY CLOSED CONTACTS					
		HEATER VOLTAGES						HEATER VOLTAGES					
		2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.	2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.
2	± 1	2N02	5N02	6N02	12N02	26N02	115N02	2C2	5C2	6C2	12C2	26C2	115C2
3	± 1	2N03	5N03	6N03	12N03	26N03	115N03	2C3	5C3	6C3	12C3	26C3	115C3
5	± 2	2N05	5N05	6N05	12N05	26N05	115N05	2C5	5C5	6C5	12C5	26C5	115C5
10	± 3	2N010	5N010	6N010	12N010	26N010	115N010	2C10	5C10	6C10	12C10	26C10	115C10
15	± 3	2N015	5N015	6N015	12N015	26N015	115N015	2C15	5C15	6C15	12C15	26C15	115C15
20	± 4	2N020	5N020	6N020	12N020	26N020	115N020	2C20	5C20	6C20	12C20	26C20	115C20
30	± 8	<b>2N030</b>	<b>5N030</b>	<b>6N030</b>	<b>12N030</b>	<b>26N030</b>	<b>115N030</b>	2C30	5C30	6C30	12C30	26C30	115C30
45	± 10	2N045	5N045	6N045	12N045	26N045	115N045	2C45	5C45	6C45	12C45	26C45	115C45
60	± 12	2N060	5N060	6N060	12N060	26N060	115N060	2C60	5C60	6C60	12C60	26C60	115C60
75	± 15	2N075	5N075	6N075	12N075	26N075	115N075	2C75	5C75	6C75	12C75	26C75	115C75
90	± 15	2N090	5N090	6N090	12N090	26N090	115N090	2C90	5C90	6C90	12C90	26C90	115C90
120	± 30	2N0120	5N0120	6N0120	12N0120	26N0120	115N0120	2C120	5C120	6C120	12C120	26C120	115C120

**MINIATURE TYPES:** Designated by letter T. (e.g. 6N05T) is available in all delays shown above bold dotted line. Delays of 2 to 90 seconds are available in both standard radio octal and 9-Pin miniature. Prices of both standard and miniature types.....List—\$4.00

Flashers available only in low voltage heaters 6.3 — 26 V. . . . . List — \$4.00 each  
 Flash Rate available — pre-set at factory — 5 to 100 fpm. . . . . Dealers Cost — \$2.40 each



# SMALL SWITCHES, LIMIT SWITCHES, AND MAGNETIC RELAYS

## SMALL SNAP-ACTION SWITCH, G-E SWITCHETTE CR1070

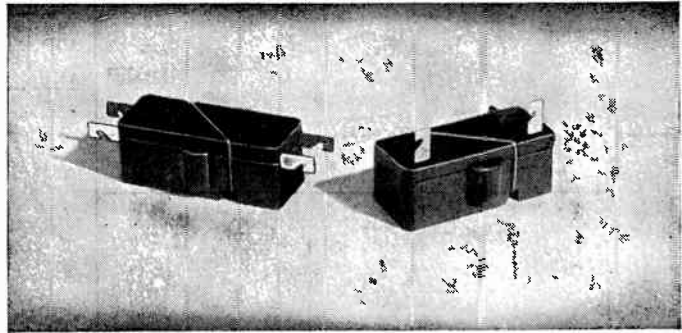
This new, lightweight switch mechanism lends itself especially to applications where space is limited and long life is required.

The Switchette is operated by movement of the spring-return button located in the housing. This button can be actuated by a lever, bellows, or other means. Snap-action, double-break-contact construction gives the G-E Switchette a high current rating and makes it suitable for applications where the vibration is severe.

### FEATURES AND ADVANTAGES

1. Small (approximately 1 1/4 in. by 1/2 in. by 1/2 in.) and weighs only 9 grams (0.02 lb).
2. Resists vibration and corrosion.
3. Phenolic-resin operating button provides protection from live parts during operation.
4. Contact tips are 99.95 per cent pure silver.
5. Particularly suited to electronic applications because of negligible amount of contact bounce.
6. Five terminal arrangements are available, including the two shown above.
7. Wide variety of forms available; for example, three basic contact arrangements: single-circuit, normally open; single-circuit, normally closed; and two-circuit, normally open and normally closed. Also many special forms.

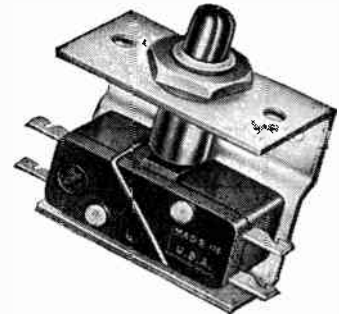
Switchettes are available in ratings up to 10 amperes at 115 or 230 volts a-c. Write for Bulletin GEA-4888.



Switchettes showing two terminal arrangements

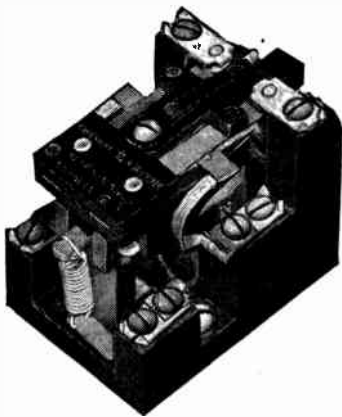
## LIMIT SWITCH, CR1070-D112

This sturdy, open-type limit switch is operated by a plunger which provides 3/4-inch overtravel. The contact mechanism of this device is the G-E Switchette, which can be wired to control one normally open circuit and one normally closed circuit. Rated 10 amperes at 230 volts a-c. Write for Bulletin GEC-197.



Open-type limit switch with push-rod operation

## GENERAL PURPOSE RELAY, CR2790-E



The CR2790 relay is a compact, attractively finished device for use either as a motor starter or a relaying unit. Available in either an open form or enclosed in a general-purpose or explosion-proof housing. Three contact arrangements available: single-pole, single-throw; double-pole, single-throw; and double-pole, double-throw. In the open form, all three contact arrangements use the same base, which facilitates mounting. In the enclosed form, the U-shaped cover makes wiring and servicing convenient. Rated 10 amp continuous, 110/120 volts a-c.

### Applications

Control of pilot circuits in response to remote control switch or thermostat, or for direct control of small motors.

As a fractional-horsepower motor starter, or in conjunction with a magnetic switch controlling larger motors, heating or lighting circuits, and signal systems. Bulletin GEC-257.

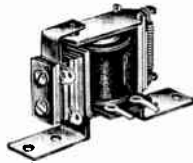


# RELAYS

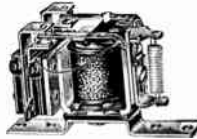
## FOR AMATEUR AND INDUSTRIAL USES



### MINIATURE RELAYS



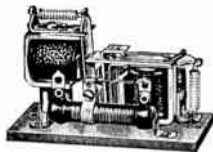
These units are very compact and are especially designed for plate circuit and general purpose control application. Overall dimensions: MR 1 7/8" x 1 3/8" x 7/8"—MRD 1 7/8" x 1 3/8" x 1 1/4". Contacts are fine silver rated 5 amps at 115 V. All AC relays are free from hum and AC chatter. The MR-2 and MRD-2 have 2500 ohm coil, will pick up at 6 ma. and 12 ma. respectively. The MR-5 and MRD-5 have 5000 ohm coils, will pick up at 3 ma. and 7.5 ma. respectively. The drop out value of these relays is approximately 50% of the pick up value.



MRD

Type	A.C.	D.C.	Contacts	Net Prices
MR-2		Plate Circuit	SPDT	\$2.10
MR-5		Plate Circuit	SPDT	2.40
MR-6		6 V.	SPDT	2.10
MR-7	6 V.		SPDT	2.19
MR-11	110 V.		SPDT	2.19
MRD-2		Plate Circuit	DPDT	3.60
MRD-5		Plate Circuit	DPDT	3.90
MRD-6		6 V.	DPDT	3.60
MRD-7	6 V.		DPDT	3.69
MRD-11	110 V.		DPDT	3.69

### OVERLOAD RELAYS



Adjustable overload relays provide accurate and positive protection against current surges and continuous overloads. Contact arrangements SPDT using 3/16" fine silver contacts. This allows the use of either audible or visual signal to advise of overload. All models are of the electrical reset type which allows remote control resetting of the relay. Size—3 3/4" x 2" x 1 1/2".

Type	Current Range	Reset Coil	Net Prices
OA-2	250-500 ma.	110 V. A.C.	\$5.40
OA-5	500-1000 ma.	110 V. A.C.	5.40
OC-2	250-500 ma.	6 V. A.C.	5.40
OC-5	500-1000 ma.	6 V. A.C.	5.40
OD-2	250-500 ma.	6 V. D.C.	5.40
OD-5	500-1000 ma.	6 V. D.C.	5.40

### LATCHING RELAYS

These relays are employed where it is not desirable to have current continuously on the coil. The latching arrangement is such that when the relay coil is energized the armature closes and locks in a closed position by mechanical latching. An electrical impulse on the reset coil releases the armature from the latch and allows the relay to assume its initial position. 3/16" fine silver contacts. Bakelite Base. Size—3 3/4" x 2" x 3/4".



Type	Reset Coil	Pull-in Coil	Net Prices
LEA	110 Volts A.C.	110 Volts A.C.	\$4.50
LEA-6	6 Volts A.C.	6 Volts A.C.	4.50
LED	6 Volts D.C.	6 Volts D.C.	4.50

### COMMUNICATION RELAYS

Ideally suited for use in telephone, remote control, signaling, communications circuits etc. High speed operation plus high sensitivity with high contact pressure. Contacts will handle 4 amps at 115 V. non-inductive load. Each relay has one make and one break contact sets. Size—3 3/4" x 1 1/16" x 1 1/8".



Type	Res. of Coil Ohms	Volts Pick-up	M.A. Pick-up	Net Prices
T10G	10,000	31	3.2	\$4.20
T63F	6,300	24	4.0	4.20
T40F	4,000	19	5.0	4.05
T10F	1,000	10	10.0	3.75
T25E	250	5	20.0	3.45
T10E	100	3	31.6	3.45

### ANTENNA CHANGE-OVER

Mycalex Insulation is satisfactory for operation up to 60 MC. Triple-X insulation for operation up to 15 MC. All models use 3/16" fine silver wiping action contacts rated at 4 amps. These relays are designed with ball-bearing armature pivot and have large contact spacing to assure minimum capacity between contact arms. The armature is designed so as to eliminate AC chatter. Size—3 1/8" x 3 1/8" x 2 3/16".

Type	Insulation	Coil Voltage	Net Prices
ABA	TRIPLE-X	110 V. A.C.	\$4.50
ABD	TRIPLE-X	6 V. D.C.	4.50
AMA	MYCALEX	110 V. A.C.	5.70
AMD	MYCALEX	6 V. D.C.	5.70



### BREAK-IN RELAYS

Same type of relay as above only two additional poles are added, one normally open, one normally closed. This arrangement is perfect for PUSH-TO-TALK control. Contacts etc. identical with Antenna-Change-Over Relay. Size—4 1/2" x 3 1/8" x 2 3/16".



Type	Insulation	Coil Voltage	Net Prices
BBA	TRIPLE-X	110 V. A.C.	\$5.70
BBD	TRIPLE-X	6 V. D.C.	5.70
BMA	MYCALEX	110 V. A.C.	7.50
BMD	MYCALEX	6 V. D.C.	7.50

### R.F. AND GENERAL PURPOSE RELAY

An excellent relay for R.F. or high voltage remote control. Contacts are 3/16" fine silver rated 4 amps. Designed with extremely short R.F. path. Ball-bearing armature pivot. All metal parts cadmium plated. RB Series are TRIPLE-X insulated for frequencies up to 15 MC., RM Series are MYCALEX insulated for frequencies up to 60 MC. Size—2 1/4" x 3 3/8" x 2 3/16".



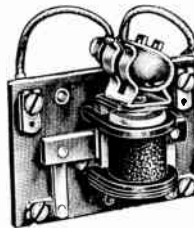
Type	Insulation	Contact Combination	Coil Voltage	Net Prices
RBA-1	TRIPLE-X	SPST (dble-break)	110 V. A.C.	\$3.30
RBD-1	TRIPLE-X	SPST (dble-break)	6 V. D.C.	3.30
RMA-1	MYCALEX	SPST (dble-break)	110 V. A.C.	4.05
RMD-1	MYCALEX	SPST (dble-break)	6 V. D.C.	4.05
RBA-2	TRIPLE-X	DPST (sgle-break)	110 V. A.C.	3.45
RBD-2	TRIPLE-X	DPST (sgle-break)	6 V. D.C.	3.45
RMA-2	MYCALEX	DPST (sgle-break)	110 V. A.C.	4.65
RMD-2	MYCALEX	DPST (sgle-break)	6 V. D.C.	4.65

### KEYING RELAY

Same specifications as RB Series except that the coil and return spring are faster acting. Follows a "Bug" with ease.

Type	Coil Voltage	Contacts	Net Prices
KBA	110 V. A.C.	SPST (double-break)	\$3.30
KBD	6 V. D.C.	SPST (double-break)	3.30
KBA-6	6 V. A.C.	SPST (double-break)	3.30

### MERCURY-SWITCH RELAY

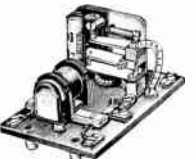


This type relay is used for controlling inductive loads and may be safely used in the presence of explosive dust, gas and vapor. This unit will safely handle a 1/4 H.P. motor or its equivalent. This single pole single throw mercury relay can easily be changed from normally open to normally closed by reversing the mercury tube in the clip. In addition this relay is equipped with SPST double break 3/16" fine silver contact sets which can be used to electrically lock this relay, or other applications. Mounts vertically with adjusting screws. Size—3 1/8" x 2 3/8" x 3 1/2".

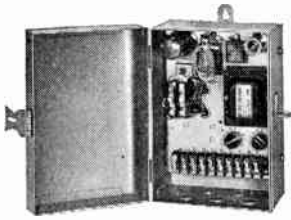
Type	Coil Voltage	Net Prices
MSA	110 V. A.C.	\$4.50
MSA-6	6 V. A.C.	4.50
MSD-6	6 V. D.C.	4.50

### TIME-DELAY RELAY

Low cost Thermostatic Time delay relays designed for transmitting and industrial use. Prevents damage to tube filaments due to application of plate current before filaments are thoroughly heated. TD-11 is equipped so that it automatically compensates for ambient temperature changes. Time delay can be adjusted by means of screwdriver. Stock models are 110 V. A.C. Size—3 1/8" x 3 1/8" x 2 3/16". TD-11 (10-60 Sec.)—With compensator. . . . . Net \$6.00



## PHOTOELECTRIC EQUIPMENT



### Model AT-355-P30 AMPLIFIER RELAY

Functions on partial or complete change in light density and operates at speed up to 1,000 a minute. Reversing switch enables operator to select type of action — with switch in NEG position relay energizes on decrease in

light density; in POS position relay energized on increase in light density. Controls and components mounted on 18-gauge removable chassis. Bias control for sensitivity; meter jack for easy adjustment. S.P.D.T. relay contacts rated at 8 amps., 117 volts, non-inductive. For 110/125 or 220/240 volts, 50/60 cycles, 60 watts. Case 8" x 5 5/8" x 4 3/4"; hinged cover.

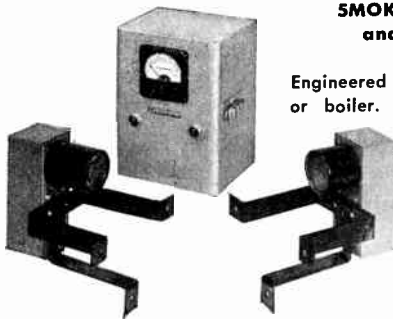
### Model AT-355X-P30 — AMPLIFIER RELAY

Same as above except contacts rated as 15 amps., 117 volts A.C., non-inductive S.P.D.T.

### Model AT-355X-P43 — AMPLIFIER RELAY

Incorporates adjustable time delay Load Relay adjustable 0 to 60 seconds and Time Delay reversing switch. Switch permits choice of one of two Time Delay actions: 1. delays operation of load relay for predetermined time when light is blocked off, relay opening when light is restored, 2. operates load relay when light is cut off and holds relay closed for predetermined time after light is restored. Controls mounted on 18-gauge removable chassis. Relay action up to 1,000 a minute. Bias control for sensitivity; meter jack for easy adjustment. Relays S.P.D.T. Contacts rated 15 amps., 117 volts, A.C., non-inductive. Case 8" x 5 5/8" x 4 3/4"; hinged cover. For 110/125 or 220/240 volts, 50/60 cycles, 60 watts.

### Model AT-405-P48 SMOKE INDICATOR and CONTROL



Engineered for average furnace or boiler. An adjustable time delay circuit permits smoke control equipment to operate up to 2 minutes after smoke has been eliminated. Components mounted on 18-gauge chassis. Sensitivity and time delay controls. 3" meter, green and red indicator lights on case front. Relay contacts S.P.D.T., 8 amps., 117 volt, 60 cycles, non-inductive. Case 8" x 5 1/2" x 4 1/2". Type 1129 lamp for Light Source; Type 930 Phototube.

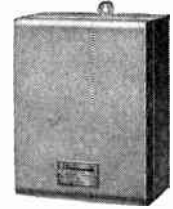
ity and time delay controls. 3" meter, green and red indicator lights on case front. Relay contacts S.P.D.T., 8 amps., 117 volt, 60 cycles, non-inductive. Case 8" x 5 1/2" x 4 1/2". Type 1129 lamp for Light Source; Type 930 Phototube.

### Model AT-415-P22 — SMOKE INDICATOR

Same as above but without adjustable time delay. Designed to signal when excessive smoke passes through breeching or stack.

### Model AT-355-P53 AMPLIFIER RELAY

High gain two-stage Amplifier Relay designed to operate at high speeds on minute light changes. Ideally suited for register control, index control, high speed sorting, etc. Sensitivity control, on-off switch, meter jack for easy adjustment. Operates at speeds up to 1,000 a minute. Relay Contacts D.P.D.T. rated 12 amps., 117 volts, 60 cycles, non-inductive. For 110/125 or 220/240 volts; 50/60 cycles; 65 watts. Case 11 1/2" x 9 1/4" x 5"; hinged cover with lock.



### Model AT-355X-P55 — AMPLIFIER RELAY

Has two adjustable time delay circuits. First time delay retards operation of equipment controlled by load relay for period of time up to limits of preset adjustment (0 to 60 seconds) before load relay is energized and operation started. Second time delay permits continuation of operation set up by first time delay for period of time up to limits of preset adjustment (0 to 60 seconds) before load relay is de-energized. Relay contacts D.P.D.T. rated 12 amps., 117 volts, 60 cycles, non-inductive. Operating speed up to 1,000 a minute. Voltage 110/125 or 220/240; 50/60 cycles; 90 watts. Case 11 1/2" x 9 1/4" x 5"; hinged cover.

### Model AP-120-P10 AMPLIFIER RELAY

Combines standard Amplifier Relay with Phototube. Energized by any of the Light Source units listed below. Operates at speed up to 600 a minute. Phototube and controls mounted on 18-gauge removable chassis. 6 volts, 3 amps., available for type LX Light Source units. Bias sensitivity; on-off switch; meter jack for easy adjustment. Operating distance with LT-520 Light Source unit, 50 feet; with LX-51, 25 feet. Relay contacts S.P.D.T. rated at 8 amps., 117 volts A.C., non-inductive. For 110/125 or 220/240 volts, 50/60 cycles; 60 watts. Case: 5 1/2" x 5" x 6".



### Model AP-120X-P10 — AMPLIFIER RELAY

Same as above except contacts rated at 15 amps., 117 volts A.C., non-inductive.

### LIGHT SOURCE UNITS

Light Source Units listed here can be used with De-Tec-Tronic Amplifier-Relays shown above in conjunction with Phototube Units. This is but a partial list of Light Sources available. Write for special catalog.

### Model LX-51

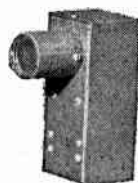
Operates up to 25'. Width of beam at lens, 1"; at 25', 10". Case 4 3/4" x 1 3/4" x 1 3/4". Lens tube 1 1/4" diam., 2 1/2" long. Single contact bayonet type 1129 Lamp. Phototube Unit Model PX-71 whose dimensions are the same, should be used with this Light Source Unit.

### Model LX-55WP — Weatherproof Case

Operates up to 25'. Width of beam at lens, 1"; at 25', 10". Case 5 3/4" x 2 1/2" x 2 1/2". Lens tube 1 1/4" diam., 2 1/4" long. Single contact bayonet type 1129 Lamp. Phototube Unit Model PX-75WP whose dimensions are the same, should be used with this Light Source Unit.

### Model LX-59WP — Weatherproof Case

Operates up to 3'. Width of beam at lens, 7/8"; at 3', 4". Lens tube 1 1/8" diam., 3/8" long. Case 4 1/2" x 1 1/2" x 1 1/2". Double contact type 88 Lamp. Phototube Unit Model PX-79 whose dimensions are the same, should be used with this Light Source Unit.





**ELECTRONICALLY OPERATED RELAYS  
MODEL 63**



Especially designed for use with a correct combination of the standardized Worner Photo-Cell and Exciter Lamp units shown at right. However, this Electronically Operated Relay will operate also from light source units such as daylight, artificial lights, radiant energy from metallic processing, etc.

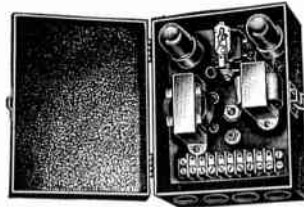
Model 63 Electronically Operated Relay is a specially engineered, highest quality unit. It enjoys wide preference as it efficiently meets exacting requirements and replaces the need of costly individually engineered equipment. Technical details on request.

**ELECTRONICALLY OPERATED RELAYS**

	Price, Each
Model 63, Described Above.....	\$100.00
Model 63-A, combines Model 63 and Time Delay Circuit giving delay from zero to 45 seconds....	\$150.00
Model 63-B, same as Model 63 with additional amplification to operate on less active change of light .....	\$150.00

**ELECTRONICALLY OPERATED RELAY  
MODEL 64**

An economical unit for practically any industrial application where cost is a factor. Designed for use with a combination of standardized Worner Photo-Cell and Exciter Lamp units shown at right.



Model 64 Electronically Operated Relay.....each \$67.50

**FOTOLECTRIC ANNOUNCER SET**

*Automatically Announces the Entrance or Passing of Any Person*

**COMPLETE WITH MIRROR AND CHIME**



The Fotoelectric Announcer is a complete three-piece set. It is designed to project a beam of light across any entrance to any room or building. Breaking of this light beam by person entering activates a pleasant chime, automatically announcing the entrant. Chime can be located wherever signal is desired.

The unit has efficient grid controlled rectifier circuit which insures maximum stability. The Unit combines Exciter Lamp and sensitive Photo-Cell in metal case, size 8 1/4" x 6 1/2" x 2 3/4", beautifully finished in gray hammerloid. Bulb has long lamp-life rating of 2000 hours. Operates on 110-120V; 50-60 cycle, A.C.

Model 61 Fotoelectric Announcer, three-piece set including Unit, Mirror and Chime.....Set, each \$32.00

**EXCITER LAMP & PHOTO-CELL RECEIVER UNITS**

*For Use With Models 63, 63-A, 63-B and 64 Electronically Operated Relays*



Model 33



Model 23



Model 31



Model 21

The Exciter Lamp unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the beam and convert its light into electrical energy through the Electronically Operated Relay unit.

Model 33 Exciter Lamp is "standard" for general applications and is most generally recommended. Its light beam covers a distance from a few inches to 25 feet from Exciter Lamp to Photo-Cell. Heavy duty, cast iron unit with 1/2-inch conduit fittings. Gray finish.

Model 23 Photo-Cell Receiver is engineered for use with Model 33 Exciter Lamp. Same case specifications.

For use in damp surroundings, Models 33 and 23 can be made water-proof at slight additional cost.

Model 31 Exciter Lamp is "standard" where a lighter weight case is practical. Its light beam covers a distance from a few inches to 25 feet from Exciter Lamp to Photo-Cell. Case is 18 gauge steel, gray wrinkle finish. Has 1/2-inch knockout.

Model 21 Photo-Cell Receiver is engineered for use with Model 31 Exciter Lamp. Same case specifications.

Model No.	Description	Size, Inches	Price, Each
33	Exciter Lamp.....	4 1/4 x 2 3/4 x 2 3/4	\$13.50
23	Photo-Cell Receiver.....	4 1/4 x 2 3/4 x 2 3/4	19.50
31	Exciter Lamp.....	6 5/8 x 2 x 1 3/4	11.00
21	Photo-Cell Receiver.....	6 5/8 x 2 x 1 3/4	17.00

**MODEL 62 R & L  
ELECTRONICALLY OPERATED RELAY  
AND EXCITER LAMP SET**



Model 62-R Electronically Operated Relay



Model 62-L Exciter Lamp

This "two-unit" set has specially designed Exciter Lamp Unit and an Electronically Operated Relay unit that includes the Photo-Cell Receiver, Relay and other electrical components. This combination has proved efficient for countless simple applications for distances from a few inches to 75 feet or where Relay is not required to operate in excess of 300 times a minute. Supervises efficiently on simple applications such as: Counting or sorting large objects; limit switches; start and stop operations; light density; fire protection; flame control; opening doors, etc.

Model 62 R & L "Two-Unit Set".....per set \$85.00  
Model 62-R Electronically Operated Relay.....each 69.75  
Model 62-L Exciter Lamp.....each 21.75

**MODEL 9000 SERIES**  
**FOTOLECTRIC BURGLAR ALARM SYSTEM**



Model 9100-R



Model 9150-R

This series consists of One Master Control Panel operating with one or more (up to 4) Fotoelectric Exciter Lamp and Electronically Operated Relay sets. The combination may be used with traps, foil systems and other equipment as used by professional burglar alarm companies, to operate audible or visible alarms.

Any interruption of the light beam operates whatever alarms the user wishes to install. The complete alarm circuit is supervised by the Master Control Panel which is remotely located for operator's convenience.

All Model 9000 series Electronically Operated Relays contain the following: Heavy duty transformers 110-120-volt, 50 to 60 cycle, A.C. with dual secondary. Potentiometer type sensitivity control. Meter Jack to determine correct cut-off and plate current in Relay circuit. Electrolytic condensers. Double pole, double throw 5-amp. relay.

Constructed of 18-gauge steel, welded, gray wrinkle finish. Size: 7 x 6¼ x 4¼ inches. (Not weatherproof.)

Model No.	Description	Range per Set	Price, Each
9100	Master Trespass Trap.....	100 ft.	\$84.00
9150	Master Trespass Trap.....	150 ft.	108.00
9250	Master Trespass Trap.....	250 ft.	145.00
9500	Master Trespass Trap.....	500 ft.	225.00



Model 9000 Control Panel. Supplied with plate relays equal to the 9000 series Electronically Operated Relays ordered. If 9000 series Electronically Operated Relays are ordered without Control Panel, plate relay is supplied with Electronically Operated Relays to be mounted in Control Panel.  
each \$54.00

Model 9000-R Control Panel. With additional control circuit which protects operation in the event of false alarm should power drop five volts or more.  
each \$74.00

**MODEL 7000 SERIES**  
**FOTOLECTRIC BURGLAR ALARM SYSTEM**

The Model 7000 series operates in conjunction with professional independent burglar alarm company's central office or local equipment.

The 7000 series Electronically Operated Relays are complete with the following scientifically engineered equipment: Tubes. Lenses. Heavy duty shielded Electronically Operated Relay transformer 110-120 volt, 50-60 cycle, A.C. with dual secondary. Potentiometer sensitivity control. Meter Jack to determine correct cut-off and plate current in relay circuit. Electrolytic condensers. Single-pole, double throw relay, self-wiping contacts rated at 5 amp. non-inductive at 110-120 volts, 50 to 60 cycle.

Model No.	Description	Range per Set	Price, Each
7100	Remote Cont. Trespass Trap	100 ft.	\$84.00
7150	Remote Cont. Trespass Trap	150 ft.	108.00
7250	Remote Cont. Trespass Trap	250 ft.	145.00
7500	Remote Cont. Trespass Trap	500 ft.	225.00

**MODEL 5000 SERIES**  
**FOTOLECTRIC BURGLAR ALARM SYSTEM**



Model 5000 series consists of Exciter Lamp unit and an Electronically Operated Relay unit. This combination is designed for interior use where a single beam is considered ample protection; it is not intended for use with protective devices such as foil systems, etc. Furnished for 110 volts. Electronically Operated Relay Model 5150-R (illustrated) is equipped with a scientifically engineered "unwanted light rejector," which materially increases the day-light range of the unit and makes it equal to the night-time range if equipment is installed so that 90 per cent of the light reaching the Photo-Cell is that generated by the Exciter Lamp.

Model No.	Description	Range	Price, Each
5100	Single Beam Trespass Trap	100 ft.	\$90.00
5150	Single Beam Trespass Trap	150 ft.	114.00

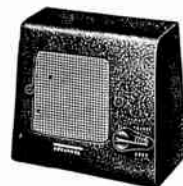
**EXCITER LAMP For All Burglar Alarm Sets**

with ranges of 100 feet to 150 feet are similar in appearance to Model 62-L. For ranges of 250 feet to 500 feet units are designed for out-door installations and are weather-proofed.

**WORNER COMMUNICATING SYSTEMS**



Models P-359, P-353



Model P-360

All WORNER units operate efficiently as far as 2000 feet apart. Persons at or near Sub-stations when called may answer without leaving their work, from as far away as 25 feet. "Silent feature" shuts out noise in vicinity at Station. 110 volt to 120 volt, A.C. or D.C. Units are shipped complete with wiring diagrams and instructions for easy installation.

Model P-359 Selective Master Station. Handles 1 to 5 Sub-stations. Has 3-tube amplifier. 1 watt output. Contains 5-inch speaker for maximum input without talking directly into unit. In substantial all-metal cabinet; size: 9 x 6¼ x 6 inches. Finished in hammered walnut lacquer finish. Complete with tubes and instructions .....each \$34.75

Model P-353 Combination Master Station. 2 to 5 units may be used, in any combination of Masters to Masters, or Masters to Sub-stations. Contains 3-tube amplifier. Complete with tubes and instructions.  
each \$47.50

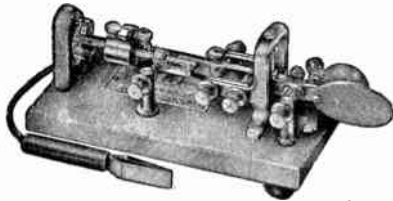
Model P-360 Sub-station. Has 5-inch speaker. Talk-listen switch used by Sub to originate call; not used after Master answers. In substantial all-metal cabinet as illustrated; size: 7¼ x 4 x 6 inches; finished in attractive hammered walnut lacquer finish.  
each \$11.50

The

# Vibroplex



## Telegraph & Wireless Transmitting Machines



Your name engraved on base, \$1.50  
Additional engraving, 15c per letter

### New SUPER DE LUXE "PRESENTATION" VIBROPLEX

The Finest Bug Ever Built! 24K Gold-Plated Base Top,  
Patented Jewel Movement and Super-Speed Control!

New patented adjustable main spring affords wider range of speed than ever obtained before in semi-automatic transmitting key. Beautifully-designed with polished chromium precision-machined parts mounted on a 24K gold-plated base top with colorful red switch knob, finger and thumb piece. This new Super-DeLuxe "Presentation" Vibroplex key at \$29.95 affords a life-time of sending enjoyment. Harder than metal, the jewels in this key reduce friction, maintain smoother, easier operation and prolong life.

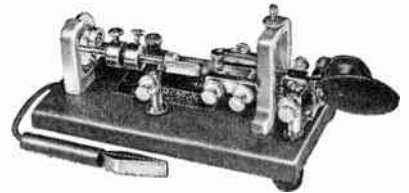
Amateur Net Price..... **\$29.95**

### THE Improved "ORIGINAL" VIBROPLEX

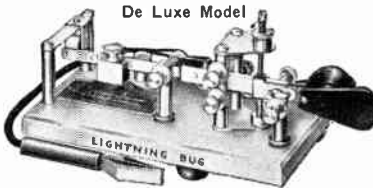
Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials

This great new Vibroplex is a smooth and easy working BUG. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions. Weight, 3 lbs. 8 oz. Complete with cord and wedge.

Standard—Chromium top parts, black base. Amateur Net Price..... **\$17.95**  
DeLuxe—Chromium base and top parts, with jeweled movement. Amateur Net Price **22.50**



De Luxe Model



### THE "LIGHTNING BUG" VIBROPLEX

High Quality Signals at All Speeds

Flat pendulum model. Complete with cord and wedge. Weight 3 lbs. 8 oz.  
Standard—Polished Chromium top parts, black base.

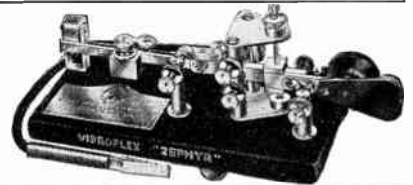
Amateur Net Price..... **\$15.95**

DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price **21.50**

### THE "ZEPHYR" VIBROPLEX

$\frac{1}{8}$ " size contact points. Slightly smaller base. Weight 3 lbs. 2 oz. Cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

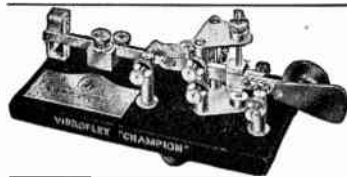
Amateur Net Price..... **\$13.95**



### THE "CHAMPION" VIBROPLEX

Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price..... **\$12.95**



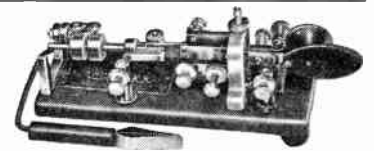
### THE "BLUE RACER" VIBROPLEX

Weight, 2 lbs. 8 ozs. Complete with cord and wedge.

Standard—Finish Chromium top parts, black base . . . Amateur Net Price..... **\$17.95**

DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price..... **22.50**

NOTE: All Machines Above Available in Left Hand Models \$1.00 Extra.



Small and Compact

### VIBROPLEX CARRYING CASE

Keeps the Machine Free From



Dust, Dirt & Moisture —  
Insures Safe-keeping when Not in Use.

A cloth-lined case, finished in handsome simulated black morocco. Has lock and key.

PRICE..... **\$5.75**

### Announcing the new edition of the PHILLIPS CODE SPECIAL EDITION Including:

- Radio Code Signals
- International Morse
- American Morse
- Russian, Greek, Arabic, Turkish and Japanese Morse Codes
- World Time Chart
- United States Time Chart
- Commercial "Z" Code
- Aeronautical "Q" Code



**\$2.00**

Post Paid

Radio's Master — 17th Edition

Net

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# BURGESS BATTERIES



4FH



4F2H



F4H



No. 2



No. 1



Z



No. 7



4F5H

## BURGESS FLASHLIGHT BATTERIES

No. 1.	1½ volts. Size, 1" x 1½". Standard package 12.....	List price, \$	.125
No. 2.	1½ volts. Size, 1½" x 2½". Standard package 48.....	List price,	.125
No. Z.	1½ volts. Size, 1½" x 1½". Standard package 24.....	List price,	.10
No. 7.	1½ volts. 1½" x 1½". Standard package 24.....	List price,	.10
F4H.	6 volts. 2½" x 2½" x 3½". Standard package 12.....	List price,	.80



6 Ign.



6 Tel.

4FH.	1½ volts. Size, 2½" x 2½" x 3½" x 4¼". Standard package 12.	List price,	.80
4F2H.	3 volts. Size, 3½" x 2½" x 5½". Standard package 8.....	List price,	1.45
4F4H.	6 volts. Size, 8¼" x 2¾" x 5½" x 6¾". Standard package 6.	List price,	3.40
4F5H.	7½ volts. Size, 7½" x 3½" x 5½" x 6¾". Standard package 4.....	List price,	4.15
4F6H.	9 volts. Size, 8½" x 3½" x 5½" x 6¾". Standard package 4.	List Price,	4.85

## BURGESS IGNITION BATTERIES

## BURGESS NO. 6 LINE

No. 6 IGN.	1½ volts. Size 2½" Diam. 6½". Standard package 12.....	List price,	.80
No. 6 TEL.	1½ volts. Size 2½" Diam. 6¾". Standard package 12.....	List price,	.75
S 461.	6 volts. Size 10½" x 2¾" x 7½". Standard package 6.....	List price,	3.50

## FOR INDUSTRIAL APPLICATIONS

### BURGESS "A" BATTERIES

No. 2F2H.	3 volts. Size, 2½" x 2½" x 4" x 4¾". Standard package 5.....	List price,	1.00
No. 2FBP.	1½ volts. Size, 2½" x 1½" x 3½" x 4¾". Standard package 5.....	List price,	.83
No. 4FH.	1½ volts. Size, 2½" x 2½" x 3½" x 4¾". Standard package 12.....	List price,	.80
No. F2BP.	3 volts. Size, 2½" x 1½" x 4" x 4¾". Standard package 5.....	List price,	.83
No. F4BP.	6 volts. Size, 2½" x 2½" x 3½" x 4¾". Standard package 5.....	List price,	.80

2F2H

### BURGESS "B" BATTERIES

No. W30.	45 volts. Size, 2½" x 1½" x 3¾" x 4¾". Standard package 6.....	List price,	3.00
W30PBX.	45 volts. Size, 2½" x 1½" x 3¾" x 4¾". Standard package 6.....	List price,	2.73
No. Z30NX.	45 volts. Size, 2½" x 1½" x 4¾" x 5". Standard package 5.....	List price,	2.90

### BURGESS "C" BATTERIES

No. A8BP.	12 volts. Size, 2½" x 1½" x 2½" x 2¾". Standard package 3.....	List price,	2.25
No. B2BP.	3 volts. Size, 1½" x 1½" x 2½" x 2¾". Standard package 6.....	List price,	.95
No. W5BP.	7½ volts. Size, 3½" x 2½" x 1½" x 1½". Standard package 6.....	List price,	1.37

F2BP

**A QUALITY DRY BATTERY FOR EVERY PURPOSE**

# BURGESS BATTERIES



5308



5540



2370



10308



2308

## BURGESS RADIO "B" BATTERIES

- No. 10308. 45 volts. Size,  $8\frac{3}{4}$ " x  $4\frac{3}{4}$ " x  $7\frac{1}{8}$ ". Standard package 6.....List price, \$4.23  
 No. 21308. 45 volts. Size,  $8\frac{1}{8}$ " x  $4\frac{1}{2}$ " x  $7\frac{1}{2}$ ". Standard package 6.....List price, 4.39  
 No. 2308. 45 volts. Size,  $8\frac{3}{4}$ " x  $2\frac{3}{4}$ " x  $7\frac{1}{8}$ ". Standard package 6..... List price, 3.10  
 No. 5156. 22½ volts. Size,  $4\frac{3}{4}$ " x  $2\frac{7}{8}$ " x  $2\frac{3}{4}$ " x  $3\frac{1}{4}$ ". Standard package 10..List price, 2.06  
 No. 5308. 45 volts. Size, 4" x  $2\frac{3}{4}$ " x  $5\frac{1}{8}$ " x  $5\frac{1}{8}$ ". Standard package 5...List price, 2.57



346

## BURGESS RADIO "B" & "C" BATTERIES

- No. 2156. 22½ volts. Size,  $6\frac{3}{4}$ " x  $4\frac{1}{8}$ " x  $2\frac{3}{4}$ " x  $3\frac{1}{2}$ ". Standard package 6..List price, 2.62  
 No. 2370. 4½ volts. Size,  $4\frac{3}{4}$ " x  $1\frac{3}{4}$ " x  $2\frac{1}{8}$ " x  $3\frac{5}{8}$ ". Standard package 5..List price, .88  
 No. 4156. 22½ volts. Size,  $3\frac{3}{4}$ " x  $2\frac{1}{8}$ " x  $2\frac{3}{4}$ " x  $2\frac{7}{8}$ ". Standard package 5..List price, 1.97  
 No. 5360. 4½ volts. Size,  $2\frac{3}{8}$ " x  $\frac{3}{4}$ " x  $2\frac{5}{8}$ " x  $2\frac{1}{4}$ ". Standard package 5...List price, .57  
 No. 5540. 7½ volts. Size,  $3\frac{7}{8}$ " x  $\frac{3}{4}$ " x  $2\frac{1}{4}$ " x  $3\frac{3}{4}$ ". Standard package 5...List price, .99



146

## BURGESS FARM RADIO "A" BATTERIES

- No. 20F. 1½ volts. Size,  $7\frac{5}{8}$ " x  $2\frac{1}{4}$ " x  $6\frac{1}{4}$ ". Standard package 3.....List price, 4.25  
 No. 20F2. 3 volts. Size,  $11\frac{3}{8}$ " x  $3\frac{1}{4}$ " x  $6\frac{1}{8}$ ". Standard package 1.....List price, 6.07

## FLASHLIGHT CASES AND LANTERNS

151. 2 cell Prefocused Maroon & Chrome. Standard package 6.....List price \$1.25  
 146. 2 cell prefocused Maroon & Chrome. Standard package 6.....List price, \$1.65  
 346. 2 cell Baby Prefocused Maroon & Chrome Standard package 6..... List price, \$1.50  
 248. 5 cell Prefocused Chrome. Standard package 1.....List price, \$3.95  
 250. Rangefinder 2 cell focusing Chrome. Standard package 4.....List price, \$2.25  
 350. 2 cell Tough Industrial Light. Standard package 6.....List price \$1.90  
 TW2. Focusing Lantern. Standard package 4.....List price, \$3.10



TW2

**A QUALITY DRY BATTERY FOR EVERY PURPOSE**

# BURGESS BATTERIES



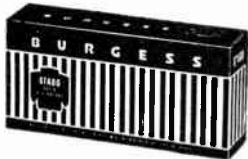
G6B60



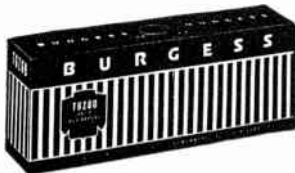
T5Z50



17GD60



6TA60



T6Z60



F6A60



F4B60

## BURGESS FARM "A & B" BATTERIES

No. 17GD60. 1½ volt "A", 90 volt "B". Size, 15½" x 4⅞" x 7". Standard package 1. List price, \$6.95

No. 4SD60. 1½ volt "A", 90 volt "B". Size 10½" x 4⅞" x 6½". Standard package 1. List price, \$6.95

No. S6D60. 7½ volt "A", 90 volt "B". Size 9½" x 4⅞" x 7⅞". Standard package 1. List price, \$8.29

## BURGESS PORTABLE "A" & "B" BATTERIES

No.	Voltage	Size	List Price
2TXX40.	1½ A, 60B	2¾" x 1⅞" x 7½"	3.30
4GA41.	1½ A, 61½ B	9⅞" x 2½" x 3⅞"	4.35
4GA42.	1½ A, 63B	9" x 2⅞" x 4½"	4.50
4TA60.	1½ A, 90B	8⅞" x 2½" x 4½"	6.00
5DA60.	1½ A, 90B	5⅞" x 2⅞" x 6½"	5.59
6TA60.	1½ A, 90B	9½" x 2⅞" x 4½"	5.79
F4A50.	6A, 75B	9⅞" x 2½" x 3⅞"	5.53
F4B60.	6A, 90B	10¾" x 2½" x 4½"	6.00
F6A60.	9A, 90B	9¼" x 2¾" x 4⅞"	5.65
F6A60P.	9A, 90B,	9⅞" x 2¾" x 4½"	5.90
F4B60.	6A, 90B	10¾" x 2½" x 5"	6.00
G5A42.	7½ A, 63B	9⅞" x 2¾" x 4½"	4.48
T5Z50.	7½ A, 75B	8½" x 3½" x 2¾"	5.25
T5Z60.	7½ A, 90B	9½" x 2½" x 3¾"	6.00
G6B60.	9A, 90B	13⅞" x 2½" x 4⅞"	6.25
G6M60.	9A, 90B	10⅞" x 3⅞" x 4½"	5.95
T6Z60.	7½, 9A, 90B	2⅞" x 9⅞" x 3½"	5.75
4TZ60.	1½ A, 90B	7½" x 2¾" x 3½"	5.25

**A QUALITY DRY BATTERY FOR EVERY PURPOSE**

# BURGESS BATTERIES



4F



2R



G3



F4PI



T5



F3

## BURGESS PORTABLE "A" BATTERIES

- No. 2F. 1½ volts. Size, 2½" x 1⅞" x 4⅞". Standard package 1.....List price, \$ .75  
 No. 2F4. 6 volts. Size, 3⅞" x 2¾" x 5⅞". Standard package 1.....List price, 2.00  
 No. 2F4L. 6 volts. Size, 3⅞" x 1⅞" x 10⅞". Standard package 2.....List price, 2.00  
 No. 2R. 1½ volts. Size, 2⅞" x 1⅞" diameter. Standard package 48.....List price, .125  
 No. 4F. 1½ volts. Size, 2⅞" x 2⅞" x 4⅞". Standard package 6.....List price, 1.05  
 No. 4FL. 1½ volts. Size, 3⅞" x 1⅞" x 5⅞". Standard package 1.....List price, 1.02  
 No. 6F. 1½ volts. Size, 4⅞" x 2⅞" x 4". Standard package 3.....List price, 1.50  
 No. 8F. 1½ volts. Size, 3⅞" x 2⅞" x 5⅞". Standard package 1.....List price, 1.95  
 No. F4PI. 6 volts. Size, 2⅞" x 2⅞" x 4⅞". Standard package 6.....List price, 1.03  
 No. G3. 4½ volts. Size, 4" x 1⅞" x 4⅞". Standard package 6.....List price, .90  
 No. T5. 7½ volts. Size, 2½" x 2⅞" x 3⅞". Standard package 3.....List Price, 1.38  
 No. D3. 4½ volts. Size, 3⅞" x 1⅞" x 2⅞". Standard package 6.....List price, .70  
 No. 2D. 1½ volts. Size, 2⅞" x 1⅞" x 2⅞". Standard package 12.....List price, .55  
 No. Z4. 6 volts. Size, 1⅞" x 1⅞" x 2⅞". Standard package 12.....List price, .60  
 No. B5. 7½ volts. Size, 3⅞" x ⅞" x 2⅞". Standard package 6.....List price, 1.00  
 No. C5. 7½ volts. Size, 2⅞" x 1⅞" x 3⅞". Standard package 6.....List price, 1.00  
 No. F3. 4½ volts. Size, 4" x 1⅞" x 4⅞". Standard package 6.....List price, .83



A30



N60



M30

## BURGESS PORTABLE "B" BATTERIES

- No. A30. 45 volts. Size, 3½" x 2⅞" x 4⅞". Standard package 2.....List price, 2.45  
 No. B30. 45 volts. Size, 4⅞" x 2⅞" x 5⅞". Standard package 2.....List price, 2.45  
 No. M30. 45 volts. Size, 3½" x 1⅞" x 5⅞". Standard package 6.....List price, 2.25  
 No. XX30. 45 volts. Size, 2⅞" x 1⅞" x 3⅞". Standard package 6.....List price, 1.95  
 No. XX45. 67½ volts. Size, 2⅞" x 1⅞" x 3⅞". Standard package 6.....List price, 2.50  
 No. Z30. 45 volts. Size, 2⅞" x 2¼" x 4⅞". Standard package 2.....List price, 2.85  
 No. U200. 300 volts. Size, 2¼" x 2⅞" x 3⅞". Standard package 1.....List price, 11.40  
 No. N60. 90 volts. Size, 3⅞" x 1⅞" x 3⅞". Standard package 6.....List price, 3.25  
 No. K45. 67½ volts. Size, 2⅞" x 1⅞" x 2¼". Standard package 6.....List price, 2.50  
 No. XX69. 103½ volts. Size, 1⅞" x 1⅞" x 11⅞". Standard package 6 .....List price, 5.07



XX45



XX30

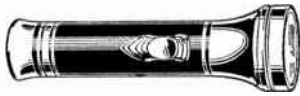
**A QUALITY DRY BATTERY FOR EVERY PURPOSE**



**THE COMPLETE LINE OF**



**FLASHLIGHTS**



**No. 2231 TWO-CELL "EVEREADY" AUTOMATIC SPOTLIGHT**—Seamless tube. Chromium finish with rolled-on black decoration. Uses 2 "Eveready" No. 935 batteries and "Eveready" Lamp No. PR-4. Unit package quantity 1. List Price Each (Without Batteries).....\$1.60



**No. 4351 THREE CELL "EVEREADY" AUTOMATIC SPOTLIGHT**—Attractively finished in chrome, hammered gray and black. Uses three "Eveready" No. 950 batteries and "Eveready" lamp No. PR-3; Unit package quantity 1. List Price Each (without batteries).....\$1.49



**No. 2552 FIVE-CELL "EVEREADY" FOCUSING SEARCHLIGHT**—Chromium fittings, seamless tube with durable black baked-on finish equipped with ring hanger. Uses 5 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR-12. Unit package quantity 1. List Price Each (Without Batteries).....\$3.95



**No. 912** 1½ volts. 1 1/8" height. 1 3/4" diameter. 0.4" weight. 0.3 oz.

**No. 915** 1½ volts. 1 1/2" height. 1 3/8" diameter. 3 5/8" weight. 1/2 oz.

**No. 935** 1½ volts. Height 2" Diameter 1 1/2" Weight 1 1/2 oz.

**No. 950** 1½ volts. Height 2 7/8" Diameter 1 1/4" Weight 3 1/2 oz.

**No. 509** Lantern Battery. 6 volts. 2 1/2" x 2 5/8" x 3 27/32". Weight 1 lb., 7 oz.



**DISPLAY PACKAGE No. 25**  
Contains 6 No. 2251 two-cell "Eveready" Automatic Spotlights, displays 6. Seamless tube, chromium finish with rolled-on black decoration. Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR-2.  
List Price Each (Complete With Batteries)...\$1.85



**DISPLAY PACKAGE No. 72**  
Contains 6 No. 7251 "Eveready" Square Masterlites. Rolled-on black decoration trimmed in chromium. Uses 2 "Eveready" No. 950 batteries and "Eveready" lamp No. PR-2.  
List Price Each (Complete With Batteries)...\$1.95



**DISPLAY PACKAGE No. 21**  
Contains 12 No. 212 Penlights . . . assorted in all chrome and black and chrome styles. Uses 2 No. 912 batteries and "Eveready" lamp No. 224.  
List Price Each (Complete With Batteries)...\$1.00



**No. 1251**  
Two-Cell Pre-focused Industrial Flashlight —General purpose type. Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR-6. Unit package quantity 1.  
List Price Each (Without Batteries) \$2.95



**No. 1259**  
Two-Cell Pre-focused Safety Flashlight — Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR-6. Extra lamp in bottom cap included. Unit package quantity 1.  
List Price Each (Without Batteries) \$5.00



**DISPLAY PACKAGE No. 42**  
Contains 12 "Eveready" No. 4251 Price Leader Automatic Spotlights. Uses two No. 950 batteries and "Eveready" lamp No. PR-2. List Price Each (complete with batteries) \$1.39

**SCHEDULE OF PRICES**

Cat. No.	No. of Cells	Cell Size	List Price Each	Unit Pkg. Qty.	Weight of Unit Packages	
					Lbs.	Ozs.
912	1	—	\$.10	12	—	4
915	1	AA	.10	12	—	7
935	1	C	.125	12	1	2
950	1	D	.125	48	9	7 1/2

**Lantern Battery**

509	4	F	.80	12	16	8
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**"Eveready" Miniature Lamps for Radio Panel Service**

"Eveready" No.	Bulb	Volts	Amp.	List Price
40	T-3 1/4	6-8	0.15	\$.11
41	T-3 1/4	2.5	0.50	.11
44	T-3 1/4	6-8	0.25	.11
46	T-3 1/4	6-8	0.25	.11
47	T-3 1/4	6-8	0.15	.11
48	T-3 1/4	2	0.06	.16
49	T-3 1/4	2	0.06	.16
50	G-3 1/2	6-8	C.P. 1	.11
1490	T-3 1/4	3.2	0.16	.11

**FLASHLIGHT LENS ASSORTMENT**

Cat. No.	Type	Unit Package Quantity
102	40 No. 53419 Spotlight Lenses for Nos. 2251, 2671, 2351, 7251, 4351 Spotlights. . . . . 2 No. 53123 Spotlight Lenses for No. 2231 Baby Spotlight. . . . . 2 No. 53390 Searchlight Lenses for No. 2552 Searchlight	1 Assortment

**"EVEREADY" LAMPS TWO CELL**

"Eveready" No.	Bead Color	Bulb	Volts	Amp.	List Price	Use with Following "Eveready Batteries"
14	Blue	G-3 1/2	2.5	0.30	\$.11	2 Nos. 935 or 950
PR-2	Blue	B-3 1/2	2.4	0.27	.15	2 No. 950
PR-4	Lt. Gr.	B-3 1/2	2.3	0.27	.15	2 No. 935
PR-6	Brown	B-3 1/2	2.5	0.30	.15	2 Nos. 935 or 950
222	White	TL-3	2.2	0.25	.11	2 No. 915
224	—	TL-2 1/4	2.15	0.22	.12	2 No. 912

**THREE CELL**

No.	Bead Color	Bulb	Volts	Amp.	List Price	Quantity
13	Green	G-3 1/2	3.8	0.30	\$.11	3 No. 950
PR-3	Green	B-3 1/2	3.6	0.50	.15	3 No. 950
PR-7	Pink	B-3 1/2	3.8	0.30	.15	3 No. 950

**FIVE CELL**

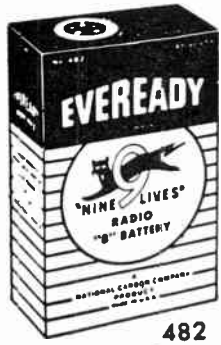
No.	Bead Color	Bulb	Volts	Amp.	List Price	Quantity
605	Brown	G-4 1/2	6.0	0.50	\$.13	5 No. 950
PR-12	—	B-3 1/2	6.0	0.50	.15	5 No. 950

# EVEREADY

TRADE-MARK

## Radio Batteries

Sell the one brand your customers will always buy—"Eveready" Radio Batteries—for fast turnover, repeat sales! Famous for fine quality and quick profits, "Eveready" Radio Batteries—portable and farm packs—equip virtually every battery-type radio in use today! Complete data describing these best-selling batteries are given on page M-8.



482



467



455



746



950



717



753



752



757



729



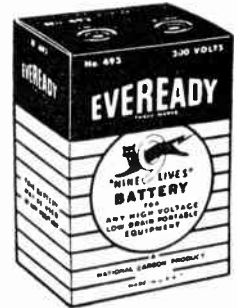
742



726



744



493



759



490



736



487



755



756



724



457

# "EVEREADY" BATTERY SPECIFICATIONS

Catalog Number	VOLTAGE	Overall Dimensions			Unit Package Quantity	Weight of Unit Package in Pounds	Battery Weight	Terminals	List Price
		Length	Width	Height					
<b>"B" BATTERIES FOR PORTABLE RECEIVERS</b>									
411	15	11 <sup>1/2</sup> "	5 <sup>3/8</sup> "	1 <sup>29/64</sup> "	5	5 1/4 oz.	1/2 oz.	Flat Contact -, +15	\$0.95
412	22 1/2	11 <sup>1/2</sup> "	5 <sup>3/8</sup> "	2"	5	6 1/2 oz.	1 1/2 oz.	Flat Contact -, +22 1/2	1.15
413	30	11 <sup>1/2</sup> "	5 <sup>3/8</sup> "	2 3/8"	5	8 3/4 oz.	1 3/4 oz.	Flat Contact -, +30	1.40
455	45	2 1/2"	1"	3 1/8"	6	3 1/4"	7 1/2 oz.	Snap Type -, +45	1.95
457	67 1/2	2 1/2"	1 3/8"	2 1/2"	6	3"	7 1/2 oz.	Snap Type -, +67 1/2	2.50
467	67 1/2	2 1/2"	1 3/8"	3 1/8"	6	4 3/4"	12 oz.	Snap Type -, +67 1/2	2.50
477	67 1/2	2 1/2"	1 3/8"	5 7/16"	6	3 lb. 6 oz.	8 3/4 oz.	Snap Type -, +67 1/2	2.35
482	45	3 19/32"	1 27/32"	5 1/2"	6	11 1/2"	1 lb. 15 oz.	Socket -, +45	2.25
484	45	4 1/2"	2 17/32"	5 5/16"	1	2 1/2"	2 lb. 8 oz.	Socket -, +45	2.45
490	90	3 23/32"	1 3/8"	3 45/64"	6	6 1/2"	15 oz.	Snap Type -, +90	3.25
493	300	2 11/16"	2 27/32"	3 29/32"	1	1"	1 1/2 oz.	Pin Jacks -, +300	11.00
738	45	3"	2 3/16"	4 1/8"	2	2 1/2"	1 lb. 3 2/3 oz.	Socket -, +22 1/2, +45	2.85
<b>"A" BATTERIES FOR PORTABLE RECEIVERS</b>									
713	7 1/2	3 29/32"	7/8"	2 27/32"	1	7 1/2 oz.	6 3/4 oz.	Socket -, +7 1/2	\$1.00
717	7 1/2	2 1/2"	1 15/16"	3 1/2"	6	3"	8 oz.	Socket -, +7 1/2	1.00
†718	6	3 29/32"	2 3/8"	5 7/8"	1	2 3/4"	2 lb. 4 oz.	Socket -, +6	2.00
720	1 1/2	2 19/32"	1 3/8"	3 1/2"	6	2 5/8"	6 1/2 oz.	Socket -, +1 1/2	0.55
724	6	1 7/8"	1 7/8"	2 1/4"	12	2"	2 1/2 oz.	Flashlight	0.60
726	4 1/2	3 15/16"	1 5/8"	2 15/16"	6	4"	10 1/2 oz.	Socket -, +4 1/2	0.70
736	4 1/2	3 15/16"	1 5/8"	4 3/8"	6	6 1/2"	1 lb.	Socket -, +4 1/2	0.85
†741	1 1/2	3 1/2"	2 11/16"	5 3/8"	1	2 3/4"	2 lb. 10 oz.	Socket -, +1 1/2	1.95
742	1 1/2	2 9/16"	2 9/16"	3 31/32"	6	8"	1 lb. 5 oz.	Socket -, +1.5	1.05
†743	1 1/2	3 13/16"	2 5/8"	4 1/2"	3	6"	1 lb. 15 oz.	Socket -, +1.5	1.50
744	6	2 21/16"	2 21/16"	3 31/32"	6	8 1/4"	1 lb. 5 oz.	Socket -, +6	1.05
†745	1 1/2	3 1/2"	1 7/8"	10 23/32"	2	5 1/2"	2 lb. 10 1/2 oz.	Socket -, +1.5	2.00
746	4 1/2	3 15/16"	1 5/8"	4 21/32"	6	7 1/2"	1 lb. 3 2/3 oz.	Socket -, +4.5	0.90
†747	6	3 1/2"	1 7/8"	10 23/32"	2	5 1/2"	2 lb. 11 oz.	Socket -, +6	2.00
†915	1 1/2	3 1/2" Diam.	1 1/8"	1 31/32"	12	1 1/2"	3/4 oz.	Flashlight	0.10
†935	1 1/2	1 1/2" Diam.	1 1/8"	1 1/2"	12	1 1/2"	1 1/2 oz.	Flashlight	0.125
950	1 1/2	1 1/2" Diam.	1 1/8"	2 27/32"	48	9 1/2"	3 oz.	Flashlight	0.125
960-P	1 1/2	1 1/2" Diam.	1 1/8"	4 1/8"	1	5 oz.	5 oz.	Socket -, +1.5	0.35
964	1 1/2	1 3/8"	1 1/8"	5 9/10"	12	4 lb. 10 oz.	5 9/10 oz.	Flashlight	0.80
<b>"A-B" PACKS FOR PORTABLE RECEIVERS</b>									
729	1 1/2 "A" 90 "B"	7 13/16"	2 7/32"	3 27/32"	1	2 3/4"	2 lb. 7 oz.	Socket - "A" +1 1/2 "A" - "B" +90 "B"	\$5.25
752	9 "A" 90 "B"	14 1/16"	2 11/16"	4 1/16"	1	6 1/4"	6 lb. 2 oz.	Recessed Plug - "A" +9 "A" - "B" +90 "B"	6.25
752-W	10 1/2 "A" 90 "B"	**14 1/16"	2 11/16"	4 1/16"	1	7"	6 lb. 8 oz.	Recessed Plug - "A" +10 1/2 "A" - "B" +90 "B"	6.50
753	7 1/2 & 9 "A" 90 "B"	9 3/8"	2 23/32"	4 5/16"	1	5"	4 lb. 12 oz.	Socket - "A" +7 1/2 "A" - "A" +9 "A" - "B" +90 "B"	5.65
754	7 1/2 & 9 "A" 90 "B"	10 15/32"	3 1/4"	4"	1	6 1/4"	6 lb. 1 oz.	Socket - "A" +7 1/2 "A" - "A" +9 "A" - "B" +90 "B"	5.95
755	6 & 7 1/2 "A" 75 "B"	8 9/16"	2 1/16"	3 3/4"	1	3 3/4"	3 lb. 9 oz.	Socket - "A" +6 "A" +7 1/2 "A" - "B" +75 "B"	5.25
756	7 1/2 & 9 "A" 90 "B"	8 1/8"	2 1/8"	3 25/32"	1	3"	2 lb. 14 oz.	Socket - "A" +7 1/2 "A" - "A" +9 "A" - "B" +90 "B"	5.75
757	9 "A" 90 "B"	9 1/2"	2 23/32"	4 7/32"	1	5"	4 lb. 12 oz.	Recessed Plug - "A" +9 "A" - "B" +90 "B"	5.90
<b>"B" BATTERY FOR HOME RECEIVERS</b>									
487	45	5 1/8"	2 1/16"	7 1/4"	6	27	4 lb. 2 oz.	Socket -, +22 1/2, +45	\$3.15
<b>"A-B" PACKS FOR HOME RECEIVERS</b>									
758	1 1/2 "A" 90 "B"	10 11/16"	4 1/8"	6 13/16"	1	14 3/4"	14 lb. 4 oz.	Socket - "A" +1.5 "A" - "B" +90 "B"	\$6.95
759	1 1/2 "A" 90 "B"	15 11/16"	4 3/32"	6 13/16"	1	17"	15 lb. 7 oz.	Socket - "A" +1.5 "A" - "B" +90 "B"	6.95
<b>"A" BATTERY FOR HOME RECEIVERS</b>									
†740	1 1/2	4 19/32"	3 3/8"	7 3/4"	1	6 1/4"	6 lb.	Socket -, +1.5	\$4.25
<b>"C" BATTERIES AND MISCELLANEOUS TYPES</b>									
735	1 1/2	2 5/8"	2 5/8"	4 5/8"	12	15 1/2"	1 lb. 4 oz.	Screw Terminals -, +1 1/2	\$0.25
768	22 1/2	4 3/8"	2 17/32"	2 31/32"	1	1 1/2"	1 lb. 8 1/2 oz.	Socket +, -3, -4 1/2, -16 1/2, -22 1/2	2.15
771	4 1/2	3 29/32"	1 3/8"	3 1/8"	5	4 1/2"	13 oz.	Socket +, -3, -4 1/2	0.95
773	7 1/2	3 29/32"	1 3/8"	3 1/8"	5	3"	9 oz.	5 Screw; 1 wire +, -1 1/2, -3, -4 1/2, -6, -7 1/2	1.10
781	4 1/2	2 15/32"	55/64"	3 1/4"	5	1 3/4"	5 oz.	Screw +, -4 1/2	0.55
762-S	45	4 7/8"	2 9/16"	6 13/32"	1	3"	2 lb. 12 oz.	Screw -, +22 1/2, +45	3.50
763	22 1/2	3 1/2"	2 3/32"	2 15/16"	5	4 3/4"	14 oz.	Screw -, +22 1/2	1.95
778	22 1/2	4 3/8"	2 17/32"	3 7/16"	10	17"	1 lb. 8 oz.	Falnstock +, -3, -1 1/2, -6, -9, -10 1/2, -16 1/2, -22 1/2	2.15

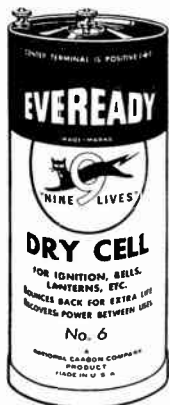
\*\*Exclusive of "A" Cell    †Flashlight Types    †Shipped from factory only

# EVEREADY

TRADE-MARK

## Dry Batteries

Illustrated below are "Eveready" Dry Batteries, known for dependable and long service. Information describing famous "Eveready" Dry Batteries is given with each illustration.



### "EVEREADY" "IGNITOR" DRY CELL NO. 6 —

For extra long life and heavy service in all Dry Cell applications. Its exceptionally high quality and recuperative powers have made the "Eveready" "Ignitor" dry cell famous for ignition, radio, bells, buzzers, electric games, toys, lanterns and other battery operated devices.

### "EVEREADY" R.R. AND INDUSTRIAL NO. 6 —

Especially designed for Railroad and Industrial use where a wide range of service conditions, from extremely heavy to extremely light are encountered.

"EVEREADY" "COLUMBIA" "GRAY LABEL" TELEPHONE CELL NO. 6 — Especially designed for telephone service. Noted for its long life on light drain service.

Brand and Type	Jacket	Voltage	Overall Dimensions In Inches		Quantity in Standard Package	Approx. Wt. of Std. Pkg. in Pounds	List Price Each
			Diameter	Height			
*"Eveready" "Ignitor" No. 6	Round	1½	2⅝	6⅝	12	27	\$0.80
*"Eveready" R.R. and Industrial No. 6	Round	1½	2⅝	6⅝	12	27½	0.85
**"Eveready" "Columbia" "Gray Label" Telephone Cell No. 6	Round	1½	2⅝	6⅝	12	26	0.75

\*Equipped with screw terminals unless Fahnstock spring terminals are specified.

\*\*Equipped with Fahnstock spring terminals unless screw terminals are specified.

### "EVEREADY" "HOT SHOT" BATTERIES —

For all purposes requiring four or more dry cells in series. Particularly adapted for electric fences, gas engines (tractors, motor boats, etc.), blasting, fire and burglar alarms, gongs, bells, annunciators, signals, lights for closets, out-houses, camps,

boats, searchlights, etc.

"Eveready" "Hot Shot" Batteries are composed of specially selected cells. Internal connections are securely soldered and the cells are completely insulated against accidental short circuits. Terminals are insulated.

Brand and Type	Voltage	Overall Dimensions In Inches			Quantity in Standard Package	Approx. Wt. of Std. Pkg. in Pounds	List Price Each
		Length	Width	Height			
"Eveready" No. 1461	6	10⅜	2¾	7¼	6	58¼	\$3.50
"Eveready" No. 1462	6	5⅝	5⅝	7¼	4	39¼	3.50
"Eveready" No. 1562	7½	7⅝	5	7¼	4	50½	4.50
"Eveready" No. 1662	9	7⅝	5¼	7¼	4	60¼	5.25

### SPECIAL TYPE FOR MISCELLANEOUS APPLICATIONS

No. 715 for Emergency Ltg.	7½	7⅝	3⅜	6⅞	4	33	\$1.15
No. 735 Instrument Battery	1½	2⅝	2⅝	4⅝	12	15½	0.80

(Square Jacket)

be sure with



# GENERAL

## DRY BATTERIES

GENERAL dry batteries contain many outstanding advancements such as extra heavy seamless extruded zinc cups, the famous paper thin separator permitting more mix and more active zinc area by utilization of the cell bottom, the curled rim lock seal which seals each cell individually. These features, found only in Generals, assure long shelf life as well as the maximum in dry battery performance.

### GENERAL A & B RADIO FARM PACKS

General A-B packs are made with L size cells in the A section. These cells are 40% longer than the largest conventional 1 1/4" diameter cell. This construction assures the perfect balance between these "A" and "B" sections for current drains established by the Radio Industry.



Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With			Price	
				Eveready	Burgess	Ray-O-Vac	East	Pacific Coast
60DL11L	1 1/2-90	1	24.5	759	17G D60	A882	\$6.95	\$7.10
60D12L6	9-90	1	24	—	3G6D60	A892	8.50	8.50
6086L	1 1/2-90	4	39	758	—	A885	6.45	6.45
90FL6D	135-9C	1	45	—	F90-D6	P8960	10.30	11.11

### GENERAL ABC HOME RADIO BATTERIES

All cells used in General batteries are filled with active mix by loading equipment developed by General which automatically puts the right amount of mix into each cell and packs it uniformly. General home radio batteries are accepted for their uniformity, dependability and long service.



Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With			Price	
				Eveready	Burgess	Ray-O-Vac	East	Pacific Coast
I2L1L	1 1/2	4	34	740	20F	P9203	\$4.25	\$4.25
I2L1S	1 1/2	4	34	A1300	19G	P168A	4.25	4.25
P24L2	3	1	17	X125	20F2	P9403	6.25	6.25
V30D	45	6	45	—	2308	P5233	3.15	3.15
V30F	45	6	68	—	10308	P5933	4.25	4.40
V30FL	45	3	39	—	21308	P9303	4.80	4.98
H3D	4 1/2	10	7.5	X771	2370PI	P231W	.95	.95
H38S	4 1/2	10	3	781	5360	531R	.55	.55
V5B	7 1/2	10	6.3	773	5540	551	1.10	1.10
H158S	22 1/2	10	15.4	768	5156PI	PS151	2.15	2.15
H15B	22 1/2	10	15.4	778	5156SC	—	2.15	2.15
H15A	22 1/2	10	10	763	4156	4151	1.95	1.95

### GENERAL PORTABLE A & B PACKS

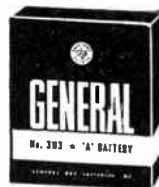
The small size cells used in portable batteries greatly reflect the benefits derived from General's patented construction. General Batteries deliver more service hours per dollar, therefore you will find them used as original equipment in more battery radios than any other brand.



Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With			Price
				Eveready	Burgess	Ray-O-Vac	
40N2CF	1 1/2-60	6	8.7	—	—	—	\$3.25
41A4FL	1 1/2-61 1/2	6	25.5	—	4GMA41	AB419	4.70
60A2L	1 1/2-90	1	5	—	5DMA60	—	5.95
60A4L	1 1/2-90	6	38.5	—	6FMA60	A884	5.95
42A5G5	7 1/2-63	6	30	—	5GMA42	AB794	5.25
291	7 1/2-9-90	1	6.5	754	6M60	AB878	5.95
60A4F4	6-90	6	33.5	—	2FA60	AB694	5.95
60A6F6-5	7 1/2-9-90	1	6	753	F6A60	AB794	5.65
362	7 1/2-9-90	6	24	756	TS260	—	5.75
Z50B4H4	6-75	1	7	—	G4850	AB670	5.65
Z60B6H6	9-90	1	89	752	G6B60	AB677	6.25

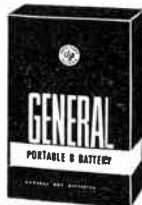
## GENERAL PORTABLE A BATTERIES

Type	Voltage	Pkg. Weight		Interchangeable With			Price
		Std. Pkg.	Lbs.	Eveready	Burgess	Ray-O-Vac	
D	1 1/2	50	12	—	—	—	\$0.125
4FI	1 1/2	6	9	742	4F	P94A	1.05
6FI	1 1/2	6	13	743	6F	P96A	1.50
8FI	1 1/2	6	17.4	741	8F	P98A	1.95
3LI	1 1/2	6	11.4	745	4FL	P94L	1.05
3H3	4 1/2	6	8	744	G3	P83A	.90
4F4	6	6	9	744	F4PI	P694A	1.05
8F4	6	6	17.4	718	2F4	P698A	2.00



## GENERAL PORTABLE B BATTERIES

Type	Voltage	Std. Pkg. Lbs. Weight		Interchangeable With			Price
		Pkg.	Lbs.	Eveready	Burgess	Ray-O-Vac	
V30A	45	6	11.4	—	A30	P430	\$2.25
F30A	45	6	11.4	—	A30X	BB30P	2.25
V30B	45	6	17	—	B30	P5303	2.25
V30AA	45	6	9	738	Z30	P7R30	2.85
V30AA2	45	6	9	—	Z30N	—	2.85
W30B	45	6	12	482	M30	P7830	2.25



## GENERAL "DuraMite" BATTERIES

New General DuraMite batteries are the finest in battery design and assembly. Thin, well-balanced flat cells are stacked like a roll of wafers. Each stack of cells sealed in its own plastic case, keeping the cells fresh until put in use. Maximum service life can be obtained from minimum of space used.

Type	Voltage	Std. Pkg. Lbs. Weight		Interchangeable With			Price
		Pkg.	Lbs.	Eveready	Burgess	Ray-O-Vac	
W45A	67 1/2	12	10	467	XX45	4367	\$2.50
W30A	45	12	7	455	XX30	P3A30	1.95
W60A	90	12	13.5	490	—	—	3.25



## GENERAL "FlashLite" & LANTERN BATTERIES

The New General "Flashlite" cell comes to the market to fulfill the demand of practically every user. This demand is for extra long service, years of shelf life and protection against corrosion damage. The Industrial cell is recommended when light is needed frequently and for long periods.

Type	Voltage	Std. Pkg. Lbs. Weight		Interchangeable With			Price
		Pkg.	Lbs.	Eveready	Burgess	Ray-O-Vac	
C	1 1/2	72	8	935	1	ILP	\$0.125
D	1 1/2	240	57	950	2	—	.125
D Industrial	1 1/2	250	59.5	1050	#2 Ind	2111	.15
AA	1 1/2	180	8	915	Z	7-R	.10
V4F Lantern	6	10	15.8	409	F4H	941	.80
4FB Bicycle	6	10	15.5	—	—	—	.90



## GENERAL IGNITION & ELECTRIC FENCE BATTERIES

All General batteries are designed to use the most efficient cells available. The 641 is made with 12 L cells and this construction has proven to produce exceptional performance when used on Electric Fence controls and other ignition applications.

Type	Voltage	Std. Pkg. Lbs. Weight		Interchangeable With			Price	
		Pkg.	Lbs.	Eveready	Burgess	Ray-O-Vac	East	Pacific Ct.
# 6	1 1/2	24	60	# 6 lg	—	# 6 lg	\$0.80	\$0.85
# 6 Tele	1 1/2	24	60	# 6 Co.	—	# 6 Tele	.80	.85
641 Multiple	6	6	54	1461	—	641	3.50	3.80



We manufacture all types of Hearing Aid and Model Airplane batteries. Write for particulars.

# GENERAL DRY BATTERIES, INC.

MAIN OFFICES AND FACTORY • 13000 ATHENS AVE., CLEVELAND, OHIO  
 FACTORIES • DUBUQUE, IA. • MEMPHIS, TENN. • TORONTO, ONT.

BRANCH OFFICES & WAREHOUSES • NEW YORK, CHICAGO, DALLAS, SAN FRANCISCO,  
 LOS ANGELES, PORTLAND, MEMPHIS, MINNEAPOLIS



# LAB-BILT BATTERIES

Custom-built dry cell batteries  
for every unusual power requirement

FOR INDUSTRY      ARMED SERVICES      LABORATORY



322S



694SL



394S

Catalog No.	Volts	Overall Dimensions			Terminals	Comparables		Prices:	
		L	W	H		Burgess	Ray-O-Vac	List	Dealer

### INDUSTRIAL TYPE "A" BATTERIES

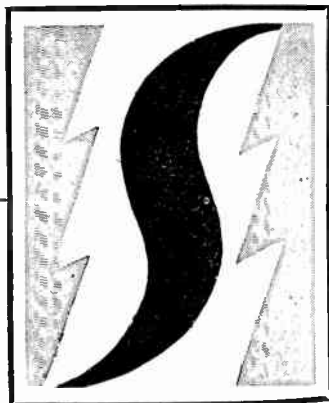
322S	3	2 5/8	1 1/8	3 1/8	Screw	D2BP	.....	\$1.10	\$0.76
392S	3	2 5/8	1 3/8	4 7/8	Screw	F2BP	921	0.80	0.55
394SL	3	5 1/8	1 5/8	4 1/8	Screw	2F2BP	.....	1.35	0.94
394S	3	2 5/8	2 5/8	4 1/8	Screw	2F2H	.....	0.92	0.64
694SL	6	5 1/8	1 1/8	4 1/8	Screw	F4X	.....	1.95	1.34
192S	1 1/2	2 5/8	1 1/8	4 1/8	Screw	2FBP	.....	0.80	0.55
194PL	1 1/2	3 1/8	1 3/8	5 5/8	Plug-In	4FL	P94L	1.02	0.71
198P	1 1/2	3 7/8	2 1/8	5 1/2	Plug-In	8F	P98A	1.95	1.36
198PL	1 1/2	3 7/8	1 7/8	10 3/4	Plug-In	8FL	P98L	1.95	1.34
698P	6	3 1/8	2 3/4	5 1/8	Plug-In	2F4	P698A	2.00	1.40
785P	7 1/2	3 7/8	2 5/8	4 1/8	Plug-In	G5	P85A	1.10	0.76
755P	7 1/2	4 1/8	1 1/8	3	Plug-In	B5	P551	1.00	0.75
7CD5P	7 1/2	2 1/2	2 1/2	3 1/8	Plug-In	T5	P7CD1	1.38	0.96
694PL	6	3 7/8	1 1/8	5 5/8	Plug-In	F4L	P694L	1.55	1.07
694S	6	2 5/8	2 5/8	4 1/8	Screw	F4BP	941 Screw	0.80	0.54
191(d)	1 1/2	1 3/8 diam. ....		3 1/8	.....	No. 10	.....	0.24	0.17
698T	6	3 7/8	2 1/8	5 1/2	Flex. Leads	.....	.....	1.70	1.28
598PL	6	3 7/8	1 7/8	10 3/4	Plug-In	2F4L	P698L	2.00	1.40
398S	3	3 7/8	2 3/4	5 3/8	2 Screws	4F2BP	.....	2.00	1.40

Complete catalog will be mailed on request.

## SPECIALTY BATTERY COMPANY

A DIVISION OF RAY-O-VAC

Madison 10, Wisconsin



# LAB-BILT BATTERIES



5530S



57R30S



5830C

Catalog No.	Volts	Overall Dimensions			Terminals	Comparables		Prices:	
		L	W	H		Burgess	Ray-O-Vac	List	Dealer
<b>INDUSTRIAL TYPE "B" BATTERIES</b>									
103SN69	103½	1½	1½	11½	Contacts Top (+) and Bottom (-)	XX69	Sig. Corps No. BA-38	\$4.90	\$3.35
57R30S	45	2½	1¾	4½	Screw	Z30NX	7R30N	2.90	2.00
57R30P	45	2½	2¼	4½	Plug-In	Z30	P7R30	2.85	2.00
07R60S	90	3½	2½	6½	Screw	Z60BP	7R60	8.40	5.80
0460P	90	4½	3½	4½	Plug-In	A60	.....	5.00	3.45
5530S	45	4½	2¾	5¾	Screw	5308	5303	2.57	1.79
5230C	45	8½	3½	7½	Spring Clip	2308SC	2303	2.55	2.32
5930C	45	8½	4½	7½	Spring Clip	10308SC	9303	4.20	3.15
								4.50*	3.35*
5830C	45	8½	4½	7½	Spring Clip	21308SC	8303	4.39	3.28
								4.65*	3.48*
5830P	22½, 45	8½	4½	7½	Plug-In	21308PI	P8303	4.39	3.28
								4.65*	3.48*
144S7R96S	144	2½	2½	18¼	Screw	Z96P	.....	12.40	8.55
07R60SS	45, 90	3½	2½	6½	3 Screws	Z60X	.....	8.40	5.80
5530P	45	4½	2¾	5¾	Plug-In	B30	P5303	2.45	1.70
57R30SS	22½, 45	3½	2¾	3¾	3 Screws	Z30BP	.....	4.45	3.06

\* West Coast price

<b>INDUSTRIAL TYPE "C" BATTERIES</b>									
453S	4½	2¾	1½	2½	Screw	5360	531R	\$0.57	\$0.39
423P	4½	4½	1½	3½	Plug-In	2370PI	P231W	0.85	0.60
423S	4½	4½	1½	3½	Screw	2370BP	231W	0.85	0.60
755S	7½	3½	¾	3½	Screw	5540	551	0.99	0.69
926S	9	2¾	4½	3½	Screw	D6BP	.....	1.90	1.33
2515P	22½	4	2½	3	Plug-In	5156PI	P5151	2.05	1.42
2515C	22½	4	2½	3½	Spring Clip	5156SC	.....	2.05	1.42
2415S	22½	3¾	2½	3½	Screw	4156	4151	1.97	1.39
7N5S	7½	2¾	¾	2½	3 Screws	W5BP	.....	1.40	0.96
13S49S	13½	2½	2½	2½	2 Screws	A9BP	.....	1.80	1.24
152S	1½	1½	¾	2½	2 Screws	2BBP	.....	0.88	0.61
352S	3	1½	¾	2½	2 Screws	B2BP	.....	0.88	0.61
443S	3, 4½	1½	¾	2½	2 Screws	A3BPX	.....	1.04	0.72
2215C	22½	6½	4	3½	3 Spring Clips	2156	.....	3.20	2.20

<b>SPECIAL RADIO "AB" AND "ABC" PACKS</b>									
AB-100	1½A, 63B	9½	2½	4¾	Plug-In	4GMA42	AB944	\$4.50	\$3.14
AB-101	1½A, 61½B	9¼	2¾	3¾	Plug-In	4GMA41	AB1944	4.35	2.98
AB-102	6A, 90B	10¾	2½	3½	Plug-In	.....	AB694	5.50	3.85
AB-103	7½ or 6A, 67½B	9½	2½	4½	Plug-In	F5M45	AB767	5.00	3.45
AB-104	1½A, 90B	11¾	1½	6½	Plug-In	6FA60	AB84	5.69	3.96
AB-105	7½A, 63B	8¾	2¾	4	Plug-In	G5A42	AB794	4.48	3.15
AB-106	1½A, 90B	5½	2½	7½	Plug-In	5DA60	AB24	5.59	3.90
AB-107	6A, 90B	11½	4½	2½	Plug-In	2F4A60	AB6984	6.25	4.30
AB-108	6A, 90B	10¾	2¾	5	Plug-In	F4B60	AB695	5.95	4.19
AB-109	1½A, 67½B, 7½C	4¾	3½	6½	Screw	4FA50	AB194	6.25	4.30
AB-110	1½A, 90B	9¾	2½	4½	Plug-In	6TMA60	AB64	5.79	4.00
AB-307	6 or 7½A, 75B	8½	3½	2½	Plug-In	T5Z50	.....	5.25	3.68
AB-308	9 or 7½A, 90B	9¾	2½	3¾	Plug-In	T5Z60	.....	5.80	4.00
AB-310	1½A, 61½B	9½	4¾	2½	Plug-In	.....	AB419	3.30	2.28
AB-314	9A, 90B	9½	2¾	4¾	Male Plug	F6A60P	.....	5.90	4.14

Complete catalog will be mailed on request

## SPECIALTY BATTERY COMPANY

A DIVISION OF RAY-O-VAC

Madison 10, Wisconsin





# LAB-BILT BATTERIES



Catalog No.	Volts	Overall Dimensions			Terminals	Comparables		Prices:	
		L	W	H		Burgess	Ray-O-Vac	List	Dealer
<b>SPECIAL IGNITION BATTERIES</b>									
4912C	4½	3½	3½	5½	Spring Clip	4F3H	.....	\$3.50	\$2.40
194IS	1½	2½	2½	4½	Screw	4FH	94IS	0.79 0.84*	0.52 0.56*
398C	3	3½	2½	5½	Spring Clip	4F2H	.....	1.45 1.52*	1.01 1.08*
6916S	6	8¼	2¾	6½	Screw	4F4H	.....	3.40 3.70*	2.29 2.48*
7920SM	7½	7½	4	6½	Screw	4F5H	.....	4.05 4.55*	2.78 3.16*
9924SM	9	8½	4	6½	Screw	4F6H	.....	4.65 5.25*	3.20 3.68*

\* West Coast price

<b>TELEPHONE AND IGNITION BATTERIES</b>									
4912TC	4½	3½	3½	5½	Spring Clip	4F3J	.....	\$2.45	\$1.95
194TS	1½	2½	2½	4½	Screw	4FJ	94TS	0.90	0.57
4945C	4½	12	4	7½	Spring Clip	.....	9451	5.90	4.05
386C	3	3½	2½	5½	Spring Clip	.....	86T	1.40	0.99
489C	4½	3½	3½	5½	Spring Clip	.....	89T	2.15	1.49

<b>SPECIAL LIGHTING BATTERIES</b>									
443	4½	1½	¾	2½	2 Flat Spring Brass Contacts	432	431	\$0.50	\$0.33
453	4½	2½	¾	3	2 Flat Spring Brass Contacts	532	531	0.50	0.33
1918T	1½	6½	5½	3½	2 Pigtails	18FS	.....	2.45	1.95

<b>ELECTRIC SHAVER BATTERIES</b>									
135SN90P	135	3½	1½	7½	Std. 120v Socket	.....	.....	\$7.95	\$5.33
120S480P	120	4¾	2½	8½	Std. 120v Socket	.....	.....	5.97	4.00

<b>SHOT FIRING BATTERIES</b>									
392PB	3	2½	1½	4½	Recessed	.....	921B	\$0.90	\$0.60
453P	4½	2½	1½	3½	Recessed	.....	533	0.80	0.54

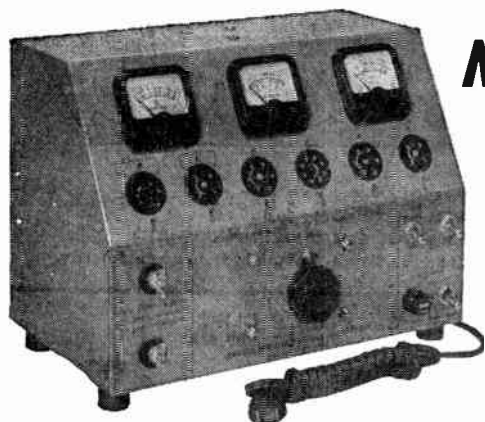
<b>HEARING AID BATTERIES</b>									
*22SN15P	22½	1½	1¾	3	Plug-In	XX15E	PN-15	\$1.60	\$1.10
*33SN22P	33	1½	1¾	3½	Plug-In	XX22E	PN-22	1.80	1.25
*45SN30P	45	2½	1¾	3½	Plug-In	XX30E	PN-30	1.98	1.36
416P	4½	3½	1½	4½	Plug-In	T3WE	WE-161	1.25	0.85
314P	3	3½	1½	3½	Plug-In	T2WE	WE-141	1.10	0.76
*191P	1½	1¾ diam.	.....	4	Plug-In	TE	PF-1	0.35	0.21

\* Not identical as to size with the comparables listed. Check dimensions before ordering.  
Complete catalog will be mailed on request

## SPECIALTY BATTERY COMPANY

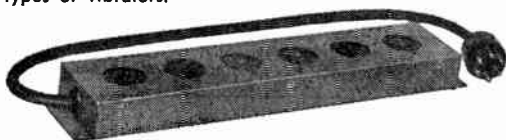
A DIVISION OF RAY-O-VAC

Madison 10, Wisconsin



Model AR-6 ElectroX Vibrator Analyzer and Power Supply

BELOW: For testing special or older types of vibrators, an adaptor strip is available as an additional component to the Model AR-6. The adaptor strip plugs into the main unit providing six additional sockets that will accommodate most of the older and special types of vibrators.



## **New!** ElectroX Vibrator Analyzer and D. C. Power Supply

### TWO VALUABLE TEST UNITS IN ONE!

Here is the original — and most reliable vibrator analyzer you can own! The ElectroX Model AR-6 combines an extremely flexible, adjustable D.C. Power Supply that provides smooth, hum-free D.C. in any voltage needed to operate and test automobile radios — with a Vibrator Analyzer that will *thoroughly test* practically all 6-volt synchronous and non-synchronous vibrators.

Not just a vibrator checker — the AR-6 gives a *complete analysis* of vibrator performance! It accurately determines shorted and otherwise defective vibrators and predicts vibrator failures before they occur. It measures starting voltage, current consumption, output voltage and indicates irregular or intermittent performance. Test results are determined by accurate *meter* readings — not by the unreliable substitution method!

Every radio shop will profit with the ElectroX Model AR-6. It will safeguard your repair jobs against premature vibrator failure and increase your parts sales. See your ElectroX jobber or write direct for complete information and your free copy of new Bulletin 1467.

### NEW ELECTROX BATTERY ELIMINATORS

Newly designed **ELECTROX MODEL AR-5** provides smooth, hum-free D.C. for servicing and demonstrating practically any type and size auto radio, either push button or manually tuned. Delivers 6 volts D.C., adjustable for any load current between 3 and 15 amperes, indicated by accurate 0-15 ampere D.C. ammeter and 0-8 volt D.C. Voltmeter. Handsome, compact steel case.



Model AR-4

**MODEL AR-4:** A practical, low-cost D.C. power supply constructed to same high standards as the Model AR-5 above, except D.C. output is not adjustable. Delivers smooth, hum-free 6-volts D.C. at approximately 15 amps.

Write for new Bulletin 1467

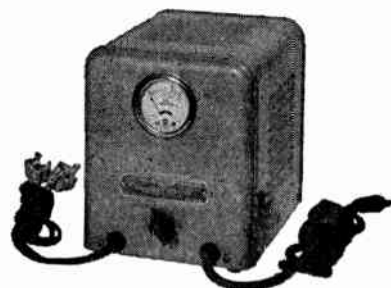


Model AR-5

### SCHAUER BATTERY CHARGERS

A complete line of battery chargers designed for safe recharging of single storage batteries. Four to 20 ampere capacities. Equipped with the exclusive Schauer "Charger-Guard" — an automatic corrector which acts instantly in case of an overload or short circuit. No manual resetting of the circuit breaker, and fuses are eliminated. Approved by Underwriters' Laboratories, Inc.

Write for Bulletin 2464



RECTIFIER DIVISION



## SCHAUER MANUFACTURING CORP.

4513 ALPINE AVENUE  
CINCINNATI 36, OHIO

# Mueller Electric Co.

CLEVELAND, OHIO

## MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,794,976; 1,965,151; 1,994,251; 1,999,613; 2,074,324; 2,136,814; 2,416,113.

For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity. Screw connections



### No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1 1/2" long. Jaw spread 3/8". Steel, cadmium plated.

EACH NET.....\$0.07      LOTS OF 10.....\$0.05

### No. 45-C



### No. 45-C Clip No. 47 Insulator

**Solid Copper R.F. Test Clip**  
Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1 1/2" long.

EACH NET.....\$0.11      LOTS OF 10.....\$0.08  
Use No. 47 Insulator for clips 45 and 45-C.



### No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 1/2". Steel, cadmium plated.

EACH NET.....\$0.08      LOTS OF 10.....\$0.055

No. 48C—Solid Copper. Same size as 48-B.  
EACH NET.....\$0.13      LOTS OF 10.....\$0.09



### No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2 1/4" long.  
EACH NET \$0.23      LOTS OF 10 \$0.16  
No. 51-C—Large crocodile clip. Same as 50-C but without needle.

EACH NET \$0.16      LOTS OF 10 \$0.11

Use No. 49 insulator for Clips 48-B, 48-C, 50-C and 51-C.



### No. 22 Twin-Clip

Jaws on both ends. Great time-saver in test work. Used to hold or rack articles for display or processing. 2" long. Steel cadmium plated.

EACH NET \$0.10      LOTS OF 10 \$0.07



### No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 1/8" long. Jaw spread 5/8". Steel, cadmium plated.

EACH NET.....\$0.11      LOTS OF 10.....\$0.08

No. 27-C—Solid copper. Same size as No. 27.

EACH NET.....\$0.19      LOTS OF 10.....\$0.13

Use No. 29 Insulator for clips 27 and 27-C.



### No. 24-A

A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2 3/8" long. Jaw spread 1". Steel, lead plated.

EACH NET.....\$0.15      LOTS OF 10......105

No. 24—Solid copper. Same size as No. 24-A.

EACH NET.....\$0.26      LOTS OF 10.....\$0.18

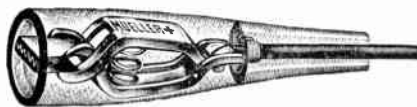
Use No. 26 Insulator for Clips 24-A and 24.

### LARGER SIZES OF CLIPS

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4" long.....	\$0.24	\$0.17
No. 21—100 Amp. Solid Copper, 4 1/2" long.....	.65	.46
No. 11A—100 Amp. Steel, lead plated, 6" long.....	.84	.59
No. 11—200 Amp. Solid copper, 6" long.....	1.28	.90
No. 33—300 Amp. Solid copper, 7 3/4" long.....	2.25	1.58

(Above furnished with lug connections.)

### FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

Radio's Master — 17th Edition

M-16

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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### CROCODILE CLIPS

U.S. Patent No. 1,999,613



### No. 85 or 85-C Clip with No. 87 Insulator

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 1/4" long.

EACH NET.....\$0.08      LOTS OF 10.....\$0.055

No. 85-C—Same as No. 85, except solid copper. A radio frequency, EARTH NET.....\$0.13      LOTS OF 10.....\$0.09

entirely non-ferrous test clip.

No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2 5/8" long.

EARTH NET.....\$0.18      LOTS OF 10.....\$0.13

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protects against short and shock. Helps to distinguish leads.



### No. 85-T Clip

### ALLIGATOR CLIPS

No. 60—CONVENTIONAL TYPE  
Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.

EARTH NET.....\$0.07      LOTS OF 10.....\$0.05



No. 60-S—SCREW CONNECTION  
Eliminates necessity for soldering. Otherwise same as No. 60.

EARTH NET \$0.08      LOTS OF 10 \$0.055



No. 60-CS—COPPER R.F. ALLIGATOR CLIP

Same as No. 60-S except made of solid copper. Has brass screw connection. Ideal for R.F. work. Will not heat up in H.F. circuits. Bright, natural copper finish. 2" long.

EARTH NET.....\$0.11      LOTS OF 10.....\$0.08



No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 1/4" long.

EARTH NET.....\$0.13      LOTS OF 10.....\$0.09



No. 60-CHS—COPPER ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-CS except equipped with red and black insulating sleeves on end. Brass screw connection, for R.F. work. 2 1/4" long.

EARTH NET.....\$0.15      LOTS OF 10.....\$0.10



### WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. Ideal for close-wound coils. 1 1/4" long; jaw spread 1/4".

EARTH NET.....\$0.18      LOTS OF 10.....\$0.13

Use No. 93-P R.F. Insulator.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11, 11-A	\$0.63	\$0.44
23	21, 21-A	.35	.25
26	24, 24-A	.25	.18
29	27, 27-C	.17	.12
35	33	1.63	1.14
47	45, 45-C	.09	.06
49	48-B, 48-C, 50-C, 51-C	.11	.075
87	85, 85-C, 85-T	.08	.055
93-P	88	.05	.035

# Mueller Electric Co.

## THE SNAPPER

A Long Insulated Test Clip and  
A "Triple Threat" Radio Tool



U. S. Patent No. 2,074,324

No. 99—7" Long Insulated

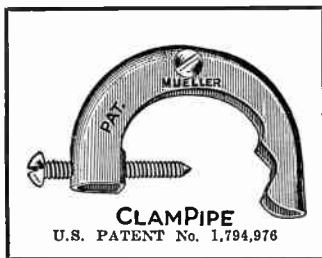
The long tube is of insulating material and is fitted with spring contact jaws on the far end.

The jaws are operated by a push of the thumb on the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end.

May be used as (1) A "Deep Sea" Electric Test Clip—test contacts with ease, deep in the recesses of radio chassis with no danger of short circuits; (2) An Electric Contact Prod—clip jaws may be used to make quick prod contacts, or clip one Snapper on ground circuit and prod with another; (3) A Retriever—start small screws and nuts or pick up odds and ends that may accidentally be dropped into inaccessible places.

PRICE...\$1.05 EACH Dealers' Wholesale Price, each...\$0.63 Net  
Snappers are generally used in pairs—1 red and 1 black.

## CLAMPIPE GROUND CLAMP



CLAMPIPE

U.S. PATENT No. 1,794,976

No. 58

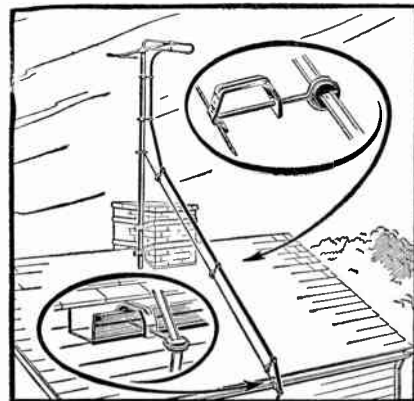
The best ground clamp value on the market. Applicable to pipe  $\frac{3}{8}$ " to  $1\frac{3}{8}$ " outside diameter.

Packed 10 in a box

EACH NET.....\$0.15 LOTS OF 10.....\$0.10

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.



### HAS THESE USEFUL FEATURES —

- One standard size solves many lead-in problems — far more useful than straps or wire bands.
- Brings lead-in to edge of roof — right where you want it — no more "draping" of wire across the roof.
- On those high jobs, come right down a guy-wire — and get around the gutter in the clear.

### LOW PRICES!

All packed 100 in a carton

No. 135 For all types of Flat Twin-Lead.  
No. 136 For Coax Cables up to  $\frac{1}{2}$ " O.D.  
EACH NET, \$0.13 LOTS OF 10, \$0.09  
LOTS OF 100, \$0.078

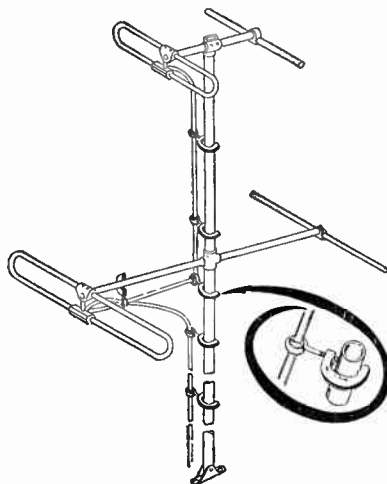
## THE "TENNA-CLAMPIPE"

(ClamPipe Trade-mark Reg. U. S. & Can. Pat. Off.)

A Standoff Insulator that clamps on Quickly—Easily—almost anywhere for Television and FM Antenna Lead-Ins.

Quickly and  
Permanently  
Supports  
Lead-Ins

- On antenna masts & cross-arms.
- On pipes, I-beams, etc., on basement ceilings.
- On any rigid object up to  $1\frac{3}{8}$ " in diameter or thickness.



**SIMPLY TURN THE  
SCREW-EYE BY  
HAND FOR A SOLID,  
PERMANENT GRIP.**

A great time-saver—the installation man's third hand.

Consists of an assembly of the famous Mueller ClamPipe Ground Clamp and a steel screw-eye with an insulating grommet. Holds lead-in wire from  $1\frac{1}{4}$ " to  $2\frac{1}{2}$ " away from clamp. Can be applied to any antenna mast, pipe or other object up to  $1\frac{3}{8}$ " in diameter or thickness.

All metal parts are completely weatherproofed.

Insulating grommet is molded of high quality plastic having superior dielectric and non-absorptive properties. Will withstand exposure to weather.

No. 130 for all types of Flat Twin-lead.

No. 131 for all Coax Cables up to  $\frac{1}{2}$ " O.D.

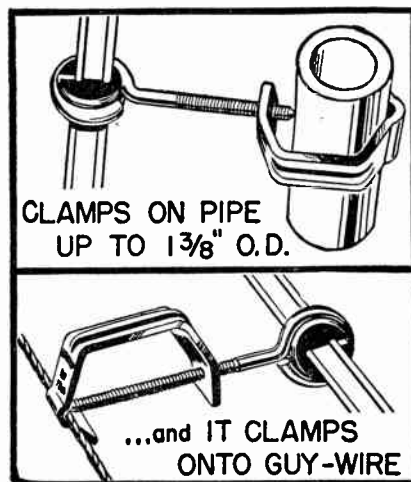
Packed 100 in a carton

EACH NET.....\$0.16 LOTS OF 10.....\$0.11  
LOTS OF 100.....\$0.098

## THE "TENNA-CLAMP"

A New 3-in-1 Stand-off Insulator Clamp!  
Supports TV and FM Lead-ins on  
MASTS, PIPES, GUTTERS AND GUY-WIRES

Has same general features and specifications as Tenna-ClampPipe described above except different type clamp channeled on end to take standard guy-wire in addition to pipes.



CLAMPS ON PIPE  
UP TO  $1\frac{3}{8}$ " O.D.

...and IT CLAMPS  
ONTO GUY-WIRE



# JAMES VIBRATORS

*AUTO REPLACEMENT  
COMMUNICATION — INDUSTRIAL*

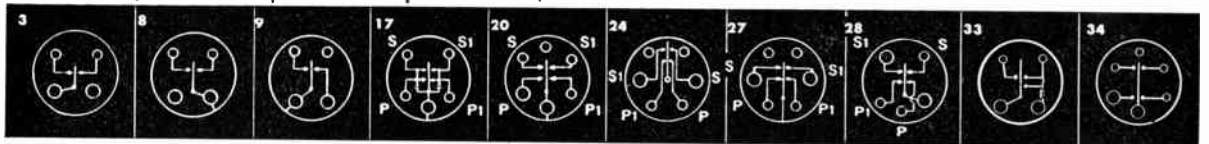
JAMES vibrators, the engineers standard, are designed for the more difficult applications. Featuring "Angle-Drive", ceramic spacers, dynamic contact wiping and other JAMES exclusive patented designs. These components are demanded by critical service engineers.

JAMES auto replacement vibrators are the complete line. Each model is custom designed for the application. Servicemen depend on JAMES for quiet performance, dependability and adequate capacity. Select the correct model for each auto replacement need. The following types are in general demand and will meet over 90% of service requirements. Ask your JAMES distributor for a complete replacement guide.

JAMES	TYPE	CAN	DIA.	DESCRIPTION	MALLORY	RADIART
J2S	Intr.	1½ x 3⅛	3	4 prong std. — Medium height	294	5300
J2SP	"	1½ x 2⅞	3	4 prong std. — Short height	859	5301
J2SF	"	1½ x 2⅞	3	4 prong std. — Philco	509P	5326
J2SM	"	1½ x 2⅞	3	4 prong std. — Motorola	903M	5342
J8S	"	1½ x 3⅛	8	4 prong std. — special wiring	854	5331
J9	"	1½ x 3⅛	9	Delco base, large can	852	5303
J9SA	"	1½ x 2⅞	9	Delco base, small can	870	5335
J21	"	1 <sup>5</sup> / <sub>16</sub> x 2⅞	3	4 prong std. small can, Ford	1100	5314
J54	Syn.	1¾ x 4½	17	Large can, Pontiac	273C	5425
J66	"	1 <sup>11</sup> / <sub>8</sub> x 3½	28	Large can, with handle, Buick	716	5426

JAMES communications vibrators are designed for direct replacement in all types of mobile communications equipment. Instant starting, dependable performance and long life are engineered into these components. Insist on JAMES for mobile service where vibrators must not fail.

JAMES	TYPE	CAN	DIA.	DESCRIPTION
J22	Intr.	1½ x 3⅛	3	8 contact, heavy duty, Motorola, Link receiver service.
J23	"	1½ x 2⅞	33	Heavy duty for transmitter service, Motorola, Link.
J24	"	1½ x 2⅞	34	6 prong, 8 contact, Motorola Unichannel, Bendix.
J58	Syn.	1½ x 3⅛	20	6 prong, Karr.
J63	"	1½ x 3⅛	24	Reversible, Link, RCA.
J65M	"	1½ x 3⅛	27	Reversible, Motorola.
J73	"	1½ x 3⅛	24	General Electric.

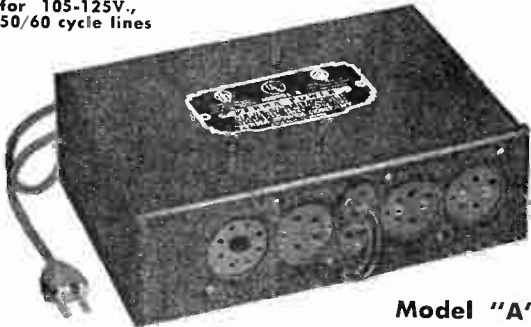


## *QUIET — DEPENDABLE — LONG LIFE*

# Perma-Power®

## Battery Eliminators

for 105-125V.,  
50/60 cycle lines



Model "A"

For 1½ volt radios with 4, 5 or 6 tubes. Designed to give nearly constant power from varying line voltages. Maintains rated output under varying tube loads. Universal sockets for all battery plugs. Fits in back of battery radios as well as battery compartments of most portables.

Provides: "A" 1.45 Volts D.C. at 200 to 350 M.A.  
"B" 90 Volts D.C. at 13 M.A. List Price **\$16<sup>75</sup>**  
2½" x 4½" x 6¾" — 4 lbs.

Model "B"  
Battery  
Eliminator



For 6-volt radios. Designed with separate outputs for the vibrator and the filaments eliminating vibrator disturbance assuring high fidelity radio performance. Often used as a trickle battery charger.

Provides: Two isolated sources of 6 Volts D.C. at 1½ amps, or when connected in parallel—3 amps. Price **\$19<sup>95</sup>**  
3½" x 6½" x 5½" — 7 lbs.



Model "E"  
Battery  
Eliminator

For 2 volt radios with 4 to 8 tubes. Designed to supply "A" and "B" power under varying line voltages and loads. Provides hum-free operation without distortion or "motor boating". Fits in back of battery radios as well as battery compartments of most portables.

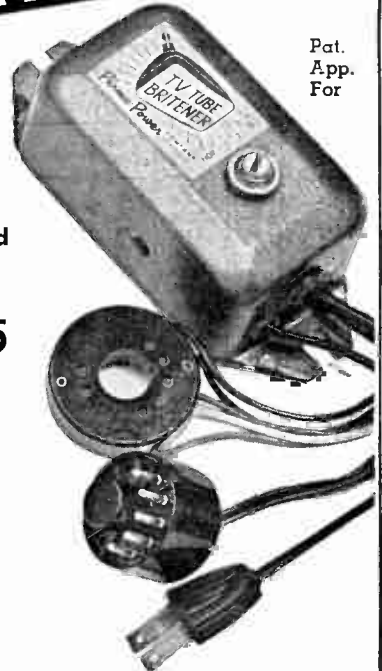
Provides: "A" 2 Volts D.C. at 750 M.A.  
"B" 135 Volts D.C. at 25 M.A. tapped at 112 v, 90 v and 67 v.

2¼" x 4⅞" x 6-13/16" — 4 lbs. List Price **\$18<sup>75</sup>**

UL APPROVED WITH 3 YEAR GUARANTEE!

## TV TUBE BRITENER

Pat.  
App.  
For



Suggested  
List Price

**\$9<sup>75</sup>**

subject to  
liberal  
trade  
discounts

SHIPPED  
PREPAID



\* Over 10,000,000 television sets were purchased prior to 1951. Each of these has a picture tube which is getting dimmer . . . 10,000,000 set owners need the "TV TUBE BRITENER."

- Prolongs tube brilliance; fully automatic.
- Isolates filament; relieves cathode-filament shorts.
- Eliminates nuisance calls.
- Works on all sets and all makes of sets with only one model.
- Permanently plugged in into television set without wiring or soldering.
- Less than 3 minutes to install.
- Made to sell; packaged to sell.
- Producing sales everywhere.
- Standard R.M.A. warranty.

"TV TUBE BRITENER" was designed by engineers to produce sales for television servicemen.

Adds brilliance to any picture tube; extends useful life of tube for year or more; adaptable for all tubes with duodecal base.

Write for complete, illustrated literature.  
SOLD through recognized wholesalers ONLY.

ORDER TODAY!

Perma-Power CO. 4721 NORTH DAMEN AVENUE • CHICAGO 25

# VIBRATORS AND VIBRAPACK® POWER SUPPLIES

P. R. MALLORY & CO. INC.  
**MALLORY**

P. R. MALLORY & CO., INC. · INDIANAPOLIS



## Vibrators

Mallory Vibrators are engineered to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Extra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.

Cat. No.	Volt	Type	Base Dia.	Size	List Price
222	6	Syn.	20	4 7/8 x 1 3/16 x 1 7/8	\$9.15
*245	6	Syn.	21	1 1/2 x 3 3/4	7.70
*245A	6	Syn.	21	1 1/8 x 3 1/2	7.70
245C	6	Syn.	28	1 1/2 x 3 3/4	7.70
*246	6	Syn.	38	1 1/2 x 3 3/4	7.70
247	6	Syn.	46	1 1/2 x 3 3/4	7.70
*248	6	Syn.	44	1 1/2 x 3 3/4	7.70
G248	12	Syn.	44	1 1/2 x 3 3/4	8.55
*249	6	Syn.	32	1 1/2 x 3 3/4	7.70
270B	6	Syn.	23	2 x 4 1/2	9.15
271HD	6	Syn.	24	2 x 4 1/2	9.15
273C	6	Syn.	29	2 x 4 1/2	9.15
273D	6	Syn.	31	2 x 4 1/2	9.15
292	6	Int.	3	1 1/2 x 2 7/16 x 1 3/8	6.35
294	6	Int.	8	1 1/2 x 3 3/4	4.90
*F294	32	Int.	8	1 1/2 x 3 3/4	7.15
298	6	Int.	51	1 1/2 x 2 7/8	6.35
505P	6	Int.	8	1 1/8 x 2 3/4	4.90
506P	6	Int.	36	1 1/8 x 3 1/2	6.35
509P	6	Int.	8	1 1/2 x 2 7/8	4.15
716	6	Syn.	30	1 1/8 x 3 3/4	7.70
*G725C*	6	Syn.	32	1 1/2 x 3 3/4	8.55
*G725C*	12	Syn.	32	1 1/2 x 3 3/4	9.95
742	6	Syn.	32	1 1/2 x 2 7/8	7.70
743	6	Syn.	38	1 1/4 x 3 3/4	7.70
748	6	Syn.	44	1 1/2 x 2 7/8	7.70
*G749C*	12	Syn.	21	1 1/2 x 3 3/4	9.95
W759	4	Syn.	21	1 1/2 x 2 7/8	8.25
*825C*	6	Int.	8	1 1/2 x 3 3/4	6.90
*826C*	6	Int.	8	1 1/2 x 3 3/4	6.35
*F826C*	32	Int.	8	1 1/2 x 3 3/4	7.70
*G826C*	12	Int.	8	1 1/2 x 3 3/4	7.70
839	6	Int.	8	1 1/2 x 3 3/4	6.35
854	6	Int.	11	1 1/2 x 3 3/4	4.90
*859	6	Int.	8	1 1/2 x 2 7/8	4.90
W859	4	Int.	8	1 1/2 x 2 7/8	5.50
860	6	Int.	14	1 1/2 x 3 3/4	4.90
870	6	Int.	14	1 1/2 x 2 7/8	4.90
903M	6	Int.	8	1 1/2 x 2 7/8	4.15
953W	6	Syn.	16	1 1/2 x 3 3/16	7.70
954	6	Syn.	39	1 1/2 x 3	7.70
*1100	6	Int.	8	1 1/8 x 2 3/8	4.90
*1501	6	Int.	53	1 1/2 x 2 7/8	6.35
*G1501	12	Int.	53	1 1/2 x 2 7/8	6.90
1502	6	Int.	54	1 1/2 x 2 7/8	6.90
T4002	2	Syn.	52	1 1/2 x 2 1/8 x 1 1/2	10.70
T4003	2	Syn.	50	1 1/8 x 2 1/8	9.80
GC7†		Ground Cup			.45
AR-1		Adapter			1.50
*SK-1		Socket Kit			1.25

Int.—Interrupter

Syn.—Synchronous

\* Use only these types in design of new equipment. Other types are for replacement purposes only.

\* Hermetically Sealed Construction.

† A grounding cup for 1 1/2" diameter vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.

■ Five special sockets for Practical Vibrator Tester. Supplied as complete kit only.

## Vibrapacks



VP-540



VP-555H  
VP-557



VP-552  
VP-G556

Mallory Vibrapacks are the ideal vibrator power supplies designed to provide at low cost, dependable, high-voltage, direct current from low-voltage, storage batteries. Mallory Vibrapacks offer high efficiency, dependability, low maintenance cost and long life because of years of field testing. Added features are; light weight, compactness and simplicity of installation.

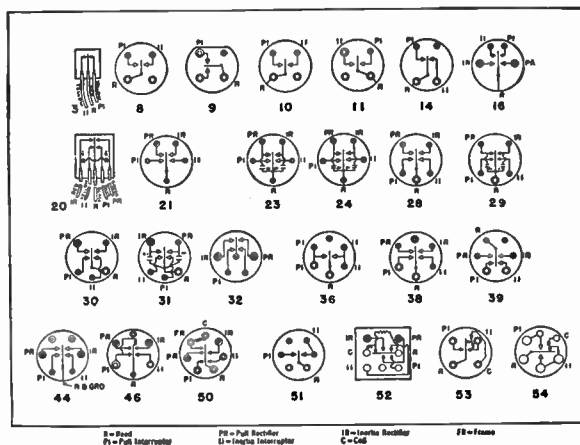
Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type	List Price
VP-540*	6.3	250	60 ma.	Self-Rectifying	\$33.00
VP-551	6.3	125-150 175-200	100 ma.	Self-Rectifying	24.20
VP-552†	6.3	225-250 275-300	100 ma.	Self-Rectifying	28.90
VP-553	6.3	125-150 175-200	100 ma.	Tube Rectifier	26.95
VP-554H†	6.3	225-250 275-300	100 ma.	Tube Rectifier	31.65
VP-555H†	6.3	300	200 ma.	Tube Rectifier	57.20
VP-557†	6.3	400	150 ma.	Tube Rectifier	57.20
VP-G556	12.6	225-250 275-300	100 ma.	Self-Rectifying	31.65
VP-F558	32.	225-250 275-300	100 ma.	Tube Rectifier	34.40

\* Includes complete audio filter.

† Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential. Reduces maximum output watts ratings to 75% of listed values.

● Use the Mallory 6VT1 Vibrator Checker for direct readings on "good-bad" conditions of doubtful vibrators. For complete description and illustration of the 6VT1 see page 3, Mallory Rectifier and Power Supply section, this catalog.

## Vibrator Base Diagrams



8=Shield P1=Full Interrupter P2=Leads Rectifier P3=Leads Interrupter C=Cup F8=Frame

# RECTIFIER STACKS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



## Selenium Rectifier Stacks



Mallory Selenium stacks are conservatively rated to provide long dependable service and good voltage regulation at high efficiency. Rectification is immediate—no warm-up period is required. 5-volt average drop across stack results in cooler operation.

## Chart of Replacement

### Magnesium-Copper Sulfide Rectifier Stacks

Catalog Number	Maximum DC Output (MA)	Size	List Price
8S20	20 ma.	1/2 x 1/2 x 1 1/16	\$1.15
6S65	65 ma.	1 x 1 x 1 1/16	1.20
6S75	75 ma.	1 x 1 x 5/16	1.45
6S100	100 ma.	1 1/4 x 1 1/4 x 5/16	1.75
6S100A	100 ma.	1 x 1 x 1	1.75
6S150	150 ma.	1 1/4 x 1 1/4 x 1 1/16	2.10
6S200	200 ma.	1.6 x 1.6 x 1	2.50
6S250	250 ma.	1.6 x 1.6 x 1 1/16	2.80
6S300	300 ma.	1.6 x 1.6 x 1 27/32	2.80
6S350	350 ma.	2 x 2 x 1 1/16	3.10
6S450	450 ma.	2 x 2 x 1 27/32	3.40

New Catalog Number	List Price	Maximum AC Volts (Normal Line)		Approx. DC Volts			Max. DC† Amperes		Approximate Overall Dimensions in Inches			Replacement for Old Catalog Number	Replacement in Equipment
		No Load	Full Load	Inductive Load	Resistive Load	Capacitive-Battery Load	Continuous Duty‡	Intermittent Duty	Length	Width	Height		
IB4R	\$2.40	3.6	3.2	1.5	1.7	2.5	1.5	5.0	1	5/16	3/8		G.T.C. Porta-Power Electro Battery Eliminator
IB8R	2.85	7.2	6.4	3.1	3.4	5.1	1.5	5.0	1 3/8	5/16	3/8		G.T.C. Porta-Power Electro Battery Eliminator
IB12R	3.25	10.8	9.7	4.8	5.2	7.8	1.3	5.0	1 3/4	5/16	3/8		All Power Supplies for Electric Fence
IB12L5	5.85	10.8	9.7	4.5	5.0	7.6	4.5	15.0	2 1/2	2 1/8	2 5/8		6AC4-2
IB12C1J	6.55	10.8	9.8	4.6	5.1	7.7	3.2	24	2 3/4	1 1/4	1 1/8	12C1, F12C1, IF12C1B, 12C1F, F12C1K, IB12C1, IB12C1M, X12, X112, U12	4-2 Amp. Boosters Mallory E, 3C, 6AC4
IB12C3	6.80	10.8	9.7	4.5	5.0	7.6	4.5	24	2 3/4	1 3/4	2 1/8		Mallory 6-AC-6-2
IB12C5	7.40	10.8	9.7	4.5	5.0	7.6	5.3	24.0	3	2 1/8	2 3/8		6AC6-3
F16C3	8.85	14.4	13.0	6.1	6.8	10.2	3.9	24	3	1 3/4	2 1/8	16C3, F16CB3, 16CB3, 16C3B*, XB16*, M16*, X16, X116, ME16	5-3 Amp. Old Chargers Mallory 5535, 250, 320, 310
IF16CB7M	10.20	14.4	12.8	5.9	6.6	9.9	6.0	24	3	2 1/2	3 3/16		6-3 Amp. Charger, Mallory 5535A
IS16CB7	10.20	14.4	12.8	5.9	6.6	9.9	6.0	24	3 3/4	2 1/2	3	IS16CB7M	6-3 Amp. Charger Mallory 5535B, 6AC6
IS16B7	11.25	14.4	12.8	5.8	6.5	9.8	8.3	24	5 1/2	2 1/2	3	IS16B7M, IB16B7	10-7 Amp. Charger, Mallory 107, 6-AC-10-2
IS16B9	12.80	14.4	12.7	5.7	6.4	9.7	11.6	24	5 1/2	3 1/2	4 1/4		10-7 Amp. Charger, Mallory 6AC10
F20C7	12.75	18.0	16.2	7.6	8.4	12.6	4.8	24	4 3/8	2 1/2	3 3/16	F20C7P	A.T.R. Battery Eliminators, etc.
IS24C7J	12.60	21.6	19.4	9.0	10.1	15.1	4.0	24	4 3/4	2 1/2	3 3/16	IB24C7, F24C3, F24C3P, F24C7P, F24C7, FCX24D7, 201C1, R24LR, R24LS	Mallory 12-AC-5-2, Stancor Eliminators, Univerter, Pin Game Supplies, etc.
IS24B9	17.95	21.6	19.1	8.5	9.6	14.4	11.0	24	7 1/2	3 1/2	4 1/4		Stancor Battery Eliminators, etc.
IS28C7J	15.30	25.2	22.7	10.7	11.7	17.8	4.3	24	6	2 1/2	3	F28C7, F28C7P, 228C1, 267C1, R28LS	5-3 Amp. 12-volt Chargers, Mallory 125, 12AC5
F16HIP	7.05	14.4	13.1	6.3	7.0	10.4	2.2	24	2 1/4	1 1/4	2	16A1, F16G1, F16G1P, F16HI, W16A1, 211C1, R16S	Electopak, Rectopak, Univerter, etc.
F20HIP	8.65	18.0	16.4	7.9	8.7	13.0	2.0	24	2 3/4	1 1/4	2	20A1, F20G1, F20G1P, F20H1, W20A1, 212C1, R20S, X20	Electopak, Rectopak, Univerter, etc.
F24HIP	10.30	21.6	19.7	9.6	10.4	15.7	1.9	24	3	1 1/4	2	F24G1, F24G1P, F24H1, W24A1, 203C1, R24S	Electopak, Rectopak, Univerter, etc.
F28HIP	11.90	25.2	23.0	11.2	12.2	18.4	1.7	24	3 1/4	1 1/4	2	F28G1, F28G1P, F28H1, F28HIP, W28A1, F28H1MP, 210C1, R28S	Electopak, Rectopak, Univerter, etc.
F32HIP	13.55	28.8	26.2	12.8	14.0	21.0	1.6	24	3 3/4	1 1/4	2	F32G1, F32G1P, F32H1, F32HIP	Electopak, Rectopak, Univerter, etc.

NOTE: All rectifiers are single phase, full wave, bridge type. Mounting Prefix: IB=Insulated Bolt; F=Grounded Foot; IF=Insulated Foot; IS=Insulated Stud. P suffix designates reverse polarity stacking. Center terminal is DC positive. J suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.

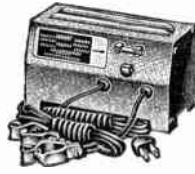
† To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1; resistive load by 1.2; capacitive load by 1.4. \* Use base from old rectifier. ‡ Ratings given are for resistive and inductive loads. To determine the Max. continuous DC amp. rating for capacitive and battery loads multiply these ratings by 0.82.

Mallory Page 2



**Rectifier Battery Chargers—Power Supplies**

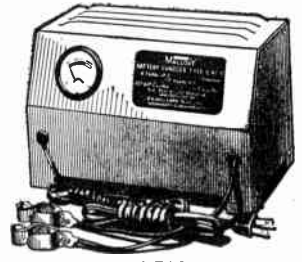
Mallory Automotive, Marine and Aviation Battery Chargers provide convenient, efficient and economical charging of any storage battery used in automobiles, buses, trucks, tractors, taxicabs, small boats, airplanes and on the farm. Taper charging (an automatically decreasing charging rate) is designed into all Mallory chargers to prevent damage to battery plates and to insure maximum battery life. These chargers also are ideal for charging any 6 or 12-volt storage battery used in industrial, engineering and research laboratories.



6AC4



6AC6

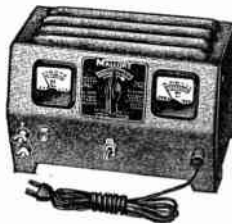


6AC10  
12AC5

Mallory Charger Catalog Number	Nominal Battery DC Volts	Maximum Charging Rate DC Amps.	Tapered Rate DC Amps.	Approx. 10 Hr. Charge in Amp. Hrs.	Charging Indicator	Approx. Overall Dimensions in Inches			Approx. Shipping Weight in Pounds	List Price
						Height	Width	Depth		
6AC4	6	4	2	30	No	4 <sup>7</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>4</sub>	\$16.95
6AC6	6	6	4	50	Light Bulb	4 <sup>7</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	7	22.95
6AC10	6	10	7	85	Meter	6	8	4 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	34.95
12AC5	12	5	3	40	Meter	6	8	4 <sup>1</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	37.95

**Mallory 12RS6D Bench Power Supply**

The Mallory 12RS6D is a dual purpose bench power supply designed for use on the radio service bench for operating conventional 6 and 12 volt automobile and truck radio sets. Fully AC-operated from the 115V/60 cycle line, the 12RS6D supplies rectified and filtered DC in either of 2 ranges. Range "A" supplies 0 to 16 volts at 6 amperes continuously, or 12 amperes intermittently. Range "B" supplies 0 to 8 volts at 10 amperes; or 20 amperes intermittently. Both ranges are infinitely variable from zero to maximum output to permit precise adjustment of bench test voltages. The 12RS6D is equipped with a DC voltmeter, a DC ammeter, infinitely variable voltage control, a range switch, an on-off toggle switch, automatic overload protection, primary fuse and rubber-covered line cord and plug. The rectifying system employs a full-wave metallic rectifier. The cabinet is sheet steel finished in blue enamel and measures 6<sup>3</sup>/<sub>4</sub>" high, 10<sup>3</sup>/<sub>4</sub>" wide and 5<sup>1</sup>/<sub>2</sub>" deep.

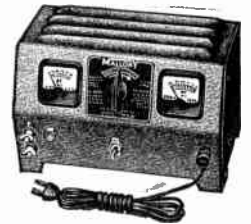


\$39.95 Net

Catalog No. 12RS6D

**Mallory 6RS10 Bench Power Supply**

The Mallory 6RS10 6 volt power supply has been designed as a convenient source of DC current wherever 115 volt AC current is available. It is particularly suited for testing of automobile radio sets and has ample power to operate those with electrical tuning mechanisms. DC voltage is continuously variable from 0 to 8 volts. The unit may be safely operated continuously at 10 amperes and intermittently at 20 amperes. A 10,000 mfd. capacitor is employed as an efficient filter. Full-wave rectification is obtained from a conservatively rated Mallory Magnesium-Copper Sulfide Rectifier Stack.



The power supply is fully equipped with a 0-20 ampere DC ammeter, a 0-10 volt DC voltmeter, a self resetting circuit breaker in the DC line, a switch and fuse in the AC line, and a six foot AC cord. Overall dimensions: 6<sup>3</sup>/<sub>4</sub>" wide, and 5<sup>1</sup>/<sub>2</sub>" deep. Shipping weight approx. 13 lbs. Catalog No. 6RS10 \$36.75 Net

**6RS10 Construction Kit**

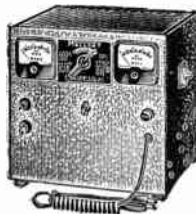
The 6RS10 Bench Power Supply, described above, is also available in kit form for experimenters, students and others. All parts are supplied including a punched and painted metal cabinet, a variable transformer, 10,000 mfd. filter capacitor, full-wave metallic rectifier, 0-10 DC voltmeter, 0-20 DC ammeter, circuit breaker, binding posts, fuse clip, knobs, AC line cord and plug, AC toggle switch, hardware and instructions. Solder is not included.

Catalog No. 6RS10K

\$26.95 Net

**Mallory 6RS25 Heavy Duty Six Volt DC Power Supply**

The Mallory 6RS25 6 volt, 25 ampere rectifier type power supply is designed to replace storage battery-charger combinations for bench testing medium power 2-way mobile-phone equipment. It may also be utilized for non-radio uses requiring well-filtered low voltage DC in the 25 ampere range. Heavy sheet-steel housing makes it adaptable for use in garages as mobile radio bench equipment.



The 6RS25 operates from a standard 115 volt 60 cycle source to supply DC voltage from 0 to 8 volts at continuous or variable loads of 0 to 25 amperes. Intermittently, it will supply a maximum of 40 amperes at 6 volts.

An adjustable variable control allows quick selection of any voltage from 0 to 8 at 0 to 25 amperes. Three capacitors totaling 30,000 mfd. filter the output to less than 1 volt ripple and suppress RF and power line interference. A 0-10 volt DC voltmeter and a 0-40 ampere DC ammeter are included.

Conduction cooling of the full-wave Selenium Rectifier Cells, automatic overloading protection, and a self resetting circuit breaker insure long life.

Overall dimensions—11" high, 10<sup>3</sup>/<sub>4</sub>" wide, 8<sup>3</sup>/<sub>4</sub>" deep. Shipping weight—26 lbs. Catalog No. 6RS25 \$74.50 Net

**Mallory Vibrator Checker**

The Mallory 6VT1 vibrator checker has been designed as a companion unit to the famous Mallory 6RS10 rectifier power supply to test directly, without adapters, most of the popular vibrators and all of the 6 volt passenger car radio vibrators used since 1940. Either 6X5 or 0Z4 rectifier tubes may be plugged into the front panel, thus permitting interrupter vibrators to be tested in conjunction with the rectifier tube with which they normally work in the equipment. Defective vibrators or rectifiers can readily be determined by the substitution method. Self rectifying vibrators are tested by removing the rectifier tube. Either shunt or separate drive vibrators can be tested of any frequency from 100 to 250 cycles. The condition of the vibrator being tested may be read directly from the "good-bad" meter scale. Catalog No. 6VT1 \$29.50 Net



# POWER SUPPLIES AND FAST CHARGERS

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P. R. MALLORY & CO. INC.  
**MALLORY**

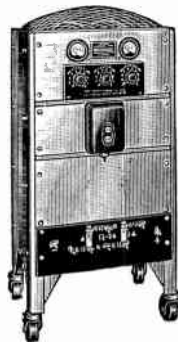
## Mallory VA Series Rectopower® Rectifier DC Power Supplies

Seven models are contained in the line of general utility filtered rectifier DC power supplies for designing, building, testing and repairing electrical and electronic equipment for the automotive, aviation and military equipment industries. The models may also be used for battery charging and electrolytic processes such as plating, anodizing, electrocleaning and electropolishing. These units incorporate voltmeter, ammeter, isolating-type transformer and many other features which make them desirable for production or laboratory use.

The four independent filtered output circuits may be paralleled, series-paralleled, seriesed, used independently or connected in several different combinations to provide simultaneous outputs as required. Delivery information and more detailed specifications on special Rectostarters® for aircraft engine starting and industrial electric truck battery charging, may be had by writing to P. R. Mallory & Co., Inc., Box 1558, Indianapolis, Ind.



VA200  
VA400



VA1500 }  
VA3000 }  
VA4500 }  
VA6000 }



VA800

MODEL	VA200	VA400	VA800	VA1500	VA3000	VA4500	VA6000
<b>AC Input</b>							
Volts ± 10% .....	115	115	208-230	208-230 or 460	208-230 or 460	208-230 or 460	208-230 or 460
Phase .....	1	1	1	3	3	3	3
Cycles .....	60	60	60	60	60	60	60
Kva .....	.6	1.2	2.4	3.0	6.0	9.0	12.0
<b>DC Output Rating</b>							
Max. Amperes at nominal .....	Amps. 25	Amps. 50	Amps. 100	Amps. 200	Amps. 400	Amps. 600	Amps. 800
Volts of different 6 volts .....	12½	25	50	100	200	300	400
circuit combinations 12 .....	6½	12½	25	50	100	150	200
24 .....							
<b>DC Output Ripple—at Rated Output ..</b>	3%	5%	3%	2%	2%	2%	2½%
<b>Overall Dimensions—</b>							
Width .....	22	22	16½	25½	25½	25½	25½
Depth .....	8	8	15½	19	19	19	19
Height .....	13½	13½	25	55	55	55	55
<b>Weight—Net .....</b>	70	90	175	300	370	415	480
Shipping .....	95	115	225	415	485	530	600
<b>Net Price .....</b>	<b>\$255.00</b>	<b>\$325.00</b>	<b>\$510.00</b>	<b>\$740.00</b>	<b>\$900.00</b>	<b>\$995.00</b>	<b>\$1100.00</b>

## Mallory Six and Twelve Volt Fast Chargers — Unfiltered DC Power Supplies



6AC75

Mallory Fast Chargers, designed in extremely compact form, provide the advantages of portability with high-charging currents. Light weight, small size, perfect balance and a convenient carrying-handle make them ideal for one man to transport directly to the job for most efficient operation. Suitable for use wherever a reliable source of 6 volt, high amperage power is required, such as: garages, filling stations, parking lots, electrical service shops, schools and testing laboratories. The portability of these units provides many advantages over the conventional stationary or semi-fixed type supply.

Despite their small overall size, these Mallory Fast Chargers are ruggedly constructed with full-size components. Heavy duty, metallic rectifiers, connected in full-wave circuits, are cooled automatically by means of built-in, electrically-operated fans, assuring long life and effective service under the most severe conditions. Strong sheet-metal cabinets offer adequate protection against accidental damage. A tough, white enamel finish not only adds to the appearance of these units but also protects the metal cabinet from rust and corrosion.

Operating refinements found in Mallory Fast Chargers, usually omitted in conventional fast chargers, permit both fast or slow charging rates by the throwing of a panel switch. Three rates of fast charge and three rates of slow charge may be selected by means of a positive acting, rotary panel switch. A panel-con-

trolled, synchronous motor, timer mechanism with a range of from 1 through 57 minutes in increments of 1 minute is a standard part of these units. When pre-set, this timer automatically disconnects the charger from the 115V/60 cycle line at a predetermined time up to a maximum of 57 minutes. A switch is included to disconnect the timer motor for continuous operation when using the charger as a power supply.

All Mallory Fast Chargers are equipped with: easy-to-read 2¼" ammeters to indicate charging rates; abrasion-resistant, rubber-covered, 6-foot, AC-line cords; and heavy-duty, 2-conductor, 12-foot, rubber-covered cables to which large copper battery clamps are attached. Each charger is equipped with racks to accommodate the power cables when not in use. Cabinet dimensions are: 7¼" x 6½" x 15". AC input is 115V/60 cycles, single phase, for both models.

Model 6AC75 is rated at 75 amperes with a minimum DC voltage of 6 when used as a fast charger on a 3-cell battery. An output of 60 amperes at the same voltage may be obtained when using this model as an unfiltered power supply.

Catalog No. 6AC75 **\$109.50 Net**

Model 12AC60D has a dual range output selected by means of a panel switch. Range A: 6 volts DC at 90 amperes when employed for battery fast charging and 65 amperes at 6 volts when employed as an unfiltered power supply. Range B: 12 volts DC at 60 amperes for battery fast charging and 45 amperes at 12 volts when employed as an unfiltered power supply.

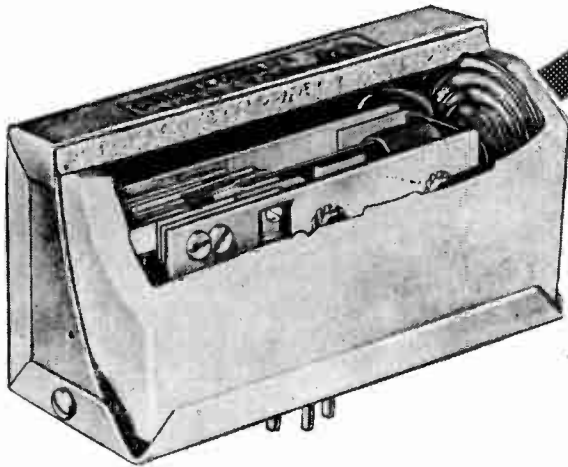
Catalog No. 12AC60D **\$149.50 Net**

# CORNELL



# DUBILIER

CAPACITORS — ROTATORS — VIBRATORS — AUTO ANTENNAS — TV ANTENNAS — POWER SUPPLIES



## C - D Heavy Duty REPLACEMENT VIBRATORS

Catalog No.	Voltage	Frequency in Cycles	Dimensions			List Price	C-D "POWERCON" - REPLACEMENT VIBRATORS	
			L.	W.	H.		For Model No.	Use Vibrator No.
6VB6	6	60	5 9/16	x 2 3/8	x 2 9/16	\$12.25		
110VB6	110	60	5 9/16	x 2 3/8	x 2 9/16	12.25		
330**	12	60	5 9/16	x 2 3/8	x 2 9/16	12.25		
390**	12	60	5 9/16	x 2 3/8	x 2 9/16	17.10	6R5	3103
425**	6	90	4 1/4	x 2 3/8	Diam.	12.25		
426**	6	60	5 9/16	x 2 3/8	x 2 9/16	12.25	6R10	4123
427	6	60	4 1/4	x 2 3/8	Diam.	12.25		
431	6	60	5 9/16	x 2 3/8	x 2 9/16	12.25	12R8	3087
490	6	60	5 9/16	x 2 3/8	x 3 3/8	17.10		
491	6	60	5 9/16	x 2 3/8	x 2 9/16	17.10	12RU15	3047
1057**	6	120	5 9/16	x 2 3/8	x 2 9/16	12.25		
1083**	110	60	5 9/16	x 2 3/8	x 3 3/8	17.10		
1315	110	60	5 9/16	x 2 3/8	x 2 9/16	12.25	32R8	2989
1315H	110	60	5 9/16	x 2 3/8	x 2 9/16	14.10		
1339**	110	60	2 3/8	x 5 1/8	x 3 3/8	17.10	32RU15	2989
1506	32	60	5 9/16	x 2 3/8	x 3 3/8	17.10		
1640***	110	60	5 9/16	x 2 3/8	x 2 9/16	14.55	110PA5	2522
1684**	6	120	5 9/16	x 2 3/8	x 2 9/16	21.35		
1823**	6	180	3 1/8	x 1 1/2	Diam.	9.70		
2117	12	100	5 9/16	x 2 3/8	x 3 3/8	21.35	110PB5	2522
2507	45*	60	2 7/8	x 1 1/2	Diam.	8.65		
2522	45*	60	2 7/8	x 1 1/2	Diam.	8.65		
2639	6	60	5 9/16	x 2 3/8	x 3 3/8	17.10	110R10	1315
2641	24	60	5 9/16	x 2 3/8	x 2 9/16	15.35	110R15	1315
2989	32	60	5 9/16	x 2 3/8	x 2 9/16	12.25		
3047	12	60	5 9/16	x 2 3/8	x 3 3/8	17.10	110RT15	1315H
3077*	110	60	5 9/16	x 2 3/8	x 2 9/16	14.55		
3077V	Use 1315H							
3079	110	60	5 9/16	x 2 3/8	x 3 3/8	19.40	110RT25	1315H
3087	12	60	5 9/16	x 2 3/8	x 2 9/16	12.25		
3103	6	60	5 9/16	x 2 3/8	x 2 9/16	12.25	110RT35	3079
3217**	32	90	2 3/8	x 5 1/8	x 2 9/16	15.35		
4123	6	60	5 9/16	x 2 3/8	x 3 3/8	17.10		
11028	110	60	5 9/16	x 2 3/8	x 2 9/16	12.25	110WR15A	1315
11030**	110	60	5 9/16	x 2 3/8	x 2 9/16	15.35		
11032**	115	60	2 3/8	x 5 1/8	x 3 3/8	21.35	110WR15B	1315
32171	32	60	5 9/16	x 2 3/8	x 2 9/16	12.25		

\*For operation on 115 volts DC, connect a 2200 ohm resistor in series with the coil.

\*\*Available only on Special Order.

\*\*\*Denotes adjustable frequency vibrator. Use 1000 ohm variable resistor in coil circuit.

•Refer to C-D Catalogs No. 410 & VB for detailed applications and specifications.

### RAILROAD Converter VIBRATORS

Catalog No.	Voltage	Frequency in Cycles	Dimensions			Net Price	Use in C-D Railroad Converter Model No.
			L.	W.	H.		
12VG6H	12	60	5	x 2	x 3 3/8	\$9.00	3212A
32VF6H	32	60	5	x 2	x 3 3/8	9.00	3232 and 3248
64VF6H	64	60	5	x 2	x 3 3/8	9.00	3264
64VG6H	64	60	5	x 2	x 3 3/8	9.00	3128
110VF6H	110	60	5	x 2	x 3 3/8	9.00	3210

WARNING: Always check the Buffer Capacitors before installing a new vibrator: Failure to do so will void the guarantee. Always use C-D Buffer Capacitors for replacement.

Prices Subject to Change Without Notice.

# CORNELL

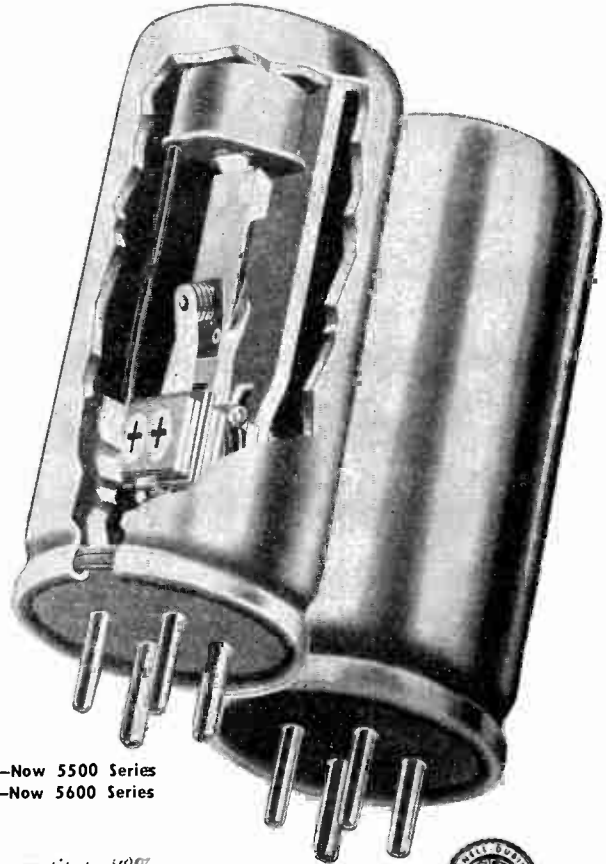


# DUBILIER

## \* CORNELL-DUBILIER AUTO RADIO VIBRATORS

### FEATURES

- C-D designed electronic micrometric equipment removes guesswork in contact point setting and assures consistent high quality.
- Exclusive C-D pole piece design and armature weight results in a perfectly-balanced unit with greater efficiency.
- Exclusive C-D base mounting results in a full floating unit. That's why C-D vibrators last longer.
- Unit completely enclosed in new floating sock—an exclusive with C-D vibrators. Eliminates usual difficulties found in other vibrators.
- New stack design will take peak voltages of even 4,200 volts with no damage to vibrator.



NOTE: ALL CORNELL DUBILIER VIBRATORS HAVE NEW TYPE NUMBERS AS FOLLOWS:

Former C 00 Series—Now 5300 Series      Former CS 00 Series—Now 5500 Series  
Former D 00 Series—Now 5400 Series      Former DS 00 Series—Now 5600 Series  
EX.—DS04 is now 5604, etc.

Mr. Serviceman: Always have these types on hand. They constitute 88% of all your demand in the ratio shown.

5300 .....	22%	5323P .....	4%	5400 .....	3%
5301 .....	5%	5326P .....	11%	5425 .....	3%
5303 .....	5%	5335 .....	9%	5426 .....	7%
5314 .....	4%	5342 .....	10%	5406 .....	2%
5320P .....	3%				



SUBSIDIARY

\* Refer to C-D Cat.-VB for detailed applications and specifications.

5300 SERIES Standard Automotive and Household Non-Synchronous units.						5400 SERIES Standard Automotive and Household Synchronous units.					
Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
5300	\$4.90	5314	\$4.90	5333	\$4.90	5400	\$7.70	5411	\$7.70	5429	\$9.15
5300-32	7.15	5320	4.90	5335	4.90	5404	7.70	5413	7.70	5431-4	8.55
5301	4.90	5321	4.90	5342	4.15	5406	7.70	5413-4	7.70	5434	7.70
5303	4.90	5323	4.15	5343	6.35	5407	7.70	5416	9.15	5435	7.70
5304	6.35	5326	4.15	5363	6.35	5408	7.70	5421	7.70	5435-4	7.70
5307	4.90	5328-32	9.15	5366	6.35	5409	7.70	5422	8.55	5436	7.70
5308	6.35	5331	4.90	5367-32	7.70	5409-4	7.70	5425	9.15	5437	7.70
5309	4.90					5410	7.70	5426	7.70	5438	7.70
										5440	\$8.55
										5443	7.70
										5443-32	8.55
										5454	7.70
										5463	9.15
										5464	9.15
										5468-2	10.70
										5469-2	9.80

5500 SERIES Special Application Non-Synchronous units.						5600 SERIES Special Application Synchronous units.					
Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
5503-12	\$7.70	5511-12	\$7.70	5516	\$6.90	5604	\$9.15	5607-12	\$9.95	5610-12	\$8.55
5504	6.35	5513-12	7.70	5517-12	7.70	5605	8.55	5607-32	9.95	5614-12	8.55
5506	7.15	5514-4	7.70	5518	6.90	5605-12	9.95	5609-12	9.95	5615-12	8.55
5510	7.15	5515	6.90	5519	4.90	5605-32	9.95	5610	7.70	5615-24	8.55
				5560	8.55	5607	8.55			5616	8.55
										5620	7.70
										5621	6.90
										5622	8.55
										5623	7.70

WARNING: Always check the Buffer Capacitors before installing a new vibrator: Failure to do so will void the guarantee. Always use C-D Buffer Capacitors for replacement. Prices Subject to Change Without Notice.

For CD "POWERCON" Battery Charger see page S-97

# CORNELL



# DUBILIER

**Low Cost  
Easy Installation  
Long Life**

## C-D POWERCONS

for DC to AC or AC to DC Power Conversion

Here is an assortment of converters that are outstanding for their dependable operation, their low initial cost and their simple, economical installation. A complete line for every purpose.



### 110 VOLT 60 CYCLE OUTPUT FROM DC INPUT

Model No.	Applications	DC Input Volts	Output - Watts		Size	Weight Lbs.	List Price
			Cont.	Int.			
6R5	Automobile, Bus, Truck,	6	50	55	6 3/4 x 7 3/4 x 5 3/8	12	\$ 48.25
6R10	Airplane, Marine & other	6	100	125	7 x 12 3/8 x 7 1/2	19	68.45
12R8	General Uses: Mobile.	12	80	120	6 3/4 x 7 3/4 x 5 3/8	12	48.25
12RU15	Portable, Stationary	12	150	200	7 x 12 3/8 x 7 1/2	22	90.80
32R8	Farm, Marine, Railroad, etc.	32	80	100	6 1/4 x 7 3/8 x 5 3/8	13 1/4	55.80
32RU15		32	150	200	6 3/8 x 12 3/8 x 7 1/2	22 1/4	84.55
110PA5	Record Players—Automatic & Manual	110	50	Volt-Amperes	3 3/4 x 6 1/4 x 2 3/4	2	17.20
110PB5		110	50	Volt-Amperes	3 3/4 x 6 1/4 x 2 3/4	2	19.50
110R10	Radio and Business Machines	110	100	150	6 3/4 x 7 3/4 x 5 3/8	10 1/2	45.95
110RA15		110	150	250	6 3/4 x 7 3/4 x 5 3/8	13 1/2	56.10
110RT15	Especially Designed for Television—Adjustable Frequency Control	110	150	250	6 7/8 x 12 1/4 x 7 1/2	16 3/4	74.75
110RT25		110	250	300	6 7/8 x 12 3/8 x 8 1/2	22 1/2	79.95
110RT35		110	350	500	7 1/2 x 14 x 8 3/8	40 1/2	143.50
110WR15A	Wire or Tape Recorders	110	150	200	6 7/8 x 12 1/4 x 7 1/2	22 1/2	76.50
110WR15B		Wire or Tape Recorders (Phantom switch)	110	150	200	6 7/8 x 12 1/4 x 7 1/2	21

### HIGH-VOLTAGE DC OUTPUT — from 6-Volt DC Input

Model No.	Applications	Input Volts	Output Power (Continuous, Max.)	Type	List Price
6DS2	Operation of Mobile Transmitters, Receivers, and similar equipment from 6-volt Battery. (12-volt units are available on special order.)	6vDC	250vDC at 60ma., or 180vDC at 40ma.—15 watts	Synch.	\$35.65
6DS3		6vDC	300, 275, 250 or 225vDC at 100ma.—30 watts	Synch.	39.10
6DR3		6vDC	300, 275, 250 or 225vDC at 100ma.—30 watts	Rect. Tube	41.40
6DRA6		6vDC	300vDC at 200ma.—60 watts	Rect. Tube	59.80
6DRB6		6vDC	400vDC at 150ma.—60 watts	Rect. Tube	59.80

### HIGH-VOLTAGE DC & AC OUTPUT — from Battery or 110vAC Input (Dual Operation)

Model No.	Applications	Input Volts	Output Power (Continuous, Max.)	Type	List Price
6/110DH6	High-voltage DC, primarily for operation of transmitters, receivers, sound equipment, etc., from battery or AC power line—mobile or fixed station. See Output Power column for AC output. (12-volt units available on special order.)	(1) 6vDC	(1) 300vDC at 150ma., or 225vDC at 200ma. (45 watts); & 110v-AC, 60 cycles (15 watts, for phono motors)	Rect. Tube	Price on Request
		(2) 110vAC	(2) 300vDC at 150ma., or 225vDC at 200ma. (45 watts); & 6.3v-AC at 5 amperes (for heaters)	Rect. Tube	
6/110DH10		(1) 6vDC	(1) 400vDC at 200ma. (80 watts), or 325vDC at 200ma. (65 watts); & 110vAC, 60 cycles (20 watts, for phono motors)	Rect. Tube	Price on Request
		(2) 110vAC	(2) 400vDC at 200ma. (80 watts), or 325vDC at 200ma. (65 watts); & 6.3vAC at 5 amperes (for heaters)	Rect. Tube	

Prices subject to change without notice.

## Less Than 1% Ripple at Top Load

**MODEL "NF" • 0-28 VOLTS, 1-15 AMPS. CONTINUOUS RATING, 25 AMPS. INTERMITTENT RATING**

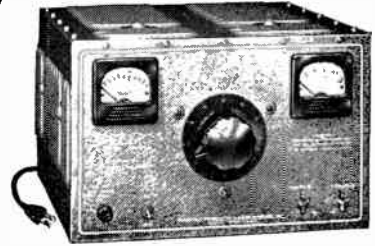
*Tests, Services DC Equipment From AC Lines*

Serves broadest uses in industry, research and servicing. ONLY EPL offers a moderately priced Power Supply with less than 1% ripple at this output. Exclusive "EPL" selenium rectifier application increases power rating and lowers cost per ampere output. Finest components assure long life and trouble-free operation. Peak instantaneous current rating of 25 amperes (from 50/60 cycle 115 volt source). 0-36 volts up to 6 amperes. Size 14½x14¼x9¾". Net weight: 71 lbs.

**MODEL "N" • Same rating and specifications except for: 5% ripple at 10 amperes, 8% at 15 amperes; less 1 choke and 2 condensers; lower cost; net weight 65 lbs.**

**NEW!**

*filtered DC  
power supply*



**MODEL "NF"**

Choke input and Pi type filters with 1 choke, 2000 mfd. condenser plus 1 choke, 4000 mfd. condenser. D'Arsenval-type voltmeter 0-50 volts; ammeter 0-25 amperes, 2% accuracy. Bridge-type selenium rectifiers. Superior Powerstat for incremental voltage adjustment.

## BATTERY ELIMINATORS



## BATTERY ELIMINATORS

**SUPPLIES 1 to 20 AMPS  
6 Volts DC, Continuous Duty**



**MODEL "B"**

Less than 3% AC ripple or hum. Damped volt and ammeters (no wiggling). 8 Heavy-duty power tap adjustments. Voltmeter 0-10 volts 3% accuracy. Heavy duty selenium rectifiers, switch, transformer, choke & 6000 mfd. filter condenser.

**MODEL "B" • 6 VOLTS, 1-20 AMPS. CONTINUOUS RATING, 35 AMPS. INTERMITTENT RATING**

*Tests, Services DC Equipment From AC Lines*

Tests, operates auto radios, relays, phone circuits, other low voltage devices. New conduction cooling method increases rectifier power rating 1½ times, lowest cost per ampere output. Ample power to operate two auto radios at once. Peak instantaneous current rating of 35 amperes (from 50/60 cycle 115 volt source). Supplies 3 to 9 volts at other ratings. Size: 12 x 7 x 8½". Net weight: 29 lbs.

**MODEL "BJ" • 6 VOLTS, 1-12.5 AMPS. CONTINUOUS RATING, 25 AMPS. INTERMITTENT RATING**

Same as "B" except for: lower cost; operates 1 auto radio; 1-12.5 amperes at 6 volt continuous rating; 25 amperes intermittent; AC ripple less than 0.4 volts at 6 volts DC 8 amperes; voltmeter 0-10 volts; ammeter 0-20 amperes 5% accuracy; 2000 mfd. filtered condenser; net weight 21 lbs.



## BATTERY ELIMINATORS



## BATTERY ELIMINATORS

**MODEL "S" CONVERTS BATTERY RADIOS TO AC ALL-ELECTRIC**

Operates any 1.4 volt 4 to 6 tube battery radio from 115 volt 50/60 cycle source. Complete filtering insures hum-free silent operation. Easily fits into battery compartment of most radios. Eliminates batteries, saves money. Low operating cost, uses only 11 watts. Has on-off switch, standard plug and sockets.

Cabinet: Blue Hammerloid finished steel. Size 2¾ x 3¾ x 6¾". Net weight: 2½ lbs.

**MODEL "F" • Same specifications except for: 2 volt 4 to 6 tube battery radio operation; size 2¾ x 4½ x 8"; Net weight 4½ lbs.**

*Many Other Models Available*



**MODEL "S"**

**"A" Supply Output:** 5-6 tubes (average) 1.4 volts at 320 ma; 4 tubes 1.4 volts at 250 ma; 4 tubes 1.4 volts at 200 ma. **"B" Supply Output:** 90 volts DC at 12 ma. **Primary:** 115 volts AC at 60 cycles. Also for 220 volt operation.

**ELECTRO PRODUCTS LABORATORIES, INC. • Pioneer Manufacturers of Battery Eliminators**

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Radio's Master — 17th Edition

M-27

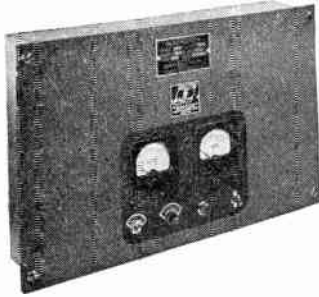


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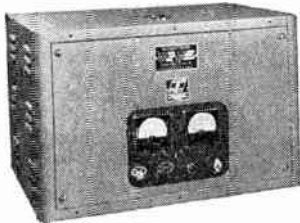
# SORENSEN

## AC REGULATORS • DC POWER SOURCES

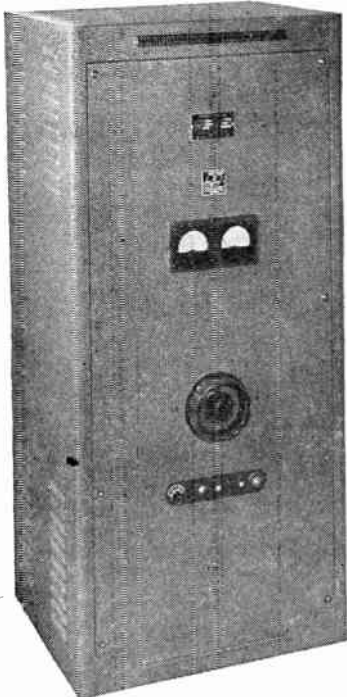
### STANDARD UNITS AND SPECIFICATIONS



Nobatron  
Model E-6-15



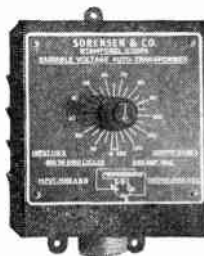
Nobatron  
Model SWR-5



Ranger  
Model SR-100

<b>AC REGULATORS</b> Models available (numbers denote VA capacities) 150S 250S 500S (-2S) also 1000S (-2S) also 2000S 3000S (-2S) also 5000S (-2S) also 10000S (-2S) also 15000-2S	Input	95-130 VAC, 1 $\Phi$ , 50-60~, 190-260 VAC in "2S" models
	Output	115 VAC $\pm$ 5%; 230 VAC with "2S" models
	Reg. accuracy	$\pm$ 0.1% against line or load
	Distortion	2% - 3% max.
	P. F. range	Down to 0.7
	Load range	0 to full load
	Miscellaneous	Fully protected against overload or over-voltage. Models 150S, 250S, 500S, 1000S, 5000S, 10000S, and 15000-2S are self-contained. Cabinets available for others.
<b>NOBATRONS**</b> (DC Supplies—low voltage) Models available (numbers indicate voltage & current) E-6-5A E-6-15A E-6-40A E-6-100A E-12-5 E-12-15 E-12-50 E-28-5 E-28-10 E-28-30 E-28-70 E-28-150 E-28-350 E-125-10 E-200-5	Input	95 - 130 VAC, 1 $\Phi$ , 50-60~. In heavy current 28-volt series - 115/208, 3 $\Phi$ , 4-wire, wye.
	Reg. accuracy	$\pm$ 0.2% against line or load changes
	Ripple	1% RMS max.
	Load range	1/10 to full load
	Output range	Adjustable $\pm$ 10%; down to -25% at lesser accuracy
	Recovery time	0.2 seconds - this value includes charging time of filter circuit for most severe change in load or input conditions.
	Miscellaneous	Fully protected against overload and over-voltage. Normally for rack mounting - cabinets available. Normal finish - gray wrinkle. Meters standard in some models; available in all.
Note	"A" models output either 6 or 7 volts.	
<b>400~ EQUIPMENT:</b> <b>LINE REGULATORS</b>		Similar to 60~ regulators except: Accuracy $\pm$ 0.5%; distortion 5% max.; VA capacities 250, 500, 1200, 2500.
<b>NOBATRONS**</b>		Same general specifications as 60~ Nobatrons. Models 6VDC @ 40 amp., 12VDC @ 10 amp., 28VDC @ 10 amp.

\*\* Reg. U. S. Pat. Off. by Sorensen & Co., Inc.



Variable Auto  
Transformer



B-Nobatron  
Model 500BB

**SORENSEN AND COMPANY • 375 FAIRFIELD AVE., STAMFORD, CONN.**

Radio's Master - 17th Edition

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M-28



Specify

# SORENSEN

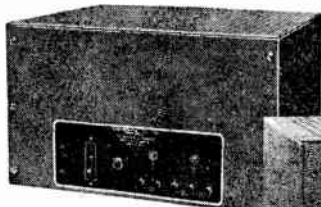
## AC REGULATORS • DC POWER SOURCES

### STANDARD UNITS AND SPECIFICATIONS

<b>B-NOBATRONS**</b> (DC Supplies — high voltage)	Input	105-125 VAC, 1 $\Phi$ , 50 — 60~.						
	Load range	0 — full load						
	Ripple	10 mv (20 mv in 1000BB)						
output	Model	325BB*	360BB**	500BB*	520BB**	560BB*	1000BB*	
	VDC	0-325	175-360	0-500	200-500	0-500	200-1000	
	Ma	0-125	0-120	0-300	0-200	0-200	0-500	
	* meters furnished as standard equipment. regulation accuracy $\pm 0.5\%$ bias supply 0-150 VDC @ 0-5Ma (except model 1000BB) ** no meters, no bias supply regulation accuracy $\pm 1.0\%$							
All have 6.3 VAC, 6-10 amperes, unregulated, C.T. except Model 1000BB.								
<b>RANGERS</b> (Full-range-variable DC Supplies)	Input range	95 — 130 VAC, 1 $\Phi$ , 50 — 60~.						
	Reg. accuracy	$\pm 0.25\%$ at any voltage setting.						
	Ripple	1% RMS max.						
	Output	Model	SR-100	SR-30	SR-2			
		VDC	3-135	3-30	100-300			
	Amps	1-10	3-30	1-10				

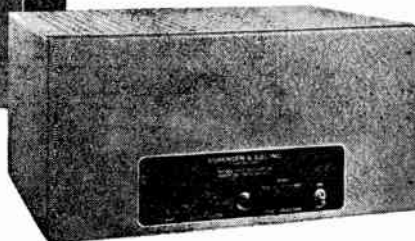
### ISOTRONIC\* EXCLUSIVES

Super-accurate AC Line Regulator. Model 1001	Load range Input volt. range Load P. F. range Output voltage Distortion Time constant Reg. accuracy	0 — 1000 VA 95 — 130 VAC, 1 $\Phi$ , 55 — 65~. 0.7 lagging to 0.95 leading 115 VAC, 1 $\Phi$ (adjustable from 110-120 volts) 3% max. 0.1 seconds $\pm 0.01\%$
DC Power Source for Spectrophotometers Model E-6/2-5 Nobatron	Input volt. range Output #1 for lamp #2 for filament #3 far bias Filtering #1 #2 & 3 Reg. accuracy Time constant	95-130 VAC, 1 $\Phi$ , 50-60 cycles 6VDC adjustable $\pm 10\%$ at 5 amperes 6VDC at 100 Ma. 2VDC adjustable $\pm 10\%$ at 100 Ma. 1% max. 0.05% max. $\pm 0.01\%$ against line changes 0.1 seconds under most severe line changes



AC Line Regulator  
Model 1001

DC Power Source for Spectrophotometers Model E-6/2-5 Nobatron



\*"Isotronic" is a registered trademark denoting the electronic regulation and control of voltage, current, power, and frequency.

### COAST TO COAST

Authorized Sorensen representatives and their field engineers are listed below. Find the one located nearest you — don't hesitate to call on him for consultation and advice.

#### CALIFORNIA — HOLLYWOOD

Neely Enterprises  
7422 Melrose Ave.; Phone Whitney 1147

#### CALIFORNIA — SACRAMENTO

Neely Enterprises  
309 Ochsner Bldg.; Phone Gilbert 3-7461

#### CALIFORNIA — SAN FRANCISCO

Neely Enterprises  
2830 Geary Blvd.; Phone Walnut 1-3960

#### COLORADO — DENVER

Ronald G. Bowen  
852 Broadway

#### D.C. — WASHINGTON

Burlingame Associates — F. L. Horman  
2017 S St., N.W.; Phone Decatur 8000

#### FLORIDA — FORT MEYERS

Arthur H. Lynch & Associates  
P. O. Box 466; Phone 5-6762

#### GEORGIA — ATLANTA

Floyd Fausett & Son  
1347 Beecher St., S.W.; Phone Raymond 3104

#### ILLINOIS — CHICAGO

Loren F. Green & Associates  
4949 W. Diversey Ave.; Ph. National 2-2370

#### KANSAS — WICHITA

Standard Products, Inc.  
650 E. Gilbert Ave.; Phone Wichita 2-1431

#### KENTUCKY

H. A. Watson, Jr.  
817 Citizens Bldg.; Cleveland, Ohio

#### MASSACHUSETTS — BOSTON

Burlingame Associates — P. G. Yewell  
270 Commonwealth Ave.; Ph. Kenmore 6-8100

#### MICHIGAN — DETROIT

S. Sterling Company  
13331 Linwood Ave.; Ph. Townsend 8-3130

#### NEW MEXICO — ALBUQUERQUE

Neely Enterprises  
107 S. Washington St.; Phone 5-8731

#### NEW YORK — SYRACUSE

Burlingame Associates — J. D. Ryerson  
712 State Tower Bldg.; Phone 2-0194

#### NEW YORK — NEW YORK

Burlingame Associates  
103 Lafayette St.; Phone Digby 9-1240

#### NORTH CAROLINA — CHARLOTTE

James L. Highsmith  
P. O. Box 1011; Phone 5-6436

#### OREGON — PORTLAND

The James L. Kearns Co.  
P. O. Box 5108; Phone East 4331

#### PENNSYLVANIA — PHILADELPHIA

Burlingame Associates — Ivgn Robinson  
7060 Garret Rd. (Upper Darby).  
Phone Flanders 2-1597

#### PENNSYLVANIA — PITTSBURGH

H. E. Ransford & Co.  
Grant Bldg.; Phone Grant 1-1880

#### TENNESSEE — KNOXVILLE

A. R. Hough  
P. O. Box 1452; Phone 8-4312

#### TEXAS — HOUSTON

Earl W. Lipscomb & Associates  
2420-B Rice Blvd.; Phone Linden 9303

#### TEXAS — DALLAS

Earl W. Lipscomb & Associates  
5103 W. Lovers Lane; Phone Elmhurst 5345

#### CANADA — TORONTO, ONT.

Charles W. Pointon  
1926 Gerrard St., East; Phone Oxford 7435





## ATR Replacement Vibrator Specifications

N.S.—Non Synchronous      S.—Synchronous      Frequency: 115 Cycles except as noted.

Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price	Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price
303	6	N.S.	17	J	1½" x 1⅜" x 2½"	\$5.75	521	6	S.	20	A	1½" x 3¼"	\$7.00
324	6	N.S.	1	A	1½" x 3⅝"	4.45	522	6	S.	21	A	1½" x 3⅝"	7.00
324A	6	N.S.	2	A	1⅝" x 3⅝"	4.45	522A	6	S.	21	A	1⅝" x 3½"	7.00
324B	6	N.S.	1	A	1⅝" x 3½"	4.45	523	6	S.	22	A	1½" x 3⅝"	7.00
324C	6	N.S.	2	A	1⅝" x 4¼"	4.45	524	6	S.	23	A	1½" x 3⅝"	7.00
325	6	N.S.	51	A	1½" x 2⅞"	5.75	525	6	S.	24	A	1½" x 3⅝"	7.00
328	6	N.S.	4	A	1½" x 3⅝"	4.45	529	4	S.	21	A	1½" x 3⅝"	7.00
335	6	N.S.	9	A	1⅝" x 3⅝"	4.45	540	6	S.	27	A	1½" x 3⅝"	7.00
337	6	N.S.	14	A	1⅝" x 3½"	5.75	541	4	S.	19	A	1½" x 3⅝"	7.00
338	6	N.S.	9	C	1½" x 3⅝"	4.45	541A	4	S.	19	A	1⅝" x 3½"	7.00
340	6	N.S.	1	A	1½" x 2⅞"	4.45	544†	6	S.	28	A	1⅝" x 2⅞"	7.00
345	6	N.S.	9	A	1½" x 2⅞"	4.45	545†	6	S.	28	A	1½" x 3⅝"	7.00
347†	6	N.S.	1	A	1½" x 3⅝"	5.75	547	6	S.	29	C	1⅝" x 3½"	7.00
350	6	N.S.	1	A	1¼" x 2⅝"	4.45	550	6	S.	32	K	4⅞" x 1⅜" x 1⅜"	8.30
503	6	S.	43	A	1⅝" x 4½"	8.30	561	6	S.	24	A	1½" x 2⅞"	7.00
ADAPTER						1.35	562	6	S.	21	A	1¼" x 3⅝"	7.00
506	6	S.	40	A	1⅝" x 4½"	8.30	564*	6	S.	23	A	1½" x 2⅞"	7.00
507	6	S.	44	A	1⅝" x 4½"	8.30	900	2	S.	52	A	1½" x 2⅞"	8.90
508	6	S.	42	A	1⅝" x 4½"	8.30	2324	32	N.S.	1	A	1½" x 3⅝"	6.50
520	6	S.	19	A	1½" x 3⅝"	7.00	2401	32	S.	22	A	1½" x 3⅝"	7.75
520A	6	S.	19	A	1⅝" x 3½"	7.00							

### Recommended Substitutions for Discontinued Vibrators

Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement
305	303	330	324C	543	522A (Refer Note 3)
307	303 (Refer Note 1)	332	522 (Refer Note 8)	543A	522A (Refer Note 3)
314	324	342	325	546	522 (Refer Note 6)
316	324	504	503	551	550 (Refer Note 14)
317	324	505	503 (Plus Adapter)	553	550 (Refer Note 11)
323	340	531	550 (Refer Note 13)	591	524 (Refer Note 9)
326	325	536	524 (Refer Note 10)	2327	2324 (Refer Note 12)
327	325	537	525	2403	2324

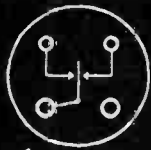
The Installation Notes listed above are shown in Section G of the ATR Vibrator Manual.

**INSIST on ATR VIBRATORS - *Get the Best!!***

**ATR Replacement Vibrator Specifications**

**Base Diagrams**

**External Views**



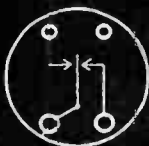
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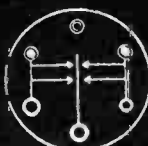
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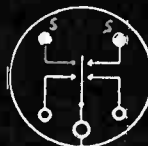
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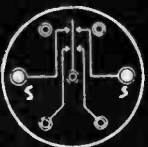
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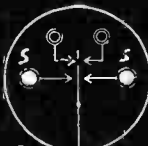
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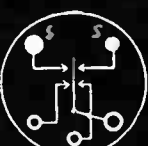
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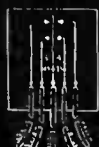
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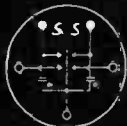
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# ATR • VIBRATORS • ATR

AMERICAN TELEVISION & RADIO CO.

## ATR AUTO RADIO VIBRATORS



ATR Manufactures a Complete Line of Auto Radio Replacement Vibrators

Ask your ATR Distributor for your Free Copy of the Latest ATR Vibrator Guide

### ATR VIBRATORS

feature Ceramic Stack Spacers, and are proven units of the highest quality, engineered to perfection. They are backed by more than 17 years of vibrator design and research, development and manufacturing — ATR Pioneered in the Vibrator Field.

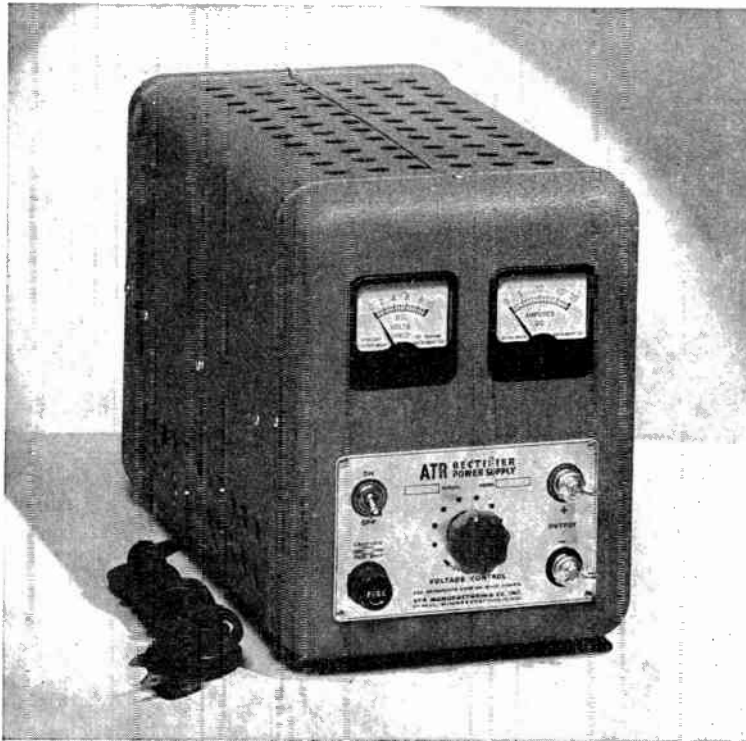
## ATR VIBRATOR EQUIVALENT CHART

ATR	TYPE	SIZE	ATR LIST PRICE	E-L	MALLORY	RADIART
324	Int.	1 1/2" x 3 1/8"	\$4.45	1703	294	5300
328	Int.	1 1/2" x 3 1/8"	4.45	2090	854	5331
335	Int.	1 1/2" x 3 1/8"	4.45	2088	852	5303
340	Int.	1 1/2" x 2 7/8"	4.45	2605	859	5301
508	Syn.	1 15/16" x 4 1/2"	8.30	2682	273C	5425
520	Syn.	1 1/2" x 3 1/8"	7.00	2688	245	5409
522	Syn.	1 1/2" x 3 1/8"	7.00	2089	246	5411
524	Syn.	1 1/2" x 3 1/8"	7.00	2107	248	5400
525	Syn.	1 1/2" x 3 1/8"	7.00	2687	249	5406
547	Syn.	1 15/16" x 3 1/2"	7.00	2092	716	5426

**THESE 10 POPULAR ATR VIBRATORS MEET 90% OF YOUR SERVICE NEEDS**

# ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.



Illustrates Heavy Duty "A" Battery Eliminator, Type 620C-ELIP. Equipped with Voltmeter, Ammeter and Voltage Control.

- Fully Automatic and Fool-Proof.
- Eliminates Storage Batteries and Battery Chargers.
- Operates the Equipment at Maximum Efficiency at all Times.
- Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.

## SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D. C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

Equipped with Full-Wave Dry Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

**TYPE 610 ELIB**—Rated output 6 volts at 10 amperes. Size 6½" x 9½" x 8½"; shipping weight, 22 lbs. Code word, "SELIB".

Net Price ..... \$35.64

**TYPE 620C ELIP**—Uses dual rectifiers. Size 6½" x 12½" x 8½". Shipping weight, 33 lbs. Code word, "HELIN".

**Rated Output:** 6 volts at 18 amperes or 12 volts at 9 amperes. Either output obtainable by means of simple output terminal switching arrangement.

Net Price ..... \$54.78

All ATR Eliminators have as standard equipment: On-Off Switch, Voltage Control, Meter(s), Fuse Protection, Rubber Mounting Feet, 6-Ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having attractive grey-wrinkled finish.

## ATR "A" BATTERY ELIMINATORS

Specially Designed for Testing and Operating Auto Radios and D. C. Electrical Apparatus on Regular A. C. Lines, 105-125 Volts 50-60 Cycles.



Illustrating Standard "A" Battery Eliminator, Type 610 ELIB, Equipped with Voltmeter and Voltage Control.

# ATR • ELIMINATORS • ATR

AMERICAN TELEVISION & RADIO CO.



## ATR STANDARD AND HEAVY DUTY RADIO INVERTERS

Specially Designed for Operating A. C. Radios, Public Address Systems, Amplifiers, Intercall Systems, and Radio Test Equipment from D. C. Voltages in Vehicles, Ships, Trains, Planes, and in D. C. Districts.

Illustrates all Standard ATR Radio Inverters except types 6 and 12 RSC.

This group of ATR Inverters is especially recommended for use with A.C. radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference-free radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life radio operation. All models indicated are equipped with ATR plug-in Inverter Vibrators and also with four-point voltage regulators as fully described on the reverse side. The operating efficiency is in excess of 85%. These Radio Inverters are recommended for use with loads having power factors in excess of 80%.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 RSC	6	110 volts	85	75	ARSCD	\$54.95
12 RSC	12	110	125	100	BRSCF	54.95
28 RSC	28	100	125	100	ORSCF	62.70
32 RSC	32	110	150	100	CRSCF	54.95
32B-RMD	32	110	200	180	DRHDG	87.45
50 RSC	50	110	150	100	ERSCF	71.50
110 RSC	110	110	250	150	GRSCJ	54.95
110C-RSC	110	110/220	250	150	JRSCM	71.50
220 RSC	220	110	250	150	LRSCO	62.70
220A-RSC	220	110/220	250	150	MRSCP	71.50

Radio frequency interference completely suppressed.

Any of the above type Inverters are available with 220 volt A.C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "GRSCT".

ATR Standard and Heavy Duty Radio Inverters are housed in attractively finished grey-wrinkled metal cabinets.

Dimensions of Standard Model Radio Inverters, 8 3/4" x 9" x 5 1/4"; Shipping weight, 19 lbs.

Dimensions of Heavy Duty Model Radio Inverters, 8 1/2" x 11 3/8" x 8 1/2"; Shipping weight, 30 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.



Illustrates Types 6 and 12 RSC Standard Radio and Industrial Inverters only.

# ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.

## ATR Low Power INVERTERS

For Operating Small A. C. Motors, Electric Razors, Radios, and Devices of Approximately 35 watts Consumption from 6, 12, 28, 32, 110, and 220 volt D. C. Lines.



Illustrating all Types LID Inverters except Types 6 and 12.

This line of ATR Low Power Inverters was specially brought out to meet the insistent demand for a good, low power, inexpensive Inverter for operating phonograph and other A.C. motors and a host of small A.C. devices from D.C. voltage sources. These Inverters operate at an efficiency in excess of 90% and are designed for operation of loads having a power factor as low as 60%. They are ruggedly built and powered by a special ATR six-contact plug-in Inverter Vibrator utilizing four 1/4" diameter tungsten power contacts and two silver alloy driver contacts.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

Type	Input D. C. volts	A.C. Output 60 cycles	Wattage		Code Word	List Price
			Intermittent	Continuous		
6 LID	6	110 volts	40	35	ALIDM	\$35.75
12 LID	12	110	50	35	BLIDN	35.75
28 LID	28	110	50	35	GLIPS	40.15
32 LID	32	110	50	35	CLIDO	40.15
110 LID	110	110	75	50	DLIDP	35.75
220 LID	220	110	75	50	ELIDQ	40.15

Radio frequency interference suppressed.

Any of the above type Low Power Inverters are available with 220 volt A. C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Low Power Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "DLIDT".

Dimensions, 5 3/8" x 4" x 6 1/2"; shipping weight, 7 lbs.

Replacement Vibrators for any of the above Low Power Inverters are available. Be sure to mention the type number as well as model number when ordering. Consult Inverter Vibrator Guide.

## ATR STANDARD AND HEAVY DUTY † INDUSTRIAL INVERTERS

For Operating A. C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A. C. Electrical Appliances from D. C. Lines.

These units are specially designed for applications as indicated, permitting the use of standard A.C. equipment on D.C. lines. These Inverters operate at an efficiency in excess of 80% and are carefully built and equipped to give the longest possible life and operating satisfaction. All models indicated are equipped with an ATR plug-in Inverter Vibrator of new design and construction, insuring increased long life and reliable service. These Inverters also come equipped with four-point voltage regulators, which make possible the correct voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. These Industrial Inverters are recommended for use with loads having power factors as low as 60%, and as low as 50% for the "P" Inverters indicated. These Inverters should not be used with Neon signs.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.



Illustrating Heavy Duty Models Radio and Industrial Inverters except types 6 and 12. Types 6 and 12 Industrial Inverters are illustrated by small cut on page M-34.

Type	Input D.C. volts	A.C. Output 60 cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 ISP-F	6	110 volts	85	75	AISFD	\$69.95
12 ISP-F	12	110	125	100	BISFE	69.95
28 ISP-F	28	110	125	100	LISFE	77.75
32 ISP-F	32	110	150	100	CISFE	69.95
32P*-ISP-F	32	110	150	125	DISFE	86.50
32B-IHQ-F	32	110	200	180	EIHFG	102.50
110 ISP-F	110	110	250	150	FISFH	69.95
110P*-ISP-F	110	110	250	150	GISFI	86.50
110A-IHQ-F	110	110	325	225	HIHFJ	94.75
110B-IHQ-F	110	110	500	350	IHFJK	105.75
220 ISP-F	220	110	250	150	JISFI	77.75
220P*-ISP-F	220	110	300	150	KISFM	86.75

†Radio frequency interference suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at slightly higher prices. In ordering, follow similar directions given above.

ATR Standard and Heavy Duty Industrial Inverters are housed in attractively finished grey-wrinkled metal cabinets.

Dimensions of Standard Model Industrial Inverters, 8 3/8" x 9" x 5 1/4".

Shipping weight, 19 lbs.

Dimensions of Heavy Duty Industrial Inverters, 6 1/2" x 11 3/8" x 8 3/4"; shipping weight, 30 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

\*\*P" Inverters are corrected for loads having power factors as low as 50%.

# ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.



## ATR SUPER HEAVY DUTY RADIO INVERTERS

Specially Designed for Operating Large A.C. Radios, Public Address Systems, Tape Recorders, Amplifiers, Intercall Systems, and Radio Transmitters from D.C. Voltages in Vehicles, Ships, Trains, Planes, and in D.C. Districts.

Illustrates all ATR SUPER HEAVY DUTY Types except Types 6 and 12-HSF

This group of ATR Inverters is especially recommended for use with large A.C. radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference-free operation. With ATR Inverters, the need for special equipment is eliminated. They are designed for long-life operation. All models indicated are equipped with ATR twenty-contact plug-in Inverter Vibrators and also with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. High operating efficiency is provided. These Radio Inverters are recommended for use with loads having power factors in excess of 80%.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
			Inter-mittent	Con-tinuous		
6-HSF	6	110 Volts	175	150	AHSFD	\$125.00
12-HSF	12	110	250	200	BHSFE	125.00
28-HSF	28	110	250	200	OHSFR	145.00
32-HSF	32	110	325	225	CHSFF	125.00
110-HSF	110	110	600	400	GHSFJ	125.00
220-HSF	220	110	500	300	LHSFO	145.00

Radio frequency interference completely suppressed.

Any of the above type Inverters are available with 220 volt A.C. output at prices slightly higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D.C. Inverter having a 220 volt A.C. output is desired, this would be ordered as Type 110S-HSF covered by code word, "GHSFT."

ATR Super Heavy Duty Inverters are housed in attractively finished grey-wrinkled metal cabinets.

Dimensions of all Super Heavy Duty Inverters, 6½" x 12¾" x 8½"; Shipping weight, 36 lbs.

For correct replacement vibrator consult Inverter Vibrator Guide.



Illustrates Types 6 and 12-HSF SUPER HEAVY DUTY INVERTERS only.

# ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.



Illustrates Model 110AT-RHD. See other pages for other Inverter illustrations.

**ATR STANDARD AND  
HEAVY DUTY**

## TELEVISION INVERTERS

Specially Designed and Carefully Adjusted for Operating Television Receivers from D.C. Voltages in Vehicles, Ships, Trains, Planes, and D.C. Districts. Suitable for Use with All Types of Electronic Equipment where Precise Output Frequency is Required.

This group of ATR Inverters has been selected from the ATR line of Standard and Heavy Duty Radio Inverters and Super Heavy Duty Inverters and have specially adjusted ATR Vibrators installed in them to provide the precisely adjusted output power frequency required for the operation of Television Sets. They are exceptionally well filtered to insure interference-free reception. They are equipped with four-point voltage regulators. The operating efficiency is in excess of 85%. They are recommended for use with loads having power factors in excess of 80%.

ATR Inverters should be used only for the applications as outlined above.

ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

ATR Standard (RSC), Heavy Duty (RHD), and Super-Heavy Duty (HSF) Television Inverters are housed in attractively finished grey-wrinkled metal cabinets.

Dimensions of Standard (RSC) Model Television Inverters, 8½" x 9" x 5¼"; Shipping weight, 19 lbs.

Dimensions of Heavy Duty (RHD) Model Television Inverters, 6½" x 11½" x 8½"; Shipping weight, 30 lbs.

Dimensions of Super Heavy Duty (HSF) Model Television Inverters, 6½" x 12½" x 8½"; Shipping weight, 36 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6T-HSF	6	110 Volts	175	150	THSFD	\$135.00
12T-HSF	12	110	250	200	THSFE	135.00
28T-HSF	28	110	250	200	THSFO	155.00
32BT-RHD	32	110	200	180	TRHCG	92.95
32T-HSF	32	110	325	225	THSFF	135.00
110T-RSC	110	110	250	150	TRSCJ	60.45
110AT-RHD	110	110	325	225	TRHCK	79.75
110BT-RHD	110	110	500	350	TRHCL	105.75
110T-HSF	110	110	600	400	THSFJ	135.00
220T-RSC	220	110	250	150	TRSCO	68.20
220T-HSF	220	110	500	300	THSFO	155.00



THE **RADIART CORPORATION**  
CLEVELAND 2, OHIO



- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

**RADIART**  
**Seal-Vent**  
**RED VIBRATORS**  
RED SEAL

NOW — with the RADIART SEAL VENT, the vibrator is sealed BEFORE it is used — and VENTED after it is put into use. The RED SEAL rubber-faced bakelite plug prevents formation of an insulating film on the contacts. Heat generated when the vibrator is put into service melts the wax out of the sealed vent-hole and permits air circulation . . . FOR LONGER LIFE AND EVEN GREATER PERFORMANCE!



There are many reasons for the nation-wide preference for Radiart Vibrators! One is the absolutely complete selection of types manufactured . . . there is a CORRECT Radiart replacement vibrator for most every need, to original specifications. In addition, the precision engineering behind the design of each type is backed up by highest standards of manufacture that assure peak performance . . . always!

The Radiart Vibrator Guide is the Standard of the Industry — Ask your jabber for your copy today!

5300 SERIES vibrator types are Standard Automotive and Household Non-Synchronous units. They are stocked by all RADIART Distributors who carry a complete line.

Type No.	Price	Type No.	Price	Type No.	Price
5300	\$4.90	5314	\$4.90	5335	\$4.90
5300-32	7.15	5320	4.90	5342	4.15
5301	4.90	5321	4.90	5343	6.35
5303	4.90	5323	4.15	5363	6.35
5304	6.35	5326	4.15	5366	6.35
5307	4.90	5328-32	9.15	5367-32	7.70
5308	6.35	5331	4.90		
5309	4.90	5333	4.90		

5400 SERIES vibrator types are Standard Automotive and Household Synchronous units. They are stocked by all RADIART Distributors who carry a complete line.

Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price
5400	\$7.70	5411	\$7.70	5429	\$9.15	5440	\$8.55
5404	7.70	5413	7.70	5431-4	8.55	5443	7.70
5406	7.70	5413-4	7.70	5434	7.70	5443-32	8.55
5407	7.70	5416	9.15	5435	7.70	5454	7.70
5408	7.70	5421	7.70	5435-4	7.70	5463	9.15
5409	7.70	5422	8.55	5436	7.70	5464	9.15
5409-4	7.70	5425	9.15	5437	7.70	5468-2	10.70
5410	7.70	5426	7.70	5438	7.70	5469-2	9.80

5500 SERIES vibrator types are Special Application Non-Synchronous units. These are stocked by RADIART Distributors in accordance with local requirements. They are available for immediate shipment from the Factory. Order through your local distributor.

5503-12	\$7.70	5513-12	\$7.70	5518	\$6.90
5504	6.35	5514-4	7.70	5519	4.90
5506	7.15	5515	6.90	5560	8.55
5510	7.15	5516	6.90		
5511-12	7.70	5517-12	7.70		

5600 SERIES vibrator types are Special Application Synchronous units. These are stocked by RADIART Distributors in accordance with local requirements. They are available for immediate shipment from the Factory. Order through your local distributor.

5604	\$9.15	5607-12	\$9.95	5614-12	\$8.55	5620	\$7.70
5605	8.55	5607-32	9.95	5615-12	8.55	5621	6.90
5605-12	9.95	5609-12	9.95	5615-24	8.55	5622	8.55
5605-32	9.95	5610	7.70	5616	8.55	5623	7.70
5607	8.55	5610-12	8.55	5616-12	9.95		

- ROTATORS
- VIBRATORS
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- POWER SUPPLIES



# THE RADIART CORPORATION

CLEVELAND 2, OHIO

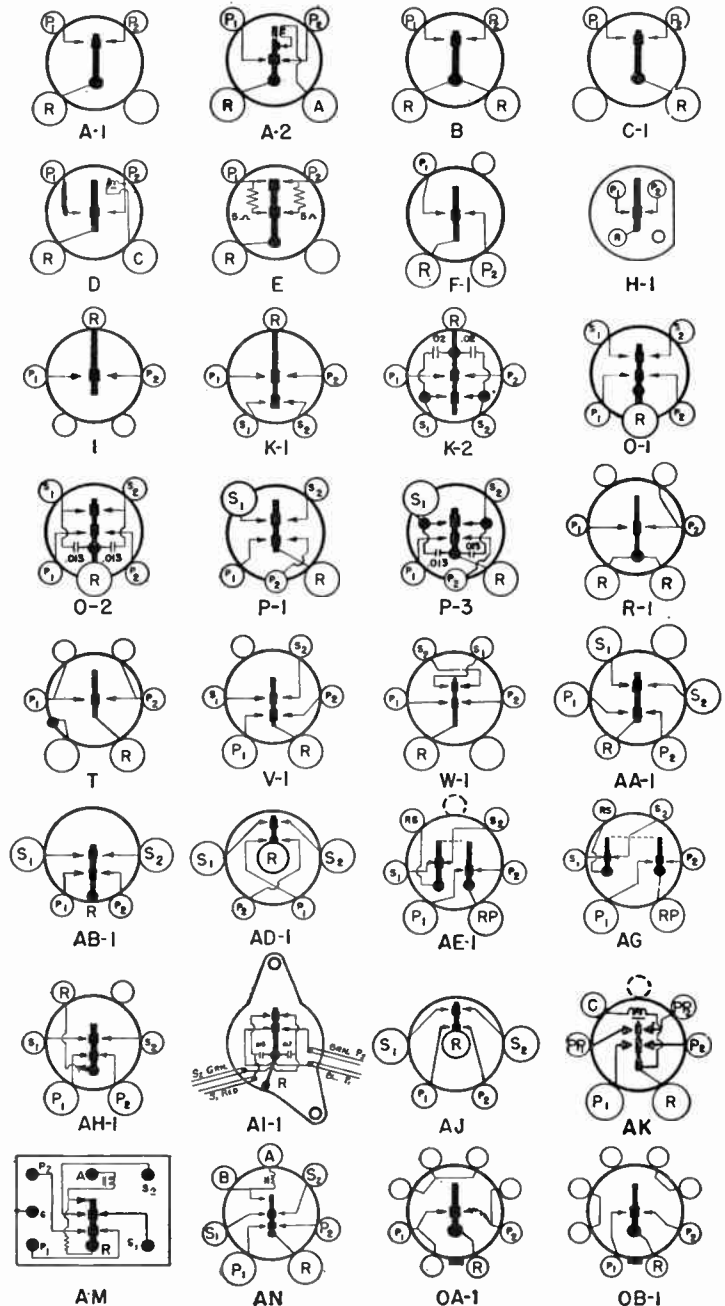
## VIBRATOR BASE DIAGRAM CROSS INDEX

A—A hot line into vibrator.  
 B—By-pass for driving point.  
 C—External coil lead in shunt vibrator.  
 P<sub>1</sub>—Primary contact, usually, but not necessarily connected to the magnet coil in shunt vibrators.  
 PP<sub>1</sub>—Dual primary contact, closed when P<sub>1</sub> is closed.

## Symbols Used in Vibrator Base Diagrams

P<sub>2</sub>—Primary contact, may be the magnet coil connection instead of P<sub>1</sub>.  
 PP<sub>2</sub>—Dual primary contact, closed when P<sub>2</sub> is closed.  
 R—Vibrating reed in single-reed vibrators.  
 RP—Primary vibrating reed in split-reed vibrators.  
 RS—Secondary vibrating reed in split-reed vibrators.  
 S<sub>1</sub>—Secondary contact, closed when P<sub>1</sub> is closed.  
 S<sub>2</sub>—Secondary contact, closed when P<sub>2</sub> is closed.  
 \* All dimensions given are in inches.  
 † For further information see Vibrator type in Radiart Replacement Guide.

Radiart Type No.	Base Diagram	Voltage	Frequency	Max. Load	Dia.*	Height
5300	A-1	6	115	6	1 1/2	3 3/8
5300-32	A-1	32	115	1.4	1 1/2	3 3/8
5301	A-1	6	115	6	1 1/2	2 7/8
5303	F-1	6	115	6	1 5/8	3 3/8
5304	I	6	115	6	1 1/4	3 3/8
5307	A-1	6	150	6	1 1/2	3 3/8
5308	E	6	115	6	1 1/2	3 3/8
5309	C-1	6	115	6	1 1/2	2 1/2
5314	A-1	6	115	6	1 1/4	2 3/8
5320	A-1	6	115	6	1 1/8	3 1/2
5321	A-1	6	115	6	1 5/8	3 3/8
5323	A-1	6	115	6	1 5/8	4 3/4
5326	A-1	6	115	6	1 1/2	2 7/8
5328-32	H-1	32	115	1.4	1 5/8	3 1/2
5331	C-1	6	115	6	1 1/2	3 3/8
5333	F-1	6	115	6	1 1/2	3 3/8
5335	F-1	6	115	6	1 1/2	2 7/8
5342	A-1	6	115	6	1 1/2	2 7/8
5343	B	6	115	6	1 1/8	4 1/2
5363	LEADS	6	115	4	—	—
5366	R-1	6	115	6	1 1/2	2 7/8
5367-32	T	32	115	1.4	1 1/2	3 3/8
5400	AB-1	6	115	6	1 1/2	3 3/8
5404	AH-1	6	130	6	1 1/2	3 3/8
5406	AD-1	6	115	6	1 1/2	3 3/8
5407	AB-1	6	180	5	1 1/2	3 3/8
5408	AB-1	6	140	6	1 1/2	2 7/8
5409	K-1	6	115	6	1 1/2	3 3/8
5409-4	K-1	4	115	6	1 1/2	3 3/8
5410	O-1	6	115	6	1 1/2	3 3/8
5411	V-1	6	115	6	1 1/2	3 3/8
5413	K-1	6	115	6	1 1/8	3 1/4
5413-4	K-1	4	115	6	1 1/8	3 1/4
5416	K-2	6	115	6	1 1/8	4 1/2
5421	V-1	6	115	6	1 1/8	3 1/2
5422	AE-1	6	115	5	1 1/2	3 3/8
5425	O-2	6	115	6	1 1/8	4 1/2
5426	P-1	6	115	6	1 1/8	3 1/2
5429	P-3	6	115	6	1 1/8	4 1/2
5431-4	AG	4	115	5	1 1/2	3 3/8
5434	W-1	6	115	6	1 1/8	3 1/2
5435	V-1	6	115	6	1 3/8	3 3/8
5435-4	V-1	4	115	6	1 3/8	3 3/8
5436	V-1	6	180	5	1 1/2	2 7/8
5437	AB-1	6	180	5	1 3/8	2 7/8
5438	AB-1	6	140	6	1 1/2	3 3/8
5440	AB-1	6	115	6	1 1/8	4 1/2
5443	AA-1	6	115	6	1 1/2	3 3/8
5443-32	AA-1	32	115	1.4	1 1/2	3 3/8
5454	AD-1	6	115	6	1 1/2	2 7/8
5463	LEADS	6	115	6	—	—
5464	AI-1	6	115	6	1 1/8	4 1/2
5468-2	AM	2	115	2	1 1/2	2 1/8
5469-2	AN	2	115	2	1 1/8	2 1/8
5503-12	A-1	12	115	6	1 1/2	3 3/8
5504	V-1	6	115	6	1 1/8	3 1/2
5506	D	6	115	10	1 1/2	3 3/8
5510	OA-1	6	115	10	1 1/2	3 3/8
5511-12	OB-1	12	115	6	1 1/2	3 3/8
5513-12	AK	12	180	3	1 1/2	3 3/8
5514-4	A-1	4	180	5	1 1/2	2 7/8
5515	A-1	6	115	10	1 1/2	3 3/8
5516	A-1	6	115	10	1 1/2	3 3/8
5517-12	V-1	12	180	3	1 1/2	3 3/8
5518	V-1	6	115	10	1 1/2	2 7/8
5519	A-1	6	115	6	1 1/2	2 7/8
5560	A-2	6	60	6	1 1/2	3 3/8
5604	K-2	6	115	6	1 1/8	4 1/2
5605	AD-1	6	115	10	1 1/2	3 3/8
5605-12	AD-1	12	115	6	1 1/2	3 3/8
5605-32	AD-1	32	115	2.5	1 1/2	3 3/8
5607	AJ	6	180	5	1 3/8	2 3/4
5607-12	AJ	12	180	3	1 3/8	2 3/4
5607-32	AJ	32	180	1.4	1 3/8	2 3/4
5609-12	K-1	12	115	3	1 1/2	3 3/8
5610	V-1	6	115	6	1 3/4	3 3/8
5610-12	V-1	12	115	3	1 3/4	3 3/8
5614-12	AD-1	12	115	4	1 1/2	2 7/8
5615-12	V-1	12	180	3	1 1/2	2 7/8
5615-24	V-1	24	180	1.4	1 1/2	2 7/8
5616	AJ	6	180	5	1 1/2	2 7/8
5616-12	AJ	12	180	3	1 1/2	2 7/8
5620	AB-1	6	115	6	1 1/2	2 7/8
5621	V-1	6	115	10	1 1/2	2 7/8
5622	AE-1	6	100	5	1 1/2	2 7/8
5623	AD-1	6	115	6	1 1/2	2 7/8



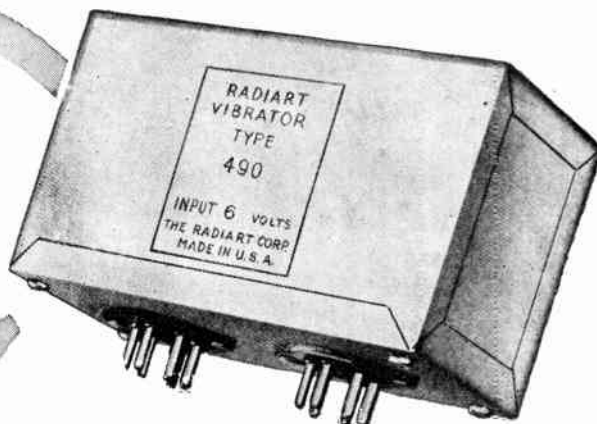
Dotted pin on AE-1 and AK units furnished at our option

THE **RADIART** CORPORATION  
CLEVELAND 2, OHIO



- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

# RADIART *Heavy Duty* REPLACEMENT VIBRATORS



As in the standard "RED SEAL" line of replacement vibrators, the RADIART HEAVY DUTY Replacement Vibrators offer a complete selection for every standard need. Quality construction

and superb performance featuring long life make this heavy duty line the "Standard of Comparison".

MODEL NO.	VOLTAGE	FREQ. CYCLES	TYPE	CONTAINER	USED IN	
6VB6	6	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8	{ 110WR15A 110WR15B 110R10 110R15 110RT25	
110VB6	110	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
330**	12	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
390**	12	60	H-D Tandem	5 7/8 x 2 3/4 x 3 3/8		
425**	6	90	H-D Single	2 7/8 x 4 1/4		
426	6	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
427	6	60	H-D Single	2 7/8 x 4 1/4		
431	6	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
490	6	60	H-D Tandem	5 7/8 x 2 3/4 x 3 3/8		
491	6	60	H-D Tandem	5 3/8 x 2 3/4 x 2 7/8		
1057	6	120	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
1083	110	60	H-D Tandem	5 7/8 x 2 3/4 x 3 3/8		
1315	110	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
1315H	110	60	H-D Single	5 1/8 x 2 3/4 x 2 7/8		110PA5 110PB5
1506	32	60	H-D Tandem	5 7/8 x 2 3/4 x 3 3/8		
1640***	110	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
1684**	6	120	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
1823**	6	180	H-D Single	1 1/2 x 3 3/8		
2117**	12	100	H-D Tandem	5 1/8 x 2 3/4 x 3 3/8		
2507	45*	60	Polarity Changer	1 1/2 x 2 7/8		
2522	45*	60	Polarity Changer	1 1/2 x 2 7/8		
2639	6	60	H-D Tandem	5 1/8 x 2 3/4 x 3 3/8		
2641**	24	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
2989	32	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
3047	12	60	H-D Tandem	5 1/8 x 2 3/4 x 3 3/8	32R8 32RU15 12RU15 110RT15 110RT35 12R8 6R5 6R10	
3077***	110	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
3079	110	60	H-D Tandem	5 7/8 x 2 3/4 x 3 3/8		
3087	12	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
3103	6	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
3217**	32	90	H-D Single	2 7/8 x 5 7/8 x 2 7/8		
4123	6	60	H-D Tandem	5 1/8 x 2 3/4 x 3 3/8		
11028	110	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		
11032**	115	60	Special Tandem	2 3/8 x 5 1/8 x 3 3/8		
32171	32	60	H-D Single	5 7/8 x 2 3/4 x 2 7/8		

\* For operation on 115 volts DC, connect a 2200 ohm resistor in series with the coil.  
\*\* Available only on Special Order.  
\*\*\* Denotes adjustable frequency vibrator.

- ROTATORS
- VIBRATORS
- AUTO AERIALS
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- POWER SUPPLIES



THE **RADIART CORPORATION**  
CLEVELAND 2, OHIO

## DC TO AC CONVERTERS

The RADIART line of converters is complete and furnishes 110 volt 60 cycle AC current from 6, 12, 32, or 110 volt direct current sources. Vibrator powered, they are completely dependable . . . easily installed and fit most any requirement. The RADIART name plate on each converter is your assurance of long life and outstanding performance.



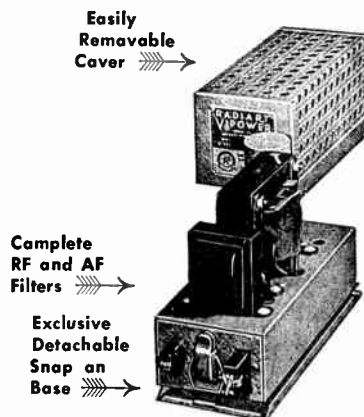
### 110 VOLT 60 CYCLE OUTPUT:

Model No.	Application	DC Input Volts	Output Watts	Size	Weight Lbs.
6R5	Automotive	6	50	6 3/4 x 7 3/4 x 5 7/8	12
6R10		6	100	7 x 12 5/8 x 7 1/2	19
12R8	Marine-Craft, Busses and Trailers	12	80	6 3/4 x 7 3/4 x 5 7/8	12
12RU15		12	150	7 x 12 5/8 x 12 1/2	22
32R8	Farm and Marine	32	80	6 3/4 x 7 3/4 x 5 7/8	13 1/4
32RU15		32	150	6 3/4 x 12 3/8 x 7 1/2	22 1/4
110PA5	Phonograph Motors	110	50VA	3 3/4 x 6 1/4 x 2 3/4	2
110PB5		110	50VA	3 3/4 x 6 1/4 x 2 3/4	2
110R10	Radio and Business Machines	110	100	6 3/4 x 7 3/4 x 5 3/8	10 1/2
110RA15		110	150	6 3/4 x 7 3/4 x 5 3/8	14
110RT15	Especially Designed for Television-with Frequency Control	110	150	6 3/4 x 12 3/4 x 7 1/2	16 3/4
110RT25		110	250	6 1/2 x 12 7/8 x 8 1/2	22 1/2
110RT35		110	350	7 1/2 x 14 x 8 5/8	40 1/2
110WR15A	Wire Recorders	110	150	6 3/4 x 12 3/4 x 7 1/2	16 3/4
110WR15B		110	150	6 3/4 x 12 3/4 x 7 1/2	16 3/4

## Super RADIART VIPOWERS

Vipower Model	DC Input Volts (Nominal)	DC Output Volts (Nominal)	Output Mills.	Type
451A	6	250	60	Self-rectifying
452	6	300*	100	Self-rectifying
453	6	300*	100	OZ4A Rectifier
454	6	300	200	Two OZ4A Rectifiers
455	6	400	150	Two 6X5GT Rectifiers
456	6 V DC or 110 V 60 Cy. AC	300*	100	OZ4A Rectifier
457	6	150	40	Self-rectifying

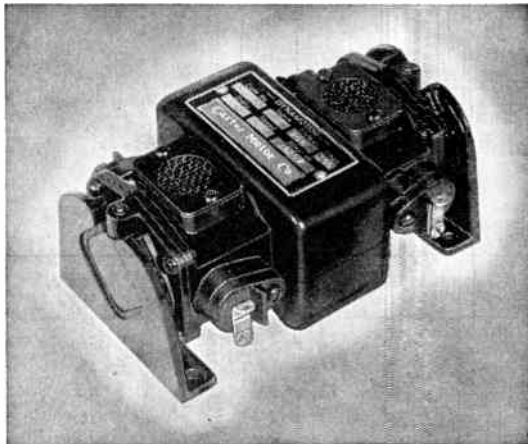
RADIART vibrator power supplies top the field. Complete RF and AF filtering is built into each unit. No extra filter accessories are required. Easily installed with the exclusive Snap-on base plate that allows instant removal of the entire chassis by opening one snap-latch.



\* NOTE: — Tapped at 275V, 250V, 225V. 12 volt models available on special order at slightly higher prices.

# Magmotor Carter Genemotor

**THE CARTER MAGMOTOR FOR  
POLICE - TAXICAB - MARINE AND  
AIRCRAFT RADIO RECEIVERS  
GEOPHYSICAL AND RESEARCH  
ELECTRONIC EQUIPMENT**



CARTER MAGMOTOR—5 $\frac{3}{8}$ " LONG, 3-11/16" WIDE,  
2 $\frac{1}{2}$ " HIGH, WEIGHT 4 $\frac{3}{4}$  LBS.  
Furnished with Rigid Mounting.  
Shock Mounting Illustrated, \$1.00 List Extra.

Code No.	DC Input Volts	DC Input Amps	DC Output Volts	DC Output MA	Duty	List Price
MV1865	5.5	5	180	65	Con.	\$48.30
MA250	6	4.3	250	50	Con.	\$50.93
MV280	5.5	5.8	200	80	Con.	\$50.40
MA265	6	5.4	250	65	Con.	\$51.45
MA251	6	8	250	100	Con.	\$53.03
MB251	12	3.8	250	100	Con.	\$55.65
MA301	6	9.5	300	100	Con.	\$53.55
MB301	12	4.6	300	100	Con.	\$56.18
MA351	6	10.3	350	100	Con.	\$54.60
MAS3515	6	15	350	150	Int.	\$55.65
MAS320	6	19	300	200	Int.	\$57.75
MVS415	5.5	19	400	150	Int.	\$60.38
MBS415	12	8.5	400	150	Int.	\$60.38

#### AC AND DC GENERATORS—

The Magmotor is available on special order for AC output up to 220 volts at 120 cycles. DC output up to 400 volts 30 watts continuous, 50 intermittent, depending upon armature speed.

#### EXTENDED SHAFTS—

Available on all Magmotor models add "S" to end of code number and \$5.00 to list.

#### FILTERS—

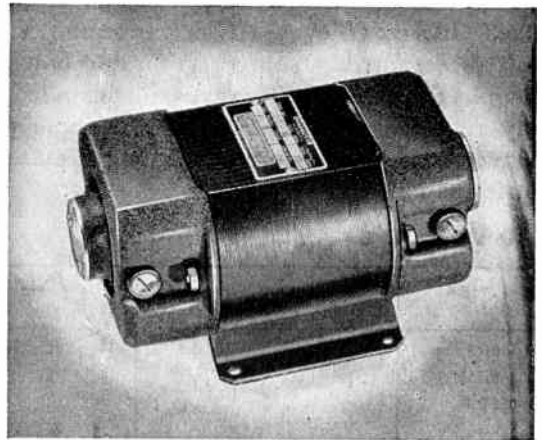
Any of the above Carter Genemotors or Magmotors can be furnished with complete filter mounted in metal box mounted below unit. Add "X" to end of code number and following prices. 1 $\frac{1}{2}$ " and 2" Frame Genemotor models and Magmotors, \$24.00 list, 3" Frame Genemotor Models, \$25.00 list.

#### STARTING RELAYS—

Heavy Duty solenoid contactor starting relays are available for 5.5, 6, 12, 24, 28, 32 and 115 volt DC input. Add "R" to end of code number and \$8.00 to list price (Relay draws 1.3 amps at 6 volts). Seldom required on low power Magmotors.

*See replacement parts reference chart page for other special models, parts and prices.*

**THE ORIGINAL CARTER GENEMOTOR  
FOR POLICE - TAXICAB -  
MARINE AND  
SMALL AIRCRAFT  
MOBILE COMMUNICATIONS**



3" FRAME GENEMOTOR—7 $\frac{1}{8}$ " LONG, 4 $\frac{1}{8}$ " WIDE,  
3 $\frac{1}{2}$ " HIGH, WEIGHT 10 LBS.

Code No.	DC Input Volts	DC Input Amps	DC Output Volts	DC Output MA	Duty	List Price
420A	6.0	23.4	400	200	Con.	\$60.38
420V	5.5	25	400	200	Con.	\$63.00
425BS	12.0	12.8	400	225	Int.	\$62.35
450AS	6.0	28	400	250	Int.	\$60.90
4037AS	6.0	41	400	375	Int.	\$71.40
4228VS	5.5	35	420	280	Int.	\$67.73
4228VSC	5.8	33	420	280	Int.	\$69.30
520AS	6.0	28	500	200	Int.	\$61.95
520VS	5.5	31	500	200	Int.	\$64.58
5925AS	6.0	42	590	250	Int.	\$73.50
671V	5.5	30	600	170	Int.	\$63.00
620AS	6.0	29.5	600	200	Int.	\$67.73
624VS	5.5	46	600	240	Int.	\$71.19
650AS	6.0	39.0	600	250	Int.	\$71.19

#### 2" Frame Genemotor—

6 $\frac{1}{8}$ " long, 4 $\frac{1}{8}$ " wide, 3 $\frac{1}{2}$ " high, weight 8 lbs.

3515VB	5.5	18.0	350	150	Con.	\$58.48
3515AB	6.0	16.4	350	150	Con.	\$55.85
415VB	5.5	20.0	400	150	Con.	\$60.58
415AB	6.0	18.2	400	150	Con.	\$57.95

#### 1 $\frac{1}{2}$ " Frame Genemotor—

5-9/16" long, 4 $\frac{1}{8}$ " wide, 3 $\frac{1}{2}$ " high, weight 7 lbs.

210AB	6	6	200	100	Con.	\$47.45
251AB	6	7.9	250	100	Con.	\$51.60
351AB	6	10.9	350	100	Con.	\$52.70

## FILTERS — STARTING RELAYS

#### DUTY RATINGS

Intermittent duty shall be considered 10 seconds on 20 seconds off. Continuous duty is considered 24 hours per day.

#### INPUT VOLTAGES—

Any Carter Genemotor or Magmotor can be supplied for special input voltages other than 6 volts. For 5.5, 12, 24, 28, 32 or 64 volt input add \$2.50 to list. For 115 volt DC input add \$3.50 to list.

#### LINE-O-LIFE\* BRUSHES—

All Carter products equipped with exclusive "LINE-O-LIFE" Brushes. Takes guess work out of brush replacements.

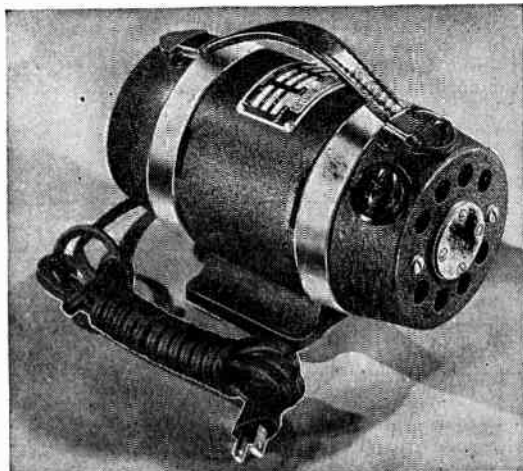
\*PAT. PENDING

# Carter

## Super Converter

The oldest name in Rotary Power Supplies for Mobile Radio

**CARTER SUPER CONVERTER—Changes DC to AC for Amplifiers - Radios - High Power Factor equipment**



CARTER SUPER CONVERTER, LESS FILTER, 8¼" LONG, 4½" WIDE, 5" HIGH, WEIGHT 13 LBS.

Wherever DC to AC Conversion is necessary, the Carter Super Converter provides an efficient and reliable source of AC power. Standard models are designed for high power factor, non-inductive AC loads such as amplifiers, radio receivers, (requires filtered converter), etc. Ball bearing equipped, 3600 RPM. CAUTION: Standard Super Converters will not satisfactorily operate inductive loads such as AC motors, low power factor transformers, etc.

Manually operated frequency controlled Converters available on special order. Maintain 60 cycle output with a + or - 10% input voltage fluctuation.

Special custom-matched Converters are also available for Wire and Tape Recorders, Sound Projectors, Television Receivers, etc. See Carter Selector Chart on next page.

Overall efficiency 60% AC voltage regulation 15%.

### HEAVY DUTY SUPER CONVERTER

10¼" long, 4½" wide, 5" high, weight 19 lbs.

Code No.	DC Input Volts	DC Input Amps	AC Output 60 cy. Volts	AC Output 60 cy. (Watts)	Type Duty	List Price
K1020C	230	1.3	115	200	Con.	\$92.40
K1025C	230	1.6	115	250	Con.	\$97.90
D1020C	115	2.6	115	200	Con.	\$81.40
D1025C	115	3.2	115	250	Con.	\$86.90
H1020C	64	4.8	115	200	Con.	\$84.15
H1025C	64	5.3	115	250	Con.	\$89.65
C1020C	32	10	115	200	Con.	\$84.15
C1025C	32	12	115	250	Con.	\$89.65
J1020C	28	12	115	200	Con.	\$84.15
J1025C	28	14	115	250	Con.	\$89.65
E1020C	24	15	115	200	Con.	\$84.15
E1025C	24	19	115	250	Con.	\$89.65
B1020C	12	30	115	200	Con.	\$84.15
B1025C	12	34	115	250	Con.	\$89.65

### OUTSTANDING FEATURES

**SMALL SIZE**—Smallest Rotary Converter. Lightweight. **CARRYING HANDLE**

Easier to carry, no more "juggling" with a hot unit.

**OUTPUT RECEPTACLE**—Convenient plug in AC outlet.

### ARMATURE

Double wound, insulated ungrounded winding. Built-in cooling fan.

### BALL BEARINGS

Sealed ball bearings require no lubrication or attention.

### SPECIFICATIONS

Carter Super Converter, 40 to 150 watts models 8¼" long, 4½" wide, 5" high, weight 13 lbs. High power factor, 85 to 100%. Less filter.

Code No.	DC Input Volts	DC Input Amps	AC Output 60 cy. Volts	AC Output 60 cy. (Watts)	Type Duty	List Price
K1040C	230	.36	115	40	Con.	\$74.80
K1060C	230	.5	115	60	Con.	75.35
K1080C	230	.6	115	80	Con.	75.90
K1010C	230	.8	115	100	Con.	77.00
K1015C	230	1.	115	150	Con.	82.50
D1040C	115	.7	115	40	Con.	63.80
D1060C	115	1	115	60	Con.	64.35
D1080C	115	1.1	115	80	Con.	64.90
D1010C	115	1.7	115	100	Con.	66.00
D1015C	115	2.0	115	150	Con.	71.50
H1040C	64	1.5	115	40	Con.	66.55
H1060C	64	2	115	60	Con.	67.10
H1080C	64	2.2	115	80	Con.	67.65
H1010C	64	2.5	115	100	Con.	68.75
H1015C	64	3.4	115	150	Con.	74.25
C1040C	32	3	115	40	Con.	66.55
C1060C	32	4	115	60	Con.	67.10
C1080C	32	5	115	80	Con.	67.65
C1010C	32	5.5	115	100	Con.	68.75
C1015C	32	7.4	115	150	Con.	74.25
J1040C	28	3	115	40	Con.	66.55
J1060C	28	4	115	60	Con.	67.10
J1080C	28	5.2	115	80	Con.	67.65
J1010C	28	7	115	100	Con.	68.75
J1015C	28	9	115	150	Con.	74.25
E1040C	24	3.5	115	40	Con.	66.55
E1060C	24	4.3	115	60	Con.	67.10
E1080C	24	6	115	80	Con.	67.65
E1010C	24	8.3	115	100	Con.	68.75
E1015C	24	10	115	150	Con.	74.25
B1040C	12	8	115	40	Con.	66.55
B1060C	12	10	115	60	Con.	67.10
B1080C	12	14	115	80	Con.	67.65
B1010C	12	15	115	100	Con.	68.75
B1015C	12	23	115	150	Con.	74.25
A1040C	6	15	115	40	Con.	66.55
A1060C	6	19	115	60	Con.	67.10
A1080C	6	25	115	80	Con.	67.65
A1010C	6	27	115	100	Con.	68.75
A1015C	6	40	115	150	Con.	74.25

**FILTERS**—Available on all Super Converters. Eliminates Converter noise on most frequencies from 360 KC to 54 MC. Filter mounted in cast aluminum housing below Converter. Add "X" to Code Number and \$25.00 to list.

**FREQUENCY CONTROL**—Manually operated frequency control available on all models. Complete with vibrating reed meter, and rheostat control in aluminum housing. Add \$60.00 to list.

**VOLTAGE-FREQUENCY**—Add \$5.00 to list for 50 cycle output. Add \$10.00 to list for 230 volt D.C. input.

See Carter Selector Chart for Wire and Tape recorder, Television receivers, etc., custom-matched Converters.

# Carter

## Selector Chart

### Carter Custom-Matched Converters for Popular Wire and Tape Recorders - Sound Projectors - Phono Motors - Television \*\*

Whenever DC to AC Rotary Converters are used to power wire and tape recorders or other similar recording equipment, the Converter AC output frequency and Converter Power Factor must be perfectly matched to the recorder load to assure proper recording and play back performance. Most wire and tape recorders are of medium Power Factor design, approximately 70%. Standard high power factor (85 to 100%) Rotary Converters therefore *will not operate* the recorders properly as this type Converter will produce higher AC voltage and frequency because of the inductive recorder load. It is imperative therefore, only factory-tested and recommended Converters be selected for wire and tape recorder operation.

The equipment listed below has been laboratory-tested and the correct Carter Converter recommended for each model. Use this chart for your recorder Converter requirements. If the equipment is not listed on the chart, please write to the factory and information will be supplied, if available.

\*\*Television converters for 100 and 130 watt maximum output available on order, equipped with frequency control. Models for inputs from 6 to 115 volts D.C. Please write for further information on these units.

#### WIRE AND TAPE RECORDER CONVERTERS 70% P.F.

EQUIPMENT MAKE & MODEL	CARTER CONVERTER MODEL AND DC INPUT			Size and Weight
	6 Volt	12 Volt	115 Volt	
<b>60 WATT</b> Air King 750, Ampro 730-731 Crescent H22A1, Knight Wire Web-Cor 80-180-228-18 Wilcox-Gay 8-U-12, Wireway	A1060CW (29 amps drain) <b>\$67.10</b>	B1060CW (14 amp drain) <b>\$67.10</b>	D1060CW (1 amp drain) <b>\$64.35</b>	8 1/4" L, 4 1/2" W, 5" H Wt. 13 lbs.
<b>WITH FILTER</b> Pentron 748 and C-2 Wiretone MR-6	A1060CWX (29 amps) <b>\$92.10</b>	B1060CWX (14 amps) <b>\$92.10</b>	D1060CWX (1 amp) <b>\$89.35</b>	8 1/4" L, 4 1/2" W, 7 1/2" H Wt. 15 lbs.
<b>80 WATT</b> Bell Record-O-Fone RT50-RT65B Crestwood CP201, Dukane Eicor 1000-15-115, Gray Audograph General Industries Foundation Unit* Knight Tape, Peirce 55B Masco D37, LD37, DC37 Pentron T-3, 9T3, 9T3C—RCA Revere T-100, T-500 Sales-O-Matic LR-1 Tape Master Foundation Unit** Web-Cor 210-1, Wilcox-Gay 1-C-10, 2-C-10	A1080CW (31 amps drain) <b>\$67.65</b>	B1080CW (15 amps drain) <b>\$67.65</b>	D1080CW (1.5 amps drain) <b>\$64.90</b>	8 1/4" L, 4 1/2" W, 5" H Wt. 13 lbs.
<b>WITH FILTER</b> Revere TR-200, TR-600 Masco LD37R Ultrasone PT-9	A1080CWX <b>\$92.65</b>	B1080CWX <b>\$92.65</b>	D1080CWX <b>\$89.90</b>	8 1/4" L, 4 1/2" W, 7 1/2" H Wt. 15 lbs. (These Converters equipped with filter to operate radio section also)
<b>130 WATT</b> Brush BK411-414 BK-442-BK443P Berlant Concertone Model 1401 Brush BK401-403 Crescent H19A1 Magnecord PT6-PT6-JA-PT63 Peirce 260-265-270—Reeleast Webster Racine, Ekotape 101-109-111	A1090CW4 (35 amps drain) <b>\$74.80</b>	B1090CW4 (17 amps drain) <b>\$74.80</b>	D1010CW (2 amps drain) <b>\$66.00</b>	6 & 12 Volt 10 1/4" L, 4 1/2" W, 5" H Wt. 18 lbs. 115 Volt 8 1/4" L, 4 1/2" W, 5" H Wt. 13 lbs.
<b>160 WATT</b> Magnecord PT7—Presto PT900 *Including average recorder amplifier **Including Preamplifier only	6 Volt not recommended	B1016CW4 <b>\$77.00</b>	D1016CW4 <b>\$77.00</b>	10 1/4" L, 4 1/2" W, 5" H Wt. 18 lbs.

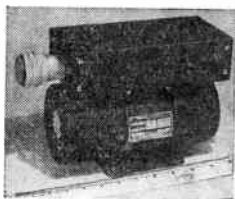
#### SOUND PROJECTORS AND PHONO MOTOR CONVERTERS

Ampro Premier 20 & 30, Bell & Howell No. 179, DeVry Super No. 16, Victor Lite Weight\*, Victor Triumph No. 60\*, Victor Sonomaster\*, General Industries RM4, Green Flier Dual Speed

\*Victor Animatograph Co.

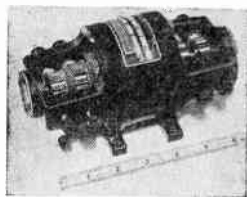
CONVERTER OPERATES SOUND AMPLIFIER ONLY, NOT PROJECTOR LAMP OR MOTOR.  
WILL NOT OPERATE PROJECTORS FROM BATTERY INPUT. 115 OR 230 VOLT D.C. INPUT ONLY

## ★ Other Carter Products ★



**INDUCTOR ALTERNATOR**

Provides mobile high frequency AC power (400 to 800 cycles), up to 150 watts, from DC source. Perfect for aircraft, geophysical, Government and laboratory research. Can also supply up to 400 v. DC plate voltage if necessary. Write for Bulletin No. 350.



**MULTI-MAGMOTOR**

Ideal power for geophysical instruments, government and laboratory research, aircraft and mobile communications. Two, three and four commutator models with permag field, provide up to 3 output voltages from single input; 2 outputs from 1 or 2 inputs; or vice-versa, over wide range. Ask for Bulletin No. 450.



**SUPER-DYNAMOTOR**

For aircraft, marine, police and railroad communications. Input voltages range from 5.5 v. DC to 115 v. DC . . . outputs from 400 v. to 1000 v. DC. Specified by leading airlines, marine, and mobile radio manufacturers. Size 8 1/4" x 4 1/2". Weight 11 3/4 lbs. Described in Catalog No. 649.



**WRITE FOR CATALOGS**

Catalog No. 452 shows complete line Carter DC to AC Converters. Catalog No. 649 covers Dynamotor power supplies, magmotors, Genemotors. Both fully illustrated, contain full specifications, performance charts, etc. Write on your letterhead please.

# Carter

## Replacement Parts Reference Chart

The oldest name in Rotary Power Supplies for Mobile Radio

### REPLACEMENT PARTS REFERENCE CHART

Use this handy chart for ordering the correct CARTER Replacement Dynamotor or Replacement parts. All parts guaranteed to conform to original manufacturer's specifications.

Alg. Model No.	Frequency	Carter Model No.	List Price	Carter Armature No.	Armature List Price	Input Brushes & List Per Set	Output Brushes & List Per Set	Ball Bearings & List Per Each
<b>Doolittle</b> PFY-2 PFY-2A PFY-3 PFY-3A PFY-12	30-40 MC-FM 152-162 MC-FM	4726VS 4726VS	\$65.63 \$65.63	233-2 233-2	\$30.00 \$30.00	No. 7 \$1.20 No. 7 \$1.20	No. 2 80c No. 2 80c	37KVL \$2.50
<b>Federal</b> FT-125-B-25AZ FT-110-25AZ FT-110-50AZ	152-162 MC-FM 30-44 MC-FM 30-44 MC-FM	4037AS 5915AS 5925AS	\$71.40 \$63.00 \$73.50	179-2 252-2 261-2	\$30.00 \$30.00 \$30.00	No. 7 \$1.20 No. 7 \$1.20 No. 7 \$1.20	No. 2 80c No. 2 80c No. 2 80c	37KVL \$2.50
<b>General Electric</b> MC202 MC-1 MC-2 MC-3	152-162 MC-FM 30-44 MC-FM 30-44 MC-FM	MVS-415 Transmitter MA251 Receiver 617V 624VS	\$60.38 \$53.03 \$63.00 \$71.19	360-4 300-6 279-2 309-2	\$27.25 \$26.00 \$30.00 \$30.00	No. 18 \$1.20 No. 23 \$1.20 No. 7 \$1.20 No. 7 \$1.20	No. 9 80c No. 9 80c No. 2 80c No. 2 80c	37KVL \$2.50
<b>Harvey</b> 505 506 542	30-44 MC-FM 152-162 MC-FM	620VS 620VS	\$70.35 \$70.35	307-2 307-2	\$30.00 \$30.00	No. 7 \$1.20 No. 7 \$1.20	No. 2 80c No. 2 80c	37KVL \$2.50
<b>Kaar</b> FM50X FM100X PTL-46X FM-175X	30-44 MC-FM 1600-6000 KC 152-162 MC-FM	6175VS early model 530VS late model VSF820 VSF820 4232VS	\$65.10 \$68.25 \$94.50 \$94.50 \$69.83	278-2 360-2 360-2 231-2	\$30.00 \$40.00 \$40.00 \$30.00	No. 7 \$1.20 No. 30 \$1.20 No. 30 \$1.20 No. 7 \$1.20	No. 2 80c No. 14 80c No. 14 80c No. 2 80c	37KVL \$2.50 38KVL \$2.50 37KVL \$2.50
<b>Mobile Communications (Taxi-Talkie)</b> MFM-25-150 MFM-25-150B	150-170 MC-FM 150-170 MC-FM	450AS 520AS	\$60.90 \$61.95	175-2 208-2	\$30.00 \$30.00	No. 7 \$1.20 No. 7 \$1.20	No. 2 80c No. 2 80c	37KVL \$2.50
<b>Motorola</b> P8050 P8051 P8051 P8661 P8317 P8431	30-44 MC-FM 30-44 MC-FM 30-44 MC-FM 152-162 MC-FM	617V 624VS VVF630 VSF6237M 4228VS 4228VSC	\$63.00 \$71.19 \$90.83 \$92.93 \$67.73 \$69.30	279-2 309-2 276-2 301-2 207-2 195-2	\$30.00 \$30.00 \$40.00 \$40.00 \$30.00 \$30.00	No. 7 \$1.20 No. 7 \$1.20 No. 30-\$1.20 No. 25-\$1.20 No. 7 \$1.20	No. 2 80c No. 2 80c No. 14 80c No. 2 80c	37KVL \$2.50 38KVL \$2.50 37KVL \$2.50
<b>RCA</b> M1-7771A M1-31514 M1-7772A	30-44 MC-FM 152-162 MC-FM 30-44 MC-FM	6175VS 3732VS VSF627	\$65.10 \$69.30 \$88.20	278-2 176-2 274-2	\$30.00 \$30.00 \$40.00	No. 7 \$1.20 No. 7 \$1.20 No. 30 \$1.20	No. 2 80c No. 2 80c No. 14 80c	37KVL \$2.50 38KVL \$2.50
<b>Radio Specialties Mfg. Co.</b> 1096-1-1 1114-1147	520AS 520VS	520AS 520VS	\$61.95 64.58	208-2 231-2	\$30.00 30.00	No. 7 \$1.20	No. 2 80c	37KVL \$2.50
<b>Wilcox Electric</b> 358A	152-162 MC-FM	4228VS	\$67.73	207-2	\$30.00	No. 7 \$1.20	No. 2 80c	37KVL \$2.50

**CARTER MOTOR COMPANY • CHICAGO 47, ILL.**



# A Complete Line of

# POWERSTAT VARIABLE TRANSFORMERS

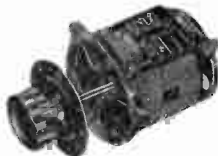
POWERSTAT variable transformers are autotransformers of toroidal core design with a movable brush tap which rotates to deliver a continuously adjustable output voltage from a-c power lines. Features of every POWERSTAT are excellent regulation, high efficiency, conservative ratings, zero waveform distortion, rugged mechanical construction, smooth control and standard mountings. Numerous types are available for 115, 230 and 460 volts, single and three phase operation in ratings from 150 VA to 100 KVA. Most models are offered for either manual or motor-driven operation. In addition, oil-cooled and explosion-proof types are available. In the chart are listed some of the standard types. If one of the units listed does not suit your particular need, consult us. There's a POWERSTAT for every variable a-c voltage control requirement.



TYPE 10



TYPE 20



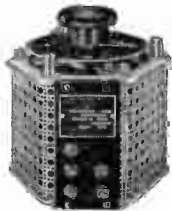
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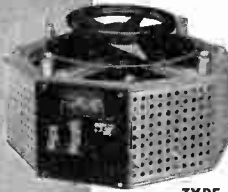
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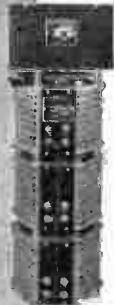
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2PF1126



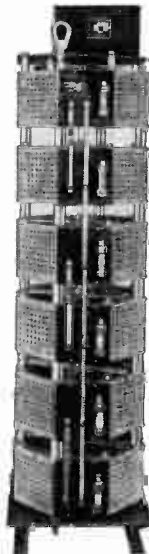
TYPE 1226



TYPE 1156



TYPE MZ1126-3Y



TYPE MW1156-6

Line Volt.	Out-put Volt.	Max. Out-put Amp.	Out-put KVA	Freq-uecy	Type	Approximate Net Wt. (Lbs.)	Shipp. Wt. (Lbs.)	**Standard Motor Speeds
115	0-132	1.3	0.2	60	10	1.8	3	
	0-135	3.0	0.4	160	*20	4	6	
	0-135	7.5	1.0	50/60	*116U	10	11	
	0-135	7.5	1.0	50/60	116	10	12	
	0-135	7.5	1.0	50/60	3PF116	11	12	
	0-135	7.5	1.0	50/60	3TF116	11	12	
	0-135	15.0	2.0	50/60	1126	21	25	W,X,Y,Z
	0-135	15.0	2.0	50/60	F1126	21	25	W,X,Y,Z
	0-135	30.0	4.0	50/60	1126-2P	48	55	W,X,Y,Z
	0-135	45.0	6.1	50/60	1156	73	80	W,X,Y,Z
	0-135	45.0	6.1	50/60	F1156	74	81	W,X,Y,Z
	0-135	90.0	12.1	50/60	1156-2P	150	170	W,X,Y,Z
0-135	135.0	18.2	50/60	1156-3P	225	295	W,X,Y,Z	
0-135	180.0	24.3	50/60	1156-4P	330	420	W,X,Y	
0-135	270.0	36.4	50/60	1156-6P	500	600	W,X,Y	
230	0-270	3.0	0.81	50/60	*216U	10	11	
	0-270	3.0	0.81	50/60	216	11	12	
	0-270	3.0	0.81	50/60	3PF216	11	12	
	0-270	3.0	0.81	50/60	3TF216	11	12	
	0-270	7.5	2.0	50/60	*116U-2S	17	22	
	0-270	7.5	2.0	50/60	*116-2S	18	23	
	0-270	9.0	2.4	50/60	1226	25	29	W,X,Y,Z
	0-270	9.0	2.4	50/60	F1226	25	29	W,X,Y,Z
	0-270	15.0	4.0	50/60	1226-2S	45	52	W,X,Y,Z
	0-270	28.0	7.5	50/60	1256	73	80	W,X,Y,Z
	0-270	28.0	7.5	50/60	F1256	74	80	W,X,Y,Z
	0-270	45.0	12.1	50/60	1156-2S	144	164	W,X,Y,Z
0-270	56.0	15.1	50/60	1256-2P	150	170	W,X,Y,Z	
0-270	84.0	22.7	50/60	1256-3P	225	295	W,X,Y,Z	
0-270	112.0	30.2	50/60	1256-4P	330	420	W,X,Y	
0-270	168.0	45.3	50/60	1256-6P	500	600	W,X,Y	
460	0-540	3.0	1.6	50/60	216U-2S	17	22	
	0-540	3.0	1.6	50/60	216-2S	18	23	
	0-540	9.0	4.9	50/60	1226-2S	53	60	W,X,Y,Z
	0-540	28.0	15.1	50/60	1256-2S	144	164	W,X,Y,Z
	0-540	56.0	30.2	50/60	1256-4PS	330	420	W,X,Y
0-540	84.0	45.3	50/60	1256-6PS	500	600	W,X,Y	
Three Phase	0-135	3.0	0.7	160	*20-2D	9	15	
	0-135	7.5	1.8	50/60	*116U-2D	17	22	
	0-135	7.5	1.8	50/60	*116-2D	18	23	
	0-135	15.0	3.5	50/60	1126-2D	45	52	W,X,Y,Z
	0-135	45.0	10.5	50/60	1156-2D	144	164	W,X,Y,Z
	0-135	90.0	21.0	50/60	1156-4D	320	415	W,X,Y
	0-135	135.0	31.6	50/60	1156-6D	490	590	W,X,Y
230	0-230	3.0	1.2	60	20L-3Y	15	24	
	0-270	3.0	1.4	50/60	*216U-2D	17	22	
	0-270	3.0	1.4	50/60	*216-2D	18	23	
	0-270	7.5	3.5	160	*116U-3Y	26	36	
	0-270	7.5	3.5	160	*116-3Y	27	37	
	0-270	9.0	4.2	50/60	1226-2D	53	60	W,X,Y,Z
	0-270	15.0	7.0	160	1126-3Y	65	75	W,X,Y,Z
	0-270	28.0	13.1	50/60	1256-2D	144	164	W,X,Y,Z
	0-230	45.0	17.9	50/60	1156L-3Y	215	280	W,X,Y,Z
	0-270	56.0	26.2	50/60	1256-4D	320	410	W,X,Y
	0-270	84.0	39.3	50/60	1256-6D	490	590	W,X,Y
	0-230	90.0	35.8	50/60	1156L-6Y	500	600	W,X,Y
460	0-540	3.0	2.8	160	*216U-3Y	26	36	
	0-540	3.0	2.8	160	216-3Y	27	37	
	0-540	9.0	8.4	160	1226-3Y	76	86	W,X,Y,Z
	0-540	28.0	26.2	160	1256-3Y	215	280	W,X,Y,Z
	0-540	56.0	52.5	160	1256-6Y	500	600	W,X,Y

\* These units are supplied with an "L" terminal which allows connecting in the field to limit the output voltage to the applied voltage. If "L" type connection is required on other models, the "L" must be included in the type number when ordering.

† When these POWERSTATS are "L" connected so that the output voltage does not exceed the applied voltage, the frequency range is 50/60 cycles.

\*\* When a motor-drive is required, prefix the letter "M" together with the speed designation letter to the type number. Z - 6 seconds, Y - 14 seconds, X - 19 seconds and W - 45 seconds for full range travel. Since the driving motors are frequency sensitive, be sure to specify whether 50 or 60 cycles is required. Only manually-operated unit weights are listed. For motor-drives add 10, 11 and 14 pounds to the 116-216, 1126-1226 and 1156-1256 types, respectively.



WRITE FOR POWERSTAT BULLETIN P 550  
THE SUPERIOR ELECTRIC COMPANY

# THE SUPERIOR ELECTRIC COMPANY

## THE ONE SOURCE FOR VOLTAGE CONTROL EQUIPMENT

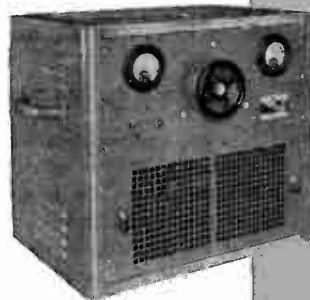
The Superior Electric Company offers equipment for most voltage control applications. In the shop, laboratory or inspection department or any other place voltage must be controlled — you can look to SUPERIOR for precision perfected voltage control apparatus to suit your needs.

## VARICELL D-C POWER SUPPLIES

The VARICELL operates from an a-c source to deliver a stabilized and regulated variable d-c output voltage. Any setting of output voltage is unaffected by line voltage changes or load current variations. For any setting in the range of 6 to 30 volts, R.M.S. ripple voltage never exceeds 0.1 volts, stabilization and regulation is  $\pm 0.25$  volts. A-C input: 95-135 volts, 60 cycle, single phase; D-C output: 0-30 volts, 15 amperes.

WRITE FOR VARICELL BULLETIN V1051

TYPE 13015



## VOLTBOX A-C POWER SUPPLIES

This compact, portable source of variable a-c voltage is widely used in laboratories and in inspection, test and plant maintenance departments. All necessary components are housed in the cast-aluminum case. Connected to a 50/60 cycle, single phase source, turning the "ON-OFF" switch to "ON", snapping the line-load switch to "LOAD" and rotating the knob produces a continuously adjustable output voltage at the output receptacles and binding posts. Various models are offered in ratings to suit each requirement.

WRITE FOR BULLETIN P550

TYPE UCTM



## Superior 5-WAY BINDING POSTS

This versatile binding post offers 5 different methods of connection — permanent clamping, spade lug, clip-lead, banana plug, or looping and clamping. Ruggedly built of the finest materials, it is easy to install and use. Complete insulation is provided with a current capacity of 30 amperes and a working voltage of 1,000 volts. Available in red or black.

WRITE ON YOUR LETTERHEAD FOR A FREE SAMPLE

Long active in the development of precision voltage control apparatus, The Superior Electric Company is thoroughly familiar with every aspect of this important subject. Sound, practical advice will gladly be given on any type of installation. A complete engineering service is available to develop special adaptations or new designs for unusual applications. Equipment for defense orders will be engineered and manufactured to meet government specifications.



5-WAY BINDING POST

WRITE TO 52 THURE AVENUE  
THE SUPERIOR ELECTRIC COMPANY  
BRISTOL, CONNECTICUT



# STABILINE

*Automatic* VOLTAGE REGULATORS

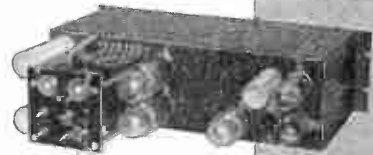
Two types of STABILINE automatic voltage regulators are built by The Superior Electric Company to meet the requirements of maintaining constant voltage to electrical equipment.

## TYPE IE INSTANTANEOUS ELECTRONIC

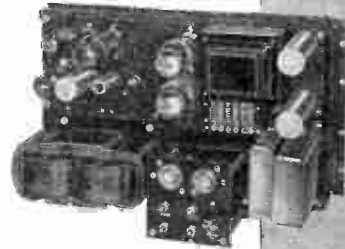
The completely electronic type IE has no moving parts and provides instantaneous correction of line voltage variations. At no load, full load or any intermediate load, constant output voltage is maintained regardless of line fluctuations. The output voltage is held to within  $\pm 0.1$  volts of nominal for wide line variations and within  $\pm 0.15$  volts of nominal for any load current or load power factor change from lagging .5 to leading .9. Waveform distortion never exceeds 3%. Standard types are listed below.

## TYPE EM ELECTRO MECHANICAL

The type EM consists of a very sensitive electronic detector controlling a motor-driven POWERSTAT variable transformer which feeds a buck-boost auxiliary transformer. While not instantaneous, the type EM corrects faster than most automatic voltage regulators. It is ideal for maintaining constant voltages to large industrial loads or for obtaining a constant output voltage with zero waveform distortion. Features include complete insensitivity to the magnitude and power factor of the load, no effect on system power factor, no critical adjustments, high efficiency and adjustable output voltage.



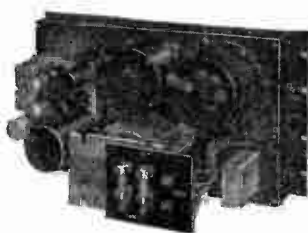
TYPE IE51002R



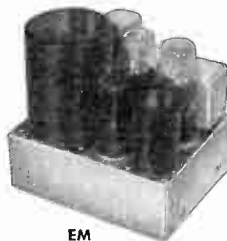
TYPE IE5101R



TYPE EM4115



TYPE EM4102R



EM CONTROL CIRCUIT

### RATINGS TYPE IE

Input Voltage Range	Output Voltage Range	Frequency In Cycles	Load Range In Amperes	Load Power Factor Range	Rated Output KVA	Type	
95-135	110-120	60 $\pm$ 10%	0 - 2.2	.5 lagging	0.25	IE51002	
95-135	110-120	60 $\pm$ 10%	0 - 2.2		0.25	IE51002R	
95-135	110-120	60 $\pm$ 10%	0 - 4.5		0.5	IE51005	
95-135	110-120	60 $\pm$ 10%	0 - 4.5		0.5	IE51005R	
95-135	110-120	50 $\pm$ 10%	0 - 4.5		0.5	IE51005S	
95-135	110-120	50 $\pm$ 10%	0 - 4.5		0.5	IE51005SR	
195-255	220-240	50 $\pm$ 10%	0 - 2.2		to .9 leading	0.5	IE52005
195-255	220-240	50 $\pm$ 10%	0 - 2.2			0.5	IE52005R
95-135	110-120	60 $\pm$ 10%	0 - 8.5			1.0	IE5101
95-135	110-120	60 $\pm$ 10%	0 - 8.5			1.0	IE5101R
95-135	110-120	50 $\pm$ 10%	0 - 8.5	1.0		IE5101S	
95-135	110-120	50 $\pm$ 10%	0 - 8.5	1.0		IE5101SR	
195-255	220-240	50 $\pm$ 10%	0 - 4.5	1.0		IE5201	
195-255	220-240	50 $\pm$ 10%	0 - 4.5	1.0		IE5201R	
95-135	110-120	60 $\pm$ 10%	0 - 22.0	2.5		IE5102	
95-135	110-120	60 $\pm$ 10%	0 - 22.0	2.5		IE5102R	
195-255	220-240	60 $\pm$ 10%	0 - 11.0	2.5	IE5202		
195-255	220-240	60 $\pm$ 10%	0 - 11.0	2.5	IE5202R		
195-255	220-240	50 $\pm$ 10%	0 - 11.0	2.5	IE5202S		
195-255	220-240	50 $\pm$ 10%	0 - 11.0	2.5	IE5202SR		
95-135	110-120	60 $\pm$ 10%	0 - 43.5	5.0	IE5105		
195-255	220-240	60 $\pm$ 10%	0 - 22.0	5.0	IE5205		

### RATINGS TYPE EM

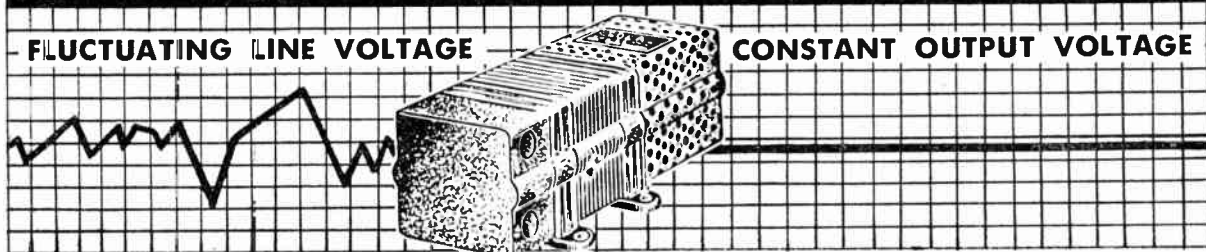
Nominal Output Voltage	Input Voltage Range	Output Voltage Range	Output Current (Amperes)	Output KVA	Type
Single Phase 115	95-135	110-120	17.5	2.0	EM4102
			52.0	6.0	EM4106
			130.0	15.0	EM4115
230	195-255	220-240	32.5	7.5	EM4207
			120.0	27.5	EM4228
460	400-520	420-460	15.0	6.6	EM4407
			40.0	17.6	EM4418
Three Phase 230	195-255	220-240	25.0	10.0	EM6210Y
			38.0	15.0	EM6215Y
			50.0	20.0	EM6220Y
			113.0	45.0	EM6245Y
			175.0	70.0	EM6270D
460	400-520	420-460	16.0	12.5	EM6412Y
			22.0	17.5	EM6417Y
			33.0	25.0	EM6425Y
			66.0	50.0	EM6450Y
			100.0	75.0	EM6475Y
420-500	420-460	131.0	100.0	EM64100Y	

WRITE FOR STABILINE BULLETIN S 351  
52 THURE AVENUE, BRISTOL, CONNECTICUT



# SO LA *Constant Voltage* TRANSFORMERS

SOLA Electric Co. • Chicago 50, Ill.



## Automatic Instantaneous Voltage Regulation

SOLA Constant Voltage Transformers are static magnetic voltage regulators. They are designed to provide a constant output voltage which is unaffected by changes in input voltage. You will find, listed in the following pages, the widest range of ratings and types available from stock offered by any manufacturer.

In addition, CUSTOM DESIGNED UNITS can be manufactured in capacities from 1 VA to 25,000 VA, to suit your individual specifications. When ordered in substantial quantities, they cost only slightly more than standard units of the same general size. Often, time and money can be saved by direct use or modification of a regulator from the several hundred special designs on file. Custom designs can include: SPECIAL VOLTAGE RATIOS, SPECIAL FREQUENCIES, COMPENSATION FOR FREQUENCY VARIATION, MULTIPLE OUTPUT VOLTAGES, THREE-PHASE SERVICE, and MILITARY SPECIFICATIONS.

SOLA Constant Voltage Transformers have eight distinct advantages over regulators which depend solely upon saturation of core materials for their regulating action, or electronic type regulators:

1. Response time, 1.5 cycles or less.
2. No moving or renewable parts . . . no manual adjustments.
3. Completely automatic continuous regulation.
4. Self-protecting against short circuits.
5. Current limiting characteristic protects load equipment from excessive fault currents.
6. Can often be substituted for conventional non-regulating transformers.
7. Relatively compact.
8. Provide isolation between input and output circuits.

For complete operational data write for Bulletin 13 CV-142



### CONSTANT VOLTAGE TRANSFORMER FOR PLATE AND FILAMENT SUPPLY

#### TYPE CVE

A single, compact source of filament and plate supply voltages . . . regulated to within  $\pm 3\%$  or less with line voltage variations of 100-130 volts. Supplied with separate capacitor.

ELECTRICAL AND MECHANICAL SPECIFICATIONS: Input 100-130 v.

CATALOG NUMBER	CAP. V.A.	D.C. INPUT VOLTS TO FILTER	FILAMENT WINDINGS		OVERALL DIMENSIONS IN INCHES			SHIP. WEIGHT.	*NET PRICE EACH
			6.3v	5.0v	Length	Width	Height		
7105	42	275v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	4 1/8	3 1/8	3 3/16	5 1/2	\$14.50
7106	75	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	4 1/8	3 1/8	3 15/16	8 3/4	18.00
7107	210	380v D.C. @ 250 M.A.	# 1: 4.0 amps # 2: 8.0 amps unregulated	3.0 amps	7	4 1/2	4 7/8	19	28.00

**DIMENSIONS** — A: OVERALL LENGTH    C: OVERALL HEIGHT  
 B: OVERALL WIDTH                    E & F: MOUNTING DIMENSIONS

\*PRICES F.O.B. CHICAGO, ILL. SUBJECT TO CHANGE WITHOUT NOTICE

**DATA ON STANDARD "CV" AND OTHER TYPES ON FOLLOWING PAGES**

# SPECIALIZED STANDARD TYPES

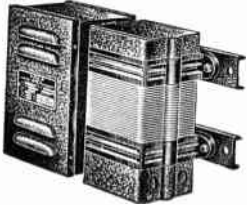
**SOLA**  
ELECTRIC CO.

## TYPES

## ELECTRICAL and MECHANICAL SPECIFICATIONS

ILLUSTRATIONS FOR STANDARD TYPE "CV" UNITS ON RIGHT HAND PAGE

### CONSTANT VOLTAGE TRANSFORMER WITH HARMONIC FILTER TYPE CVH



Incorporates harmonic neutralizer circuit . . .  $\pm 1\%$  regulated . . . less than 3% harmonic distortion.

All models — Input 95-125 v, Output 115 v

CAT. NO.	CAP. V.A.	DIMENSIONS IN INCHES						SHIP'G WGT.	*NET PRICE EACH
		A	B	C	E	F			
5002	30	4 $\frac{3}{16}$	11 $\frac{3}{8}$	4 $\frac{1}{2}$	2 $\frac{5}{16}$	10 $\frac{3}{8}$	27	\$30.00	
5003	60	4 $\frac{3}{16}$	11 $\frac{3}{4}$	4 $\frac{1}{2}$	2 $\frac{5}{16}$	10 $\frac{3}{4}$	35	38.00	
5004	120	7 $\frac{1}{8}$	11	5 $\frac{7}{8}$	6 $\frac{1}{2}$	8 $\frac{3}{4}$	45	51.00	
5005	250	8 $\frac{1}{2}$	16 $\frac{7}{8}$	6 $\frac{1}{4}$	3 $\frac{1}{2}$	15 $\frac{3}{8}$	60	80.00	
5006	500	10 $\frac{1}{4}$	16 $\frac{7}{8}$	6 $\frac{1}{4}$	5 $\frac{1}{4}$	15 $\frac{3}{8}$	70	110.00	
5008	1000	14 $\frac{1}{8}$	21 $\frac{1}{4}$	8 $\frac{3}{4}$	6 $\frac{3}{4}$	20	160	180.00	
5010	2000	20 $\frac{1}{16}$	26 $\frac{1}{4}$	11 $\frac{1}{4}$	12 $\frac{1}{4}$	24 $\frac{1}{4}$	320	310.00	

Transformers of catalog numbers 5002, 5003 and 5004 are now equipped with a primary cord and a secondary receptacle output for convenience in the laboratory. All other transformers are manufactured with knockout boxes.

### ADJUSTABLE . . . REGULATED . . . A.C. VOLTAGE SUPPLY With Harmonic Filter TYPE CVL

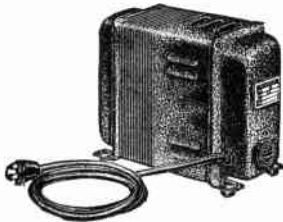


One outlet regulated  $\pm 1\%$  and adjustable from 0 to 130 volts. One outlet for fixed value 115 volts regulated  $\pm 1\%$ . Total harmonic distortion less than 3%. Regulating response 1.5 cycles or less. Self-protecting against short circuit. Portable for use in shop or laboratory.

Input 95-125 v; Output No. 1, 115 v; Output No. 2, 0-130 v

CAT. NO.	CAP. V.A.	DIMENSIONS IN INCHES			SHIP. WEIGHT	*NET PRICE EACH
		A	B	C		
50105	250	12 $\frac{5}{8}$	7 $\frac{1}{2}$	12 $\frac{5}{8}$	50	\$ 98.00
50106	500	13 $\frac{5}{8}$	7 $\frac{1}{2}$	14 $\frac{3}{8}$	70	138.00

### CONSTANT VOLTAGE TRANSFORMER FOR TELEVISION RECEIVERS TYPE CVA



Voltage regulation for home TV Receivers eliminates flicker and distortion due to line voltage variations. Moderate price . . . plug-in type . . . regulation  $\pm 3\%$  or less.

Input 95-130 v, Nominal Output Value in 115-120 v range.

CAT. NO.	CAP. V.A.	DIMENSIONS IN INCHES			SHIP. WEIGHT	*NET PRICE EACH
		A	B	C		
7201	180	7 $\frac{1}{4}$	8 $\frac{1}{8}$	4 $\frac{1}{2}$	19	\$34.50
7202	300	7 $\frac{1}{4}$	9 $\frac{1}{8}$	4 $\frac{1}{2}$	26	37.50

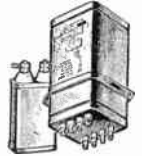
**DIMENSIONS** — A: Overall Length B: Overall Width C: Overall Height E & F: Mounting Dimensions

\*Prices F.O.B. Chicago, Ill. Subject to change without notice.

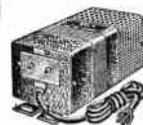
TYPE 1



TYPE 12



TYPE 2



TYPE 21



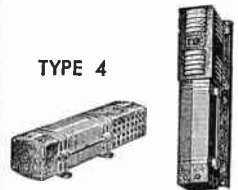
TYPE 22

TYPE 3

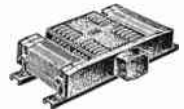


TYPE 41

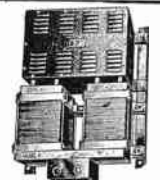
TYPE 4



TYPE 5



TYPE 6



SOLA Electric Co. • Chicago 50, Ill.



# STANDARD TYPE "CV"

# SOLO *Constant Voltage* TRANSFORMERS

## ELECTRICAL AND MECHANICAL SPECIFICATIONS

60 CYCLE, SINGLE PHASE

Catalog Number	Output Capacity in VA	VOLTAGE		Dimensions in Inches					Approx. Shipping Weight	*Net Price Each
		Input Range	± 1% Regulated Output	A	B	C	E	F		
<b>TYPE 1</b>										
30488	15	95-125	6.0	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{7}{8}$	5 $\frac{1}{8}$	.....	6	\$ 16.00
30492	15	95-125	6.3	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{7}{8}$	5 $\frac{1}{8}$	.....	6	16.00
30498	15	95-125	115.0	5 $\frac{11}{16}$	2 $\frac{5}{8}$	3 $\frac{7}{8}$	5 $\frac{1}{8}$	.....	6	16.00
<b>TYPE 12</b>										
301002	15	95-125	6.3	5 $\frac{3}{8}$	3 $\frac{1}{2}$	2 $\frac{1}{4}$	3	1 $\frac{1}{2}$	2 $\frac{1}{2}$	20.00
301003	15	95-125	115.0	5 $\frac{3}{8}$	3 $\frac{1}{2}$	2 $\frac{1}{4}$	3	1 $\frac{1}{2}$	2 $\frac{1}{2}$	20.00
<b>TYPE 2</b>										
30804	30	95-125	115.0	8 $\frac{3}{8}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	7 $\frac{13}{16}$	2 $\frac{3}{8}$	12	18.00
30805	60	95-125	115.0	8 $\frac{13}{16}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	8 $\frac{1}{8}$	2 $\frac{3}{8}$	13	25.00
30806	120	95-125	115.0	9 $\frac{1}{16}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	8 $\frac{1}{8}$	2 $\frac{3}{8}$	17	34.00
30888	150	95-125	115.0	10 $\frac{1}{8}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	9 $\frac{7}{8}$	2 $\frac{3}{8}$	19	43.00
<b>TYPE 21</b>										
30881	25	95-125	6.3	8 $\frac{7}{8}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	7 $\frac{1}{8}$	2 $\frac{3}{8}$	12	17.00
30882	50	95-125	6.3	8 $\frac{13}{16}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	8 $\frac{1}{8}$	2 $\frac{3}{8}$	13	24.00
<b>TYPE 22</b>										
30885	60	95-125	115.0	10 $\frac{5}{8}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	9 $\frac{3}{8}$	2 $\frac{3}{8}$	13	25.00
30886	120	95-125	115.0	11 $\frac{1}{8}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	10 $\frac{7}{8}$	2 $\frac{3}{8}$	19	34.00
<b>TYPE 3</b>										
30807	250	95-125	115.0	11 $\frac{5}{8}$	6 $\frac{1}{8}$	5 $\frac{5}{8}$	3 $\frac{1}{4}$	6 $\frac{1}{8}$	30	56.00
30M807	250	190-250	115.0	11 $\frac{5}{8}$	6 $\frac{1}{8}$	5 $\frac{5}{8}$	3 $\frac{1}{4}$	6 $\frac{1}{8}$	30	56.00
30808	500	95-125	115.0	14 $\frac{1}{2}$	6 $\frac{1}{8}$	5 $\frac{5}{8}$	5	6 $\frac{1}{8}$	40	81.00
30M808	500	190-250	115.0	14 $\frac{1}{2}$	6 $\frac{1}{8}$	5 $\frac{5}{8}$	5	6 $\frac{1}{8}$	40	81.00
<b>TYPE 4</b>										
30809	1000	95-125	115.0	19 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	6 $\frac{3}{4}$	8 $\frac{1}{2}$	115	135.00
30M809	1000	190-250	115.0	19 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	6 $\frac{3}{4}$	8 $\frac{1}{2}$	115	135.00
30811	2000	95-125	115.0	31 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205	245.00
30M811	2000	190-250	115.0	31 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205	245.00
30968	2000	190-250	230.0	31 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{7}{8}$	12 $\frac{1}{4}$	8 $\frac{1}{2}$	205	245.00
<b>TYPE 41</b>										
30M813	3000	95/190-125/250	115.0	44 $\frac{11}{16}$	10	9 $\frac{3}{8}$	42 $\frac{5}{8}$	8 $\frac{1}{2}$	325	325.00
30877	3000	95/190-125/250	230.0	44 $\frac{11}{16}$	10	9 $\frac{3}{8}$	42 $\frac{5}{8}$	8 $\frac{1}{2}$	325	325.00
<b>TYPE 5</b>										
30M814	4000	95/190-125/250	115.0	21 $\frac{5}{8}$	42 $\frac{3}{4}$	9 $\frac{7}{8}$	12 $\frac{1}{4}$	40 $\frac{1}{4}$	520	410.00
30M815	5000	95/190-125/250	115.0	24 $\frac{1}{8}$	42 $\frac{3}{4}$	9 $\frac{7}{8}$	14 $\frac{3}{4}$	40 $\frac{1}{4}$	570	515.00
30M816	5000	95/190-125/250	230.0	24 $\frac{1}{8}$	42 $\frac{3}{4}$	9 $\frac{7}{8}$	14 $\frac{3}{4}$	40 $\frac{1}{4}$	570	515.00
<b>TYPE 6</b>										
301700	10,000	190/380-250/500	115.0	48	35 $\frac{1}{4}$	9 $\frac{5}{8}$	38 $\frac{7}{8}$	33 $\frac{1}{4}$	1025	990.00
301701	10,000	190/380-250/500	230.0	48	35 $\frac{1}{4}$	9 $\frac{5}{8}$	38 $\frac{7}{8}$	33 $\frac{1}{4}$	1025	990.00

**DIMENSIONS** — A: OVERALL LENGTH C: OVERALL HEIGHT  
B: OVERALL WIDTH E & F: MOUNTING DIMENSIONS

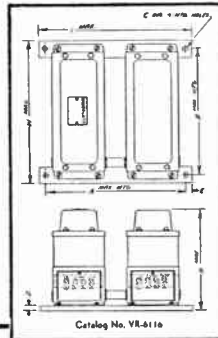
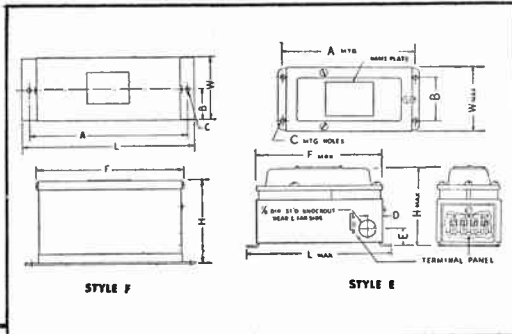
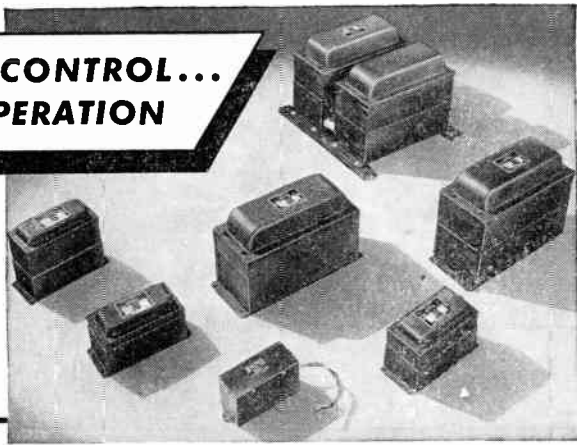
\*PRICES F.O.B. CHICAGO, ILL. SUBJECT TO CHANGE WITHOUT NOTICE

SOLO Electric Co. • Chicago 50, Ill.

**FOR POSITIVE VOLTAGE CONTROL...  
DEPENDABLE, ACCURATE OPERATION**



# VOLTAGE STABILIZERS



## TESTS PROVE 10 POINTS OF RAYTHEON SUPERIORITY

1. Deliver accurate DC voltage within  $\pm 1/2\%$
2. Stabilize output with more precision
3. Regulate better at full load
4. Hold up better under over-load
5. Better no-load to full-load regulation
6. Accept wider input voltage range
7. Less voltage change as units heat up
8. Less change in output as frequencies fluctuate
9. Smaller, lighter, more compact; no moving parts
10. Cost less to operate

CATALOG NO.	OUTPUT CAP. WATTS	STYLE	DIMENSIONS IN INCHES										NET WEIGHT LBS.
			OVERALL			MOUNTING			LOCATIONS				
			L	W	H	A	B	C	D	E	F		
VR-6110	15	F	6 $\frac{1}{4}$	2 $\frac{1}{2}$	3	5 $\frac{1}{4}$	1 $\frac{1}{4}$	$\frac{1}{4}$ dia.	$\frac{5}{16}$	$\frac{3}{16}$	5 $\frac{1}{16}$	4	
VR-6101*	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	$\frac{9}{32} \times \frac{7}{32}$	1 $\frac{1}{16}$	$\frac{7}{8}$	6 $\frac{1}{16}$	5	
VR-6111	30	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	$\frac{9}{32} \times \frac{7}{32}$	1 $\frac{1}{16}$	$\frac{7}{8}$	6 $\frac{1}{16}$	5	
VR-6112	60	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	4 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	$\frac{9}{32} \times \frac{7}{32}$	1 $\frac{1}{16}$	$\frac{7}{8}$	6 $\frac{1}{16}$	8	
VR-6113	120	E	7 $\frac{1}{2}$	3 $\frac{3}{8}$	5 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{4}$	$\frac{9}{32} \times \frac{7}{32}$	1 $\frac{1}{16}$	$\frac{7}{8}$	6 $\frac{1}{16}$	14	
VR-6114	250	E	12 $\frac{3}{8}$	5	7 $\frac{3}{8}$	11 $\frac{1}{16}$	3 $\frac{1}{2}$	$\frac{9}{32} \times \frac{1}{16}$	$\frac{7}{8}$	1	11 $\frac{1}{16}$	25	
VR-6115	500	E	12 $\frac{3}{8}$	5	9 $\frac{1}{8}$	11 $\frac{1}{16}$	3 $\frac{1}{2}$	$\frac{9}{32} \times \frac{1}{16}$	$\frac{7}{8}$	1	11 $\frac{1}{16}$	45	
VR-6116	1000	H	14 $\frac{1}{16}$	13 $\frac{3}{16}$	9 $\frac{5}{8}$	12 $\frac{3}{8}$	11 $\frac{1}{16}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{3}{16}$		92	
VR-6117	2000	H	36 $\frac{1}{4}$	14 $\frac{3}{8}$	10 $\frac{1}{8}$	34	12 $\frac{3}{8}$	$\frac{9}{16}$ dia.				200	

\* Output 6.0 or 7.5 volts stabilized to  $\pm 1/2\%$

Style E Models, VR-6101 to VR-6113 inclusive, available with cord and plug; specify by adding "CP" to catalog number. For accessory cord, plug and mounting plate on Model VR-6114 and VR-6115, specify "Assembly 51-590G2".



**T**HE complete line of Raytheon Voltage Stabilizers is available through 114 authorized distributors. All models operate on input of 95 to 130 volt, 60 cycle, single phase current. They are produced in a wide range of catalog types rated from 15 to 2000 watts as outlined in table above. Each model compensates for widely varying input ( $\pm 15\%$ ) within 1/20 of a second, maintains voltage within  $\pm 1/2\%$  of rated output. Special custom-built units, in ratings from 5 to 10,000 watts, are also available to meet special needs; write for complete information.

## RAYTHEON

MANUFACTURING COMPANY  
EQUIPMENT SALES DIVISION

DEPT. 6470-ME, WALTHAM 54, MASSACHUSETTS

DISTRICT OFFICES: BOSTON, NEW YORK, CLEVELAND, CHICAGO, NEW ORLEANS, LOS ANGELES (WILMINGTON), SAN FRANCISCO, SEATTLE  
INTERNATIONAL DIVISION: 19 RECTOR ST., NEW YORK CITY

RAYTHEON PRODUCTS INCLUDE:

MARINERS PATHFINDER\* radar; Submarine Signal FATHOMETERS\*; Marine radiotelephones; WELD-POWER\* welders; Voltage stabilizers (regulators); Transformers; RectiCharger\* battery chargers; RectiFilter\* battery eliminators; Sonic oscillators for laboratory research; Standard control knobs; Electronic calculators and computers; Television receivers; Radio, television, submarine and special purpose tubes; MICROTHERM\* diathermy and other electronic equipment. \*Reg. U. S. Pat. Off.

# Gothard CONVERTERS

## Springfield, Illinois

### DYNAMOTORS

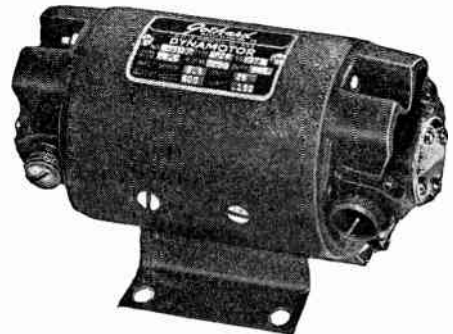
#### GOTHARD DYNAMOTORS

The GOTHARD Model "GP-26" is especially designed and built for Mobile Transmitter applications, intermittent duty. Length 7 1/4", Diam. 3 1/2", Height 4", Weight 8 1/4 lbs.

INPUT		OUTPUT		Watts	Approx. Effic.	App. Reg.
Volts	Amps.	Volts	MA			
5.6	24	400	200	80	60%	17%
5.6	26	600	150	90	61%	18%
5.6	29	400	250	100	61%	19%
5.6	31	620	170	105	61%	20%
5.6	33	500	225	112	61%	21%
5.6	34	420	280	118	62%	22%
6.0	40	400	375	150	63%	25%

Prices upon request. Submit your special requirements to our engineers.

Also supplied for 12, 14, 24, 28, or 32 Volt input. For continuous duty applications, Models GP-12, GP-17 and GP-26 cover wattage ratings from 20 to 80 Watts. Input voltages 6, 12, 24, or 32. GP-12: Length 5 3/4", Diam. 3 1/2", Height 4", Weight 5 1/4 lbs. GP-17: Length 6 1/4", Diam. 3 1/2", Height 4", Weight 6 lbs. GP Models have steel mounting bases; width 4 1/8".



MODEL "GP-26" DYNAMOTOR

#### GOTHARD AIRCRAFT DYNAMOTORS

Frame Size	INPUT		OUTPUT		Length	Diam.	Weight
	Volts	Amps.	Volts	MA			
DS-12	12	2.6	250	60	4 3/4"	2 3/4"	2 7/8"
DS-17	12	3.6	250	90	5 1/4"	2 3/4"	3 7/8"
SP-12	12	4.0	250	100	6"	3 1/2"	4 3/4"
SP-17	12	5.2	300	125	6 1/2"	3 1/2"	5 5/8"
SP-22	12	6.4	400	125	7"	3 1/2"	6 1/2"
SF-20	12	8.4	400	150	6 3/4"	4"	8 1/2"
SF-25	12	10.	500	150	7 1/4"	4"	9 3/4"

Prices upon request. Submit your special requirements to our engineers.

Above ratings are continuous duty with temperature of 40°C. Also supplied for 6, 14, 24, 28, or 32 Volt input. "SP" and "SF" dynamotors may be supplied in fan-ventilated construction as types "SPF" and "SFF". Prices upon request.



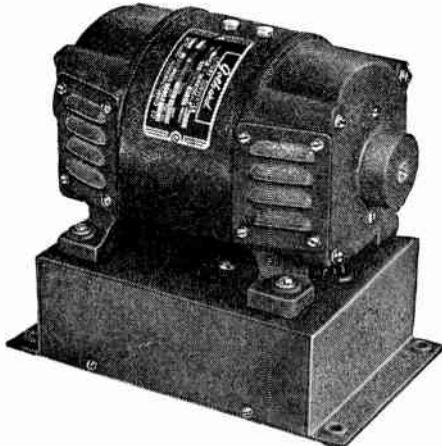
MODEL "SF-20" DYNAMOTOR

#### GOTHARD ROTARY CONVERTERS

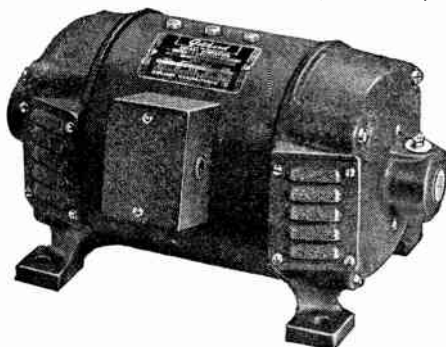
TYPE "K" 3600 RPM (60 Cycle) • 3000 RPM (50 Cycle)

Model No.	Frame Size	INPUT		OUTPUT at 90% P.F.		App. Net Wt. only	List Price	Less Filter	With Filter
		Volts	Amps.	A.C. Volts	VA at 60 cy.				
6K11	AK-15	6	36	110	110	90	24 #	6 #	\$88.55 \$112.60
12K11	AK-15	12	18	110	110	90	24 #	6 #	88.55 112.60
12K16	AK-25	12	24	110	160	125	29 #	6 #	108.80 141.70
24K11	AK-15	24	9	110	110	90	24 #	6 #	88.55 112.60
24K20	AK-25	24	14	110	200	160	29 #	6 #	108.80 141.70
24K30	BK-22	24	19.4	110	300	250	38 #	6 #	151.25 169.95
24K50	BK-35	24	30.4	110	500	400	45 #	6 #	175.45 201.15
3K11	AK-15	32	6.2	110	110	90	24 #	6 #	81.00 105.00
3K20	AK-25	32	10.4	110	200	160	29 #	6 #	101.20 134.10
3K30	BK-22	32	14.5	110	300	250	38 #	6 #	127.80 161.95
3K50	BK-35	32	22.0	110	500	400	45 #	6 #	158.15 193.55
3K75	CK-35	32	34	110	750	600	68 #	7 #	231.50 288.45
4K11	AK-15	48	4.4	110	110	90	24 #	6 #	88.55 112.60
4K20	AK-25	48	7.0	110	200	160	29 #	6 #	108.80 141.70
4K30	BK-22	48	9.7	110	300	250	38 #	6 #	151.25 169.95
4K50	BK-35	48	15.2	110	500	400	45 #	6 #	175.45 201.15
4K75	CK-35	48	22.7	110	750	600	68 #	7 #	231.50 288.35
1K11	AK-15	115	1.8	110	110	90	24 #	6 #	81.00 105.00
1K20	AK-25	115	3.0	110	200	160	29 #	6 #	101.20 134.10
1K30	BK-22	115	4.2	110	300	250	38 #	6 #	127.80 161.95
1K50	BK-35	115	6.6	110	500	400	45 #	6 #	158.15 193.55
1K75	CK-35	115	9.4	110	750	600	68 #	7 #	231.50 288.45
1K100	CK-35	115	12.4	110	1000	800	80 #	7 #	283.40 358.00
2K11	AK-15	230	.9	110	110	90	24 #	6 #	84.80 108.80
2K20	AK-25	230	1.5	110	200	160	29 #	6 #	105.00 137.90
2K30	BK-22	230	2.1	110	300	250	38 #	6 #	131.60 165.75
2K50	BK-35	230	3.3	110	500	400	45 #	6 #	161.95 197.35
2K75	CK-35	230	4.7	110	750	600	68 #	7 #	235.30 292.25
2K100	CK-35	230	6.2	110	1000	800	80 #	7 #	287.20 361.80

Also supplied for Marine Type Filter, 220 Volt A.C. Output, and automatic frequency control, manual frequency control, 28 volts input, 1500 V.A. output, 50 cycles. Prices upon request. Ball Bearings are standard on all models.



MODEL "AK-15" CONVERTER (With Filter)



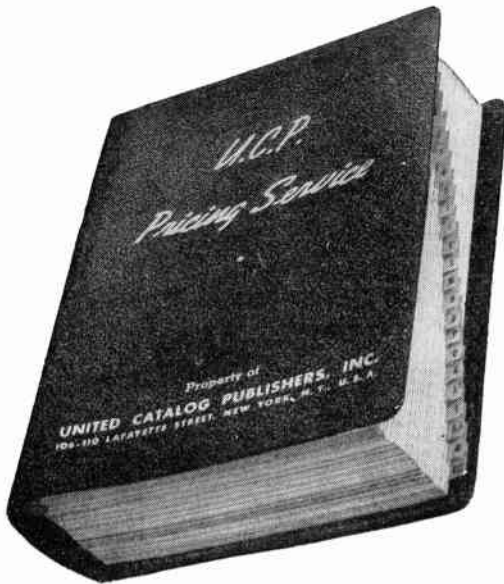
MODEL "BK-35" CONVERTER (Less Filter)



# PRICES

Prices of manufacturers and suppliers' products listed in **RADIO'S MASTER** are subject at all times to change without notice — they should not be considered final.

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# DELIVERY

Delivery is often dependent on the availability of raw materials. So check with your distributor for delivery information.

# STANCOR TRANSFORMERS



## AND RELATED COMPONENTS

FOR TELEVISION, RADIO,  
SOUND AND OTHER  
ELECTRONIC APPLICATIONS

The STANCOR Transformer line is the most complete in the industry. There are over 450 transformers and related components listed on the following fifteen pages. Every one is a dependable, tested unit, designed for maximum service and efficiency. For industrial, amateur, experimental or replacement use, you can be sure of a quality product when you specify "STANCOR."  
Our engineering staff will assist you in designing transformers to meet special industrial applications and can supply production samples where desired.

### TELEVISION COMPONENTS

This section contains only specific television components. Consult following Stancor pages for other audios, powers and chokes having extensive application in television, radio and electronics.

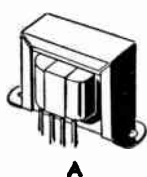
#### POWER TRANSFORMERS—ALL PRIMARIES FOR 117V, 60 CYCLE OPERATION

Part No.	AC Volts	Plate Supply DC Ma.	Max. DC Ma.	Rect. Fil. Volts	Fil. Amps.	Other Fil. Volts	Fil. Amps.	Height Overall	Base Area	Mtg. Ctra.	Mtg. Type	Shpg. Wt. in Lbs.	List Price
P-5059	337.5-0-337.5	200	225	5.0 CT	3.0	6.3 CT	5.0	4 $\frac{3}{8}$	4 $\frac{3}{8}$ x 4	3 x 3 $\frac{3}{16}$	C	9.6	\$15.35
P-8315	370-0-370	275	310	5.0 CT	3.0	6.3 CT	7.0	4 $\frac{1}{2}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M	9.3	17.70
P-8154	375-0-375	205	230	5.0	3.0	5.0	2.0	4 $\frac{1}{4}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M	9.1	16.35
						6.3	5.6						
P-8155	225-0-225	90	105	5.0	2.0	6.3	5.15	3 $\frac{3}{4}$	2 $\frac{3}{16}$ x 3 $\frac{3}{8}$	2 $\frac{1}{4}$ x 2 $\frac{3}{16}$	M	4.5	9.80
P-8156	365-0-365	295	340	5.0	6.0	5.0	2.0	6 $\frac{5}{8}$	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	16.5	26.50
						12.6 CT	5.0						
P-8157	385-0-385 235-0-235	195 105		5.0 5.0	3.0 2.0	6.3 6.3 5.0	7.65 0.6 2.0	4 $\frac{3}{4}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M	11.1	22.80
P-8158	117	600				6.3 6.3 6.3	4.25 4.0 2.0	3 $\frac{1}{2}$	3 $\frac{1}{2}$ x 4 $\frac{1}{8}$	2 $\frac{3}{4}$ x 3 $\frac{1}{16}$	M*	6.2	14.00
P-8159	360-0-360	250	290	5.0	3.0	5.0 6.3 6.3	2.0 8.0 0.6	5 $\frac{5}{8}$	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	10.0	21.85
P-8160	358-0-358 166-0-166	185 65		5.0	3.0	6.45	12.0	4 $\frac{1}{4}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M*	9.6	18.40
P-8161	390-0-390	230	270	5.0 5.0	3.0 2.0	6.3	9.0	5 $\frac{5}{8}$	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	11.8	23.75
P-8162	380-0-380	180	210	5.0 CT	3.0	6.3	9.0	5 $\frac{1}{2}$	4 $\frac{1}{8}$ x 3 $\frac{7}{16}$	2 $\frac{3}{4}$ x 3 $\frac{3}{16}$	M3*	9.0	17.00
P-8163	360-0-360	200	225	5.0	3.0	6.3 6.3	7.75 1.2	5 $\frac{5}{8}$	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	10.8	21.90
P-8164	300-0-300	225	250	5.0	3.0	6.3	9.0	4 $\frac{1}{8}$	3 $\frac{1}{2}$ x 4 $\frac{1}{8}$	2 $\frac{3}{4}$ x 3 $\frac{3}{16}$	M*	7.5	18.25
P-8165	350-0-350 220-0-220	180 70		5.0	3.0	6.3 6.3	2.0 10.0	4 $\frac{3}{4}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M*	11.0	25.30
P-8166	340-0-340	330	360	5.0	6.0	6.3 6.3† 6.3†	2.5 5.0 5.0	6	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	13.0	26.85
						or 12.6† CT	5.0						
P-8167	280-0-280	400	450	5.0	6.0	6.3 6.3	4.5 8.5	6	3 $\frac{1}{2}$ x 4 $\frac{3}{4}$	3 $\frac{3}{16}$ x 4 $\frac{1}{16}$	M*	13.0	25.20
P-8168	220-0-220 130-0-130	330 220		5.0	3.0	6.3† 6.3†	6.5 6.5	4 $\frac{7}{8}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M*	10.5	23.55
						or 12.6 CT†	6.5						
P-8169	380-0-380	220	250	5.0	3.0	6.3 6.3 6.3	1.2 5.0 7.0	4 $\frac{5}{8}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M*	10.5	21.50
PC8403	250-0-250	70		5.0	2.0	6.3 CT	2.5	3 $\frac{3}{8}$	2 $\frac{5}{8}$ x 3 $\frac{1}{8}$	2 x 2 $\frac{1}{16}$	C	3.2	7.85
PC8408	340-0-340	70		5.0	2.0	6.3 CT	2.5	3 $\frac{5}{8}$	3 x 3 $\frac{3}{8}$	2 $\frac{1}{4}$ x 2 $\frac{1}{2}$	C	3.8	7.95
PC8410	360-0-360	120		5.0	3.0	6.3 CT	3.5	4	3 $\frac{1}{4}$ x 3 $\frac{3}{4}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	C	5.5	9.65
PC8411	375-0-375	150		5.0	3.0	6.3 CT	4.5	4 $\frac{5}{8}$	3 $\frac{5}{8}$ x 4	2 $\frac{3}{4}$ x 2 $\frac{3}{16}$	C	5.8	11.55
PC8413	400-0-400	250		5.0	4.0	6.3 CT	5.0	4 $\frac{3}{4}$	4 x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{8}$	C	10.0	16.30
PM8403	250-0-250	70		5.0	2.0	6.3 CT	2.5	3 $\frac{1}{2}$	2 $\frac{1}{2}$ x 3	2 x 2 $\frac{1}{2}$	M	3.2	7.65
PM8407	325-0-325	55		5.0	2.0	6.3 CT	2.0	3 $\frac{1}{2}$	2 $\frac{1}{2}$ x 3	2 x 2 $\frac{1}{2}$	M	3.2	6.90
PM8408	340-0-340	70		5.0	2.0	6.3 CT	2.5	3 $\frac{1}{2}$	2 $\frac{1}{2}$ x 3 $\frac{3}{8}$	2 $\frac{1}{4}$ x 2 $\frac{3}{16}$	M	3.8	7.95
PM8409	350-0-350	90		5.0	2.0	6.3 CT	3.0	3 $\frac{3}{4}$	2 $\frac{1}{2}$ x 3 $\frac{3}{8}$	2 $\frac{1}{4}$ x 2 $\frac{3}{16}$	M	4.5	8.95
PM8410	360-0-360	120		5.0	3.0	6.3 CT	3.5	3 $\frac{3}{4}$	3 $\frac{1}{2}$ x 3 $\frac{3}{4}$	2 $\frac{3}{4}$ x 3 $\frac{1}{8}$	M	5.5	9.65
PM8411	375-0-375	150		5.0	3.0	6.3 CT	4.5	3 $\frac{7}{8}$	3 $\frac{1}{2}$ x 4 $\frac{1}{2}$	2 $\frac{3}{4}$ x 3 $\frac{3}{16}$	M	5.8	11.55
PM8412	400-0-400	200		5.0	3.0	6.3 CT	5.0	3 $\frac{7}{8}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	3 x 3 $\frac{3}{4}$	M	8.2	13.25
PM8418	230-0-230	50				6.3	2.5	3 $\frac{3}{8}$	2 $\frac{5}{8}$ x 2 $\frac{5}{8}$	2 x 1 $\frac{1}{16}$	M	2.2	5.95
PM8419	240-0-240	70				6.3	3.0	2 $\frac{7}{8}$	2 $\frac{1}{2}$ x 3	2 x 2 $\frac{1}{2}$	M	2.6	6.80

†Loading to maximum DC MA will have no appreciable effect on the service or life of the transformer.

†May be used as 6.3V windings or in series as 12.6V C.T.

\*With copper shorting band to reduce external magnetic field.



A



B



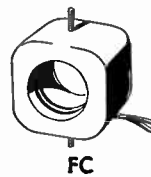
C



DF



DY



FC



FO



# TELEVISION COMPONENTS

## STANDARD TRANSFORMER CORPORATION

### FILAMENT TRANSFORMERS

Part No.	Secondary Volts	Amps.	RMS. V. Insol.	Primary Volts	Height Overall	Base Area	Mounting Centers	Mtg. Type	Shpg. Wt. in Lbs.	List Price
P-3064	6.3 CT	6.0	2,500	117	3 1/8	2 1/2 x 2 3/8	2 x 2	B	2.4	\$5.80
P-5014	6.3 CT	3.0	2,500	117	3 1/8	2 1/2 x 2 1/2	2 x 1 3/4	B	2.0	4.75
P-6134	6.3 CT	1.2	2,500	117	1 5/8	2 3/8 x 1 5/8	2 3/8	A	0.8	2.70
P-6308	6.3 CT	10.0	2,500	117/107	3 1/2	2 3/8 x 2 3/4	2 1/4 x 2 3/16	N	3.4	6.95
P-8190	6.3	1.2	5,000	117	2	3 1/4 x 1 3/4	2 13/16	A	1.0	3.45
P-8191	6.3	1.2	5,000	6.3	2	3 1/4 x 1 3/4	2 13/16	A	1.0	3.70

### HORIZONTAL DEFLECTION and HIGH VOLTAGE TRANSFORMERS

Part No.	Approx. Anode KV#	Max. Scan	Core Material	Height Overall	Base Area	Mtg. Type	Shpg. Wt. in Lbs.	List Price
A-8119†	13-14	53°	Powdered Iron	4 11/16	2 1/4 x 3 3/4	HO	1.8	\$10.40
A-8127	9-10	53°	Powdered Iron	4 11/16	2 1/4 x 3 3/4	HO	1.8	9.25
A-8128	10-11	53°	Powdered Iron	4 11/16	2 1/4 x 3 3/4	HO	1.8	10.50
A-8129	12-13	70°	Ferrite Pole	4 11/16	2 1/4 x 3 3/4	HO	1.8	11.00
A-8130	10-14	70°	Ferrite	4 11/16	2 3/16 x 2 3/4	HG	0.9	11.00
A-8131	11-13	70°	Air	2 5/8	3 x 3 1/2	HR	0.5	7.00
A-8133	12.5-15	70°	Ferrite "E"	4 11/16	3 1/2 x 4	HA	1.0	11.00
A-8134	12.5-15	70°	Ferrite "E"	4 11/16	3 1/2 x 4	HA	1.0	11.00

†Actual high voltage obtained is dependent upon circuit parameters.

†For use with two rectifiers in a voltage-doubling circuit.

### DEFLECTION YOKES

Part No.	Horizontal Scanning Coil in M.H.	Vertical Scanning Coil in M.H.	Max. Scan	Core Material	Case Diameter	Unit Length	Mtg. Type	Shpg. Wt. in Lbs.	List Price
DY-1	8.3	50	53°	Flake Iron	3 1/8	3	DY	1.0	\$7.50
DY-7‡	8.5	50	70°	Flake Iron	3 1/8	2 5/8	DY	1.0	8.95
DY-8§	8.5	50	70°	Ferrite	3 1/8	2 5/8	DF	1.0	10.75
DY-9§	13.5	50	70°	Ferrite	3 1/8	2 5/8	DF	1.0	10.75
DY-10§	30.0	3.5	70°	Ferrite	3 1/8	2 5/8	DF	1.0	10.75

§Has cosine windings for anti-astigmatic focusing.

‡To be removed from next catalog. Replaced by DY-8.

### FOCUS COILS

Part No.	Resistance DC Ohms	Max. DC Ma.	Case Dimensions	Case Depth	Mounting Centers	Mtg. Type	Shpg. Wt. in Lbs.	List Price
FC-10	247	200	3 11/16 x 3 11/16	1 3/4	Single 8-32 Screw	FC	2.0	\$7.50
FC-11	470	140	4 3/4 Dia.	1 1/2	2 1/16 Radius—120° Apart	FO	3.2	10.75

### VERTICAL DEFLECTION OUTPUT TRANSFORMERS

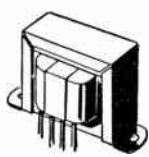
Part No.	Turns Ratio Pri./Sec.	Primary Impedance*	DC Res. Pr.	Sec.	Height Overall	Base Area	Mtg. Ctra.	Mtg. Type	Shpg. Wt. in Lbs.	List Price
A-8112	10:1	18,000 Ω @ 12 DCMA	1300 Ω	10 Ω	2	1 3/4 x 3 1/4	2 13/16	A	1.0	\$4.00
A-8113	8.8:1	16,500 Ω @ 10 DCMA	700 Ω	12 Ω	2	1 3/4 x 3 1/4	2 13/16	A	1.0	4.05
A-8115	10:1	19,000 Ω @ 13 DCMA	600 Ω	7 Ω	3 1/16	2 1/2 x 2 1/2	1 19/32 x 2	N	2.5	6.00
A-8116	10:1	18,000 Ω @ 10 DCMA	525 Ω	7 Ω	3 1/16	2 1/4 x 2 1/2	1 19/32 x 1 3/4	N	2.2	5.50
A-8123	11.4:1	17,000 Ω @ 20 DCMA	1200 Ω	11 Ω	2	1 3/4 x 3 1/4	2 13/16	A	1.2	3.75
A-8140	44:1	11,000 Ω @ 20 DCMA	400 Ω	0.3 Ω	3 1/16	2 1/2 x 2 1/2	1 19/32 x 2	N	2.5	6.20
A-8141*	18:1	30,000 Ω @ 10 DCMA	1650 Ω	4.5 Ω	2 1/4	3 3/4 x 2 1/8	3 1/8	A	1.5	5.30

\*Primary impedance measured at 30 V. 60 cycle.

\*Autoformer type.

### HORIZONTAL BLOCKING-OSCILLATOR TRANSFORMERS

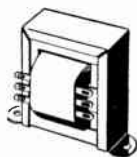
Part No.	Turns Ratio Pri./Sec.	Height Overall	Base Area	Mounting Centers	Mtg. Type	Shpg. Wt. in Lbs.	List Price
A-8110	2:1	1 1/2	1 1/2 x 2 1/2	2	A	0.4	\$2.75
A-8120	2:1	1 3/4	1 1/2 x 2 3/8	1 13/16	TD	0.4	3.90



A



C



J



KC



Q



TD



TS



WC

# TELEVISION COMPONENTS

## STANDARD TRANSFORMER CORPORATION



### VERTICAL BLOCKING-OSCILLATOR TRANSFORMERS

Part No.	Turns Ratio Pri./Sec.	Height Overall	Base Area	Mounting Centers	Mtg. Type	Shpg. Wt. in Lbs.	List Price
A-8111	1:4.2	1½	1½ x 2½	2	A	0.4	\$2.50
A-8121	1:4.2	1¾	1½ x 2¾	1½	TD	0.4	3.20
A-8122	1:4.2	1¾	1½ x 1¾	1¼	TS	0.3	3.90
A-8124	Sec. #1 1:0.48 Sec. #2 1:1	1¾	1½ x 2¾	2¾	A	0.7	3.75

### WIDTH CONTROL With AGC Winding

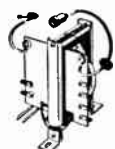
Part No.	Induc.	Res.	Q	AGC Induct.	AGC Res.	AGC Q	Mtg. Type	Shpg. Wt. in Lbs.	List Price
WC-5	4-39 mh.	32 Ω	70 max.	2.7-7.6 mh.	19.5 Ω	37 max.	WC	0.3	\$1.90

### AUDIO OUTPUT TRANSFORMERS

Part No.	Application	Max. Pri. DC	Max. Audio Watts	Height Overall	Base Area	Mtg. Ctrs.	Mtg. Type	Shpg. Wt. in Lbs.	List Price
A-2313	Single plate, 7,000 ohms, to 8 ohms voice coil	40 ma.	10	2	3¼ x 3¾	2½	A	1.0	\$3.10
A-3303	Push-pull plates, 14,000 ohms, to 500/15/8/4 ohms line or voice coil	55 ma.	20	3¾	2½ x 2¾	2 x 1¼	C	2.7	8.65
A-3330	Single plate, 2,000 ohms to 3.5 ohm voice coil	50 ma.	5	1¾	2¾ x 1¾	2	A	0.4	2.10
A-3332	Single plate, 2,000 ohms to 3.2 ohm voice coil	50 ma.	3	1¾	2½ x 1	1¾	A	0.4	1.45
A-3823	Single or push-pull plates, 4,000-14,000 ohms, to voice coil	40 ma.	8	1¾	2¾ x 1½	2¾	Q	0.7	2.85
A-3824	Single or push-pull plates, 6,000-10,000 ohms, to voice coil	75 ma.	8	2	3¼ x 2	2¾	Q	1.4	4.50
A-3825	Single plate, 1,500-4,500 ohms, to voice coil	75 ma.	8	2	3¼ x 1¾	2¾	Q	0.9	3.60
A-3830	Push-pull plates, 3,000-10,000 ohms, to voice coil	60 ma.	20	2¼	3½ x 2¼	2¾	J	1.8	4.90
A-3849	Single plate, 1,500-10,000 ohms, to voice coil	55 ma.	10	1¾	2¾ x 1¾	2¾	Q	0.7	2.85
A-3850	Single or push-pull plates, 4,000-10,000 ohms, to voice coil	40 ma.	8	2	2¾ x 1½	2	J	0.7	3.25
A-3852	Push-pull plates, 4,000-14,000 ohms, to voice coil	40 ma.	18	2¾	2¾ x 2	2¾	J	1.3	3.65
A-3856	Single or push-pull plates, 4,000-14,000 ohms, to voice coil	35 ma.	4	1¾	2¾ x 1¾	2	Q	0.4	2.65
A-3870	Push-pull plates, 4,000-14,000 ohms, to voice coil	50 ma. ca. ½	18	2	3¼ x 2	2¾	Q	1.3	4.50
A-3876	Single plate, 2,000 ohms, to 4 ohm voice coil	60 ma.	5	1¾	2¾ x 1¾	2	A	0.4	1.75
A-3877	Single plate, 5,000 ohms, to 4 ohm voice coil	40 ma.	5	1¾	2¾ x 1¾	2	A	0.4	1.85
A-3878	Single plate, 7,000 ohms, to 4 ohm voice coil	30 ma.	5	1¾	2¾ x 1¾	2	A	0.4	1.80
A-3879	Single plate, 10,000 ohms, to 4 ohm voice coil	30 ma.	5	1¾	2¾ x 1¾	2	A	0.4	1.75
A-3880	Push-pull plates, 4,000-14,000 ohms, to voice coil	40 ma.	15	2¼	3¼ x 2¼	3¾	Q	1.7	5.40
A-8114	Single plate, 7,600 ohms, to 3.2 ohm voice coil	32 ma.	5	1¾	2¾ x 1¾	2	A	0.4	2.40

### CHOKES

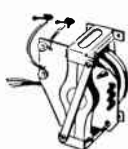
Part No.	At Rated DC Ma.	Inductance At 75 % Ma.	At 115 % Ma.	DC Res. in Ohms	RMS. V. Insul.	Height Overall	Base Area	Mtg. Ctrs.	Mtg. Type	Shpg. Wt. in Lbs.	List Price
C-1001	10.5 hy. 110 ma.	11.5 hy.	9.0 hy.	225	3,000	2	4 x 2¼	3¾	A	2.3	\$4.10
C-1215	9.0 hy. 50 ma.	10.5 hy.	8.0 hy.	500	1,500	1¾	2¾ x 1½	2¾	A	0.7	1.85
C-1325	5.0 hy. 50 ma.	5.8 hy.	4.2 hy.	250	1,500	1¾	2¾ x 1½	2¾	A	0.7	2.10
C-1410	4.0 hy. 175 ma.	4.7 hy.	3.5 hy.	100	3,000	3¾	2¾ x 2¾	2 x 1¼	C	2.4	5.70
C-1412	4.0 hy. 250 ma.	4.5 hy.	3.5 hy.	60	3,000	3¾	3 x 3½	2¼ x 2¾	C	4.3	9.50
C-1646	5.0 hy. 200 ma.	7.0 hy.	3.7 hy.	90	5,000	4	3¼ x 3¾	2½ x 2¾	C	4.5	8.15
C-1703	4.0 hy. 250 ma.	4.5 hy.	3.5 hy.	60	3,000	3¾	2¾ x 3¾	2¼ x 2½	B	4.2	8.25
C-1706	4.5 hy. 50 ma.	5.5 hy.	3.5 hy.	300	1,500	1¾	2¾ x 1¾	2	A	0.4	1.65
C-1707	7.0 hy. 50 ma.	8.5 hy.	5.0 hy.	550	1,500	1¾	2¾ x 1¾	2	A	0.4	1.80
C-1709	9.0 hy. 85 ma.	10.5 hy.	7.5 hy.	250	1,500	2	3¼ x 2	2¾	A	1.4	3.10
C-1721	8.5 hy. 200 ma.	9.5 hy.	7.5 hy.	120	3,000	3¾	3¾ x 3	2½ x 2¼	N	4.4	7.45
C-2303	2.5 hy. 180 ma.	3.0 hy.	2.1 hy.	100	2,000	2	3¼ x 1¾	2¾	A	1.0	2.80
C-2304	2.3 hy. 150 ma.	2.6 hy.	2.0 hy.	60	1,500	2	3¼ x 1¾	2¾	A	1.0	2.90
C-2309	3.0 hy. 150 ma.	3.6 hy.	2.5 hy.	90	2,000	2¼	3¾ x 2¼	3¾	A	1.7	3.50
C-2325	2.0 hy. 200 ma.	2.5 hy.	1.5 hy.	60	1,500	2¼	3¾ x 2¼	3¾	A	1.8	3.50
C-2326	1.0 hy. 300 ma.	1.5 hy.	0.6 hy.	43	1,500	2¼	3¾ x 2¼	3¾	A	1.7	3.95
C-2327	1.5 hy. 200 ma.	1.7 hy.	1.3 hy.	85	1,500	1¾	2¾ x 1½	2¾	A	0.8	2.20
C-2328	0.8 hy. 375 ma.	1.0 hy.	0.65 hy.	25	1,500	2¼	3¾ x 2	3¾	A	1.5	4.45



HA



HG



HO



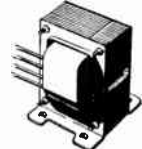
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M



M3



N



# HIGH FIDELITY TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION

### HIGH FIDELITY OUTPUT TRANSFORMERS

Better than  $\pm 1$  db from 20 to 20,000 cps.

These Stancor output transformers combine the most advanced design and manufacturing practices to provide outstanding audio response at low cost. Maximum power level is conservatively rated at 50 watts. They are designed to match the most popular types of output tubes to speaker or line impedances.

Extensively interleaved "trifilar" windings, extremely tight coupling and careful electrical balance result in audio fidelity to please the most critical specialist. Inasmuch as elaborate shielding is not required at the audio output level, an inexpensive, but thoroughly practical, Type C mounting is used. Shipping weight is 6.5 lbs.

Part No.	Pri. Imp. (P-P) In Ohms	Sec. Imp. In Ohms	Max. Pri. D.C. Per Side	Audio Watts	Height Overall	Base Area	List Price
A-8050	1500	8.16	200	50	4 5/8"	3 5/8" x 4 1/4"	\$18.10
A-8051	2500	8.16	150	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8052	3000	8.16	175	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8053	5000	8.16	150	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8054	9000	8.16	100	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8060	1500	500	200	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8061	2500	500	150	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8062	3000	500	175	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8063	5000	500	150	50	4 5/8"	3 5/8" x 4 1/4"	18.10
A-8064	9000	500	100	50	4 5/8"	3 5/8" x 4 1/4"	18.10

\*Where more than one secondary impedance is shown, only one value is to be used at any time.

### STANCOR-WILLIAMSON HIGH FIDELITY AMPLIFIER

Superb audio quality at low cost is now possible through the use of Stancor transformers. Write for Stancor Bulletin 382R or ask your Stancor distributor for a free copy. Detailed instructions for the construction of a Williamson Amplifier, using Stancor transformers A-8054, PC8412 and C-1411, will be found in this bulletin.

A set of chassis for the Williamson Amplifier, completely punched and finished, is available from your distributor. Ask for Stancor Chassis WM-8, \$5.75 net.

## AUDIO FILTERS

### SPLATTER SUPPRESSOR FILTER

Use of a splatter suppressor filter between the modulator and Class C amplifier eliminates undesirable high audio frequencies and harmonics which cause interference to stations on other channels. Stancor Part Number C-2317, illustrated in a typical circuit application in Figure 1,

attenuates frequencies higher than 3,000 cps when used in accordance with supplied instruction data. The effectiveness of the system is greatly enhanced by the negative peak limiter tube shown in the circuit.

Part No.	Application	Range of Inductance†	Max. D.C. in Ma.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-2317	Splatter Suppressor Filter	0.048 to 0.9 hy.	300	B	2 5/8"	3" x 3"	2.3	\$6.75

†Taps provided for obtaining various amounts of inductance.

### BAND PASS FILTER

In radiotelephony, it is highly desirable to limit frequencies in the sidebands to those providing the greatest degree of intelligibility. Useless, power-consuming low and high frequencies can be efficiently eliminated by insertion of the Stancor Part Number C-2340 band-pass filter in the

speech amplifier. When used in conjunction with a peak-clipper, a high average percentage of modulation is possible, providing a signal that rides over the QRM. The graph (Figure 2) illustrates the frequency curve of this three-section, *m*-derived filter.

Part No.	Application	Input Impedance	Output Impedance	Max. Level	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-2340	Band Pass Filter 200 to 3,000 C.P.S.	10,000 ohms	500 or 100,000 ohms	10.0 V. RMS. Across Output	TD	2 1/16"	2 3/4" x 2 3/16"	0.6	\$15.50

### LOW PASS FILTER

The economical Stancor Part Number C-2341 unit offers an *m*-derived, low-pass filter that will give a good account of itself and may be used to further advantage with a peak-clipper. Typical circuit application of

this low-pass filter may be found on page 24 of the November, 1946, issue of QST. See Figure 3 below for frequency curve of the C-2341.

Part No.	Application	Input Impedance	Output Impedance	Max. Level	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-2341	Low Pass Filter 3,000 C.P.S. Cutoff	100,000 ohms	100,000 ohms	1.5V. RMS. Across Output	TD	2"	2 1/2" x 1 15/16"	0.5	\$6.90

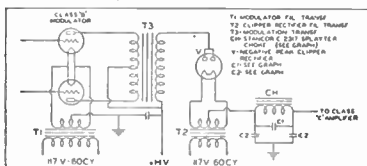


Figure 1

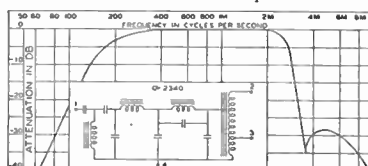


Figure 2

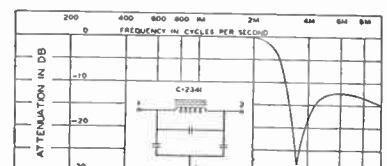


Figure 3



# HIGH FIDELITY TRANSFORMERS

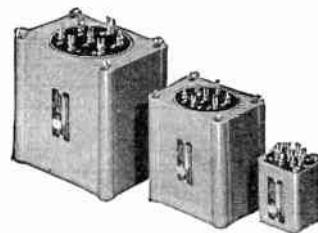


## STANDARD TRANSFORMER CORPORATION

### HF AND WF SERIES HIGH FIDELITY AUDIO TRANSFORMERS

#### HF Series

These units have a wide frequency response of 20 to 20,000 cps with  $\pm 1$  db. Correct design reduces harmonic and intermodulation distortion to a negligible amount. Balanced construction minimizes hum pickup. Stancor impregnation insures long life. Cases are finished in gray enamel and have four threaded holes at each end for flush mounting. Stud-type terminals are plainly marked for easy identification.



#### LOW IMPEDANCE TO GRID

Part No.	Application	Primary Imp/Ohms	Secondary Imp/Ohms	Max. Level	Hum-Pickup Reduction <sup>¶</sup>	Mtg. $\frac{1}{2}$	List Price
HF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	60,000 overall, in two sections	15 db	-74 db	HF-1	\$28.75
HF-20X	Low Imp. Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	50,000	14 db	-92 db <sup>‡</sup>	HF-1	36.80
HF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	120,000 overall, in two sections	15 db	-74 db	HF-1	32.20
HF-22X	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	80,000 overall, in two sections	14 db	-92 db <sup>‡</sup>	HF-1	40.25

#### INTERSTAGE

HF-29	Sgl. Pl. to P.P. Grids—Split secondary	15,000	95,000 (Turn ratio 2.5:1 overall)	17 db	-50 db	HF-1	\$27.60
HF-31	Single Plate to P.P. Grids. Split pri. and sec.	15,000	135,000 (Turn ratio 3:1 overall)	14 db	-74 db	HF-1	27.60
HF-32	P.P. Plates to P.P. Grids. Split pri. and sec.	30,000 Plate to Plate	80,000 (Turn ratio 1.6:1 overall)	26 db	-50 db	HF-2	35.65

#### MIXING

HF-40	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	17 db	-74 db	HF-1	\$28.75
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#### OUTPUT

HF-65 <sup>†</sup>	P.P. 2A3's, 6L6's, etc. to Line or Voice Coil	3,000 or 5,000 Plate to Plate	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 20 watts	125, 200, 250, 333 or 500	.....	HF-2	\$32.20
HF-67 <sup>†</sup>	P.P. 2A3's, 6L6's, etc. to Voice Coil	3,000 or 5,000 Plate to Plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	.....	.....	HF-2	23.00
HF-68 <sup>†</sup>	P.P. Par. 2A3's, 6A5G's, 300A's, 6A3's to Line or Voice Coil	1,500 or 2,500 Plate to Plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	.....	.....	HF-3	57.50

<sup>§</sup>HF-1 Case: Shpg. wt., 3.0 lbs. Height overall,  $3\frac{1}{4}$ ". Base area,  $2\frac{1}{8}$ "x $3\frac{1}{8}$ ". Mtg. ctrs.,  $1\frac{1}{8}$ "x $2\frac{1}{8}$ ". HF-2 Case: Shpg. wt., 7.5 lbs. Height overall,  $4\frac{1}{8}$ ". Base area,  $3\frac{1}{8}$ "x $4\frac{1}{8}$ ". Mtg. ctrs.,  $2\frac{1}{8}$ "x $3\frac{1}{8}$ ". HF-3 Case: Shpg. wt., 15.0 lbs. Height overall,  $4\frac{1}{8}$ ". Base area,  $4\frac{1}{8}$ "x $5\frac{1}{8}$ ". Mtg. ctrs.,

$4\frac{1}{8}$ "x $5\frac{1}{8}$ ".

<sup>†</sup>Response  $\pm 1$  db from 25 to 20,000 cps.

<sup>¶</sup>As compared to standard uncased units.

<sup>‡</sup>Quadruple alloy magnetic shield.

#### WF Series

These units are of the same outstanding quality as the HF Series above, and, with the exception of two units, have a frequency response of 30-20,000 cps within  $\pm 2$  db. The WF-21 and WF-35 have a response within  $\pm 2$  db from 50-20,000 cps and have multiple alloy shields for

extremely low hum pickup. All WF units are cased in the WF-6 type cast case with phenolic terminal board and four tapped holes for flush mounting. Overall dimensions are 2" high with  $1\frac{1}{2}$ " x  $1\frac{1}{2}$ " base area. Mounting centers are  $1\frac{3}{8}$ " x  $1\frac{3}{8}$ ". Shipping weight is 0.6 lbs.

Part No.	Application	Primary Imp/Ohms	Secondary Imp/Ohms	List Price
<b>INPUT</b>				
WF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125/150, 200, 250, 333, 500/600	50,000	\$17.25
WF-21	Low Imp. Mic., Pickup, or L. to Sgl. or P.P. Grids	50, 200, 500	50,000	18.40
WF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500/600	80,000 overall, in two sections	17.25
WF-24	Dynamic Microphone to 1 or 2 Grids	30	50,000 overall, in two sections	16.10
<b>INTERSTAGE</b>				
WF-26	Single Plate to Single Grid	15,000	60,000 (Turn ratio 2:1)	\$14.95
WF-28	Sgl. Pl. to 2 Grids. Can use split pri. for P.P. Pl.	15,000	80,000 overall (Turn ratio 2.3:1 overall)	16.10
<b>LOW LEVEL OUTPUT</b>				
WF-34	Single Plate to Line	15,000	50, 125/150, 200, 250, 333, 500/600	\$17.25
WF-36	P.P. Low Level Plates to Line	30,000 Plate to Plate	50, 125/150, 200, 250, 333, 500/600	17.25
WF-35	Single Plate to Multiple Line Primary D.C. 8.0 ma. Response from 50-20,000 cps within $\pm 2$ db	15,000	50, 125/150, 200, 250, 333, 500/600	16.10
<b>MIXING</b>				
WF-30	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	\$17.25



# DRIVER TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION

### SINGLE PLATE TO PUSH-PULL GRIDS

Part No.	Pri. Impedance in Ohms	Pri./½ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-4713</b>	10,000	2:1	½" x ½"	30 ma.	A	1 5/8"	2 1/4" x 1 1/4"	0.7	<b>\$2.70</b>
<b>A-4752</b>	10,000	2/1.5/1:1	¾" x ¾"	40 ma.	A	2"	3 1/4" x 1 3/4"	1.2	<b>4.00</b>
<b>A-4722</b>	10,000	2:1	¾" x 1"	30 ma.	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	<b>5.90</b>
<b>A-4292</b>	10,000	2.5:1	¾" x ¾"	20 ma.	A	1 5/8"	2 1/4" x 1 1/2"	0.7	<b>2.85</b>
<b>†A-4734</b>	10,000	2.5:1	¾" x ¾"	25 ma.	S	2 5/8"	2 7/8" x 1 3/4"	1.2	<b>3.90</b>
<b>A-4723</b>	10,000	3:1	¾" x ¾"	30 ma.	A	1 5/8"	2 1/4" x 1 1/2"	0.7	<b>2.70</b>
<b>†A-4721</b>	10,000 to 22,500	3/2:1	¾" x 1"	25 ma.	TD	2 11/16"	2 3/4" x 2 3/16"	1.5	<b>6.45</b>
<b>A-4210</b>	1,500 to 5,000	3:1	1" x 1"	40 ma.	C	3 3/8"	2 5/8" x 2 5/8"	2.4	<b>6.60</b>
<b>A-4702</b>	1,500 to 5,000	5:1	1" x 1"	80 ma.	C	3 3/8"	2 5/8" x 2 5/8"	2.5	<b>6.50</b>

### PUSH-PULL PLATES TO PUSH-PULL GRIDS

Part No.	Pri. Imp. (P.P.) in Ohms	Pri./½ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-4404</b>	3,000 to 5,000	2:1	1 1/8" x 1 1/8"	90 ma.	C	3 5/8"	3" x 3 3/8"	3.7	<b>\$8.65</b>
<b>A-4208</b>	20,000 to 30,000	2.8:1	1" x 1"	15 ma.	C	3 3/16"	2 5/8" x 2 5/8"	2.5	<b>7.40</b>
<b>A-4712</b>	20,000	3:1	¾" x ¾"	10 ma.	A	1 5/8"	2 1/4" x 1 1/2"	0.7	<b>3.20</b>
<b>A-4701</b>	20,000	3:1	1" x 1"	25 ma.	C	3 3/16"	2 5/8" x 2 5/8"	2.7	<b>8.50</b>
<b>A-4212</b>	1,500 to 5,000	3.2:1	1" x 1"	50 ma.	C	3 3/16"	2 5/8" x 2 5/8"	2.5	<b>6.90</b>
<b>A-4416</b>	3,000 to 10,000	5:1	1" x 1"	40 ma.	C	3 3/8"	2 5/8" x 2 5/8"	2.8	<b>7.70</b>
<b>A-4703</b>	3,000 to 10,000	5:1	1 1/8" x 1 1/8"	95 ma.	C	3 5/8"	3" x 3 3/8"	3.7	<b>8.40</b>

### POLY-PEDANCE DRIVER MULTI-TAPPED UNITS FOR USE IN CIRCUITS WHERE THE OPTIMUM RATIO CANNOT BE PREDETERMINED.

Driver circuit changes often require new transformers. Many times it is impossible to match correctly tubes involved with a specific transformer, with high distortion resulting. *Poly-Pedance* units solve that

problem; three transformers with the maximum number of usable ratios will match the driver tubes to any Class B modulator grid circuit without exceeding the power capabilities of the driver tubes.

Part No.	Application and Ratio Pri./½ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-4761</b>	Driver to Class "B" Grids 1.25:1/ 1.4:1/ 1.6:1/ 1.8:1/ 2:1/ 2.2:1/ 2.4:1	Pri—150 ma. Sec—100 ma.	15	CD	3 3/16"	2 5/8" x 3 5/8"	3.4	<b>\$14.75</b>
<b>A-4762</b>	Driver to Class "B" Grids 2.6:1/ 3:1/ 3.2:1/ 3.4:1/ 4:1/ 4.5:1/ 5:1	Pri—150 ma. Sec—180 ma.	15	CD	3 3/16"	2 5/8" x 3 1/8"	2.7	<b>13.90</b>
<b>A-4763</b>	Driver to Class "B" Grids 1.25:1/ 1.5:1/ 1.75:1/ 2:1/ 2.25:1/ 3.2:1	Pri—225 ma. Sec—280 ma.	30	CD	3 5/8"	3" x 4"	4.3	<b>17.20</b>

### POLY-PEDANCE LINE DRIVER MULTI-TAPPED UNITS TO MATCH ALL COMMON LINE IMPEDANCES TO GRID CIRCUIT OF MODULATOR OR CLASS "B" AMPLIFIER.

Designed with pie wound coils to assure low leakage inductance, low resistance and low capacity, these two units will easily match all com-

mon line impedances to any modulator grid circuit. Individually boxed with complete instructions.

Part No.	Application and Ratio Pri./½ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-4765</b>	Line to Grid 1:0.75/ 1:0.85/ 1:1/ 1:1.25/ 1:1.45/ 1:1.75/ 1:2/ 1:2.25/ 1:2.5/ 1:2.75/ 1:3.15	Pri—180 ma. Sec—100 ma.	15	CD	3 3/16"	2 5/8" x 3 5/8"	3.2	<b>\$15.25</b>
<b>†A-4766</b>	Line to Grid 1:0.75/ 1:0.85/ 1:1/ 1:1.25/ 1:1.45/ 1:1.75/ 1:2/ 1:2.25/ 1:2.5/ 1:2.75/ 1:3.15	Pri—280 ma. Sec—200 ma.	30	CD	3 3/8"	3" x 3 3/4"	3.9	<b>16.95</b>

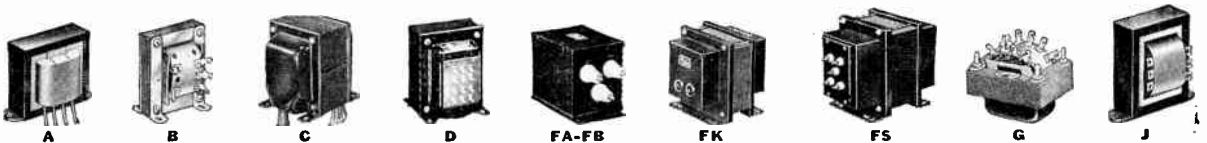
### AUDIO CHOKES

Audio reactors are rated at 2 volts, 200 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rated Inductance	Max. D.C.	D.C. Res in Ohms	Test Volts	Core	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>C-1034</b> †	8 hy at 30 ma.	30 ma.	1365	1500	¾" x ¾"	A	2"	3 1/4" x 1 3/4"	1.1	<b>\$3.35</b>
<b>C-1003</b>	16 hy at 50 ma.	50 ma.	580	1500	¾" x ¾"	A	2"	3 1/4" x 1 3/4"	1.1	<b>2.25</b>
<b>C-2301</b>	135 hy at 5 ma.	10 ma.	6500	1500	¾" x 1"	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	<b>5.60</b>

†These units have split secondaries for individual bias adjustment and/or use of inverse feedback.

‡Center tapped.



# INPUT INTERSTAGE

## STANDARD TRANSFORMER CORPORATION



### MICROPHONE OR LINE TO LINE

Part No.	Impedance In Ohms	Mtg.	Height Overall	Base Area	Shpg. Wt. In Lbs.	List Price
A-4350#	Pri—500/333/200/125/50 Sec—500/333/200/125/50	Q	2"	3 1/4" x 1 3/4"	1.0	\$ 5.90
A-4407†	Pri—500/333/200/125/50 Sec—500/333/200/125/50	D	3 3/16"	2 5/8" x 3 1/4"	2.4	11.60

### MICROPHONE PICKUP OR LINE TO GRID

Part No.	Application	Impedance in Ohms	Turns Ratio	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4705	S. B. Mic. to S. Grid	Pri—200/70 Sec—80,000	1:20	A	1 3/8"	2 3/8" x 1 3/4"	0.4	\$2.90
A-4706	S. B. Mic. to S. Grid	Pri—100 Sec—60,000	1:24.5	A	1 3/8"	2 3/8" x 1 1/2"	0.5	2.95
A-4708	D. B. Mic. to S. Grid	Pri—200 C'T Sec—57,000	1:17	J	2"	2 3/8" x 1 3/8"	0.7	3.90
A-4742	S. B. Mic. to P.P. Grids	Pri—100 Sec—400,000 C'T	1:64	S	2 3/16"	2 7/8" x 1 3/4"	1.2	4.15
A-4743	S. B. Mic. to P.P. Grids	Pri—100 Sec—400,000 C'T	1:64	VE	2 3/16"	2 7/8" x 2 1/8"	1.2	5.70
A-4351#	Mic. or Line to S. Grid	Pri—500/333/200/125/50 Sec—89,000	1:13.3	TD	2 11/16"	2 3/4" x 2 3/16"	1.4	6.30
A-4352#	Mic. or Line to S. Grid	Pri—500/333/200/125/50 Sec—89,000	1:13.3	Q	2"	3 1/4" x 1 3/4"	1.0	5.50
‡A-4726	Line and High Imp. to P.P. Grids	Pri—200 C'T/50 and 2,500 Sec—100,000	1:22.4 1:6.3	TD	2 11/16"	2 3/4" x 2 3/16"	1.4	7.10
A-4709	Dynamic Mic. or Pickup to S. Grid	Pri—30/15/8/4 Sec—106,000	1:60	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	6.90

### INTERCOMMUNICATOR AND TRANSCEIVER

Part No.	Application	Impedance in Ohms	Max. Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4744	Intercom. input	Pri—4 Sec—25,000	—	VE	1 3/8"	2 3/8" x 1 1/2"	0.5	\$2.55
A-3833	Transceiver Input Mic. and Plate to Grid	Pri—200 and 5,000 Sec—60,000	5	A	1 3/8"	2 7/8" x 1 1/2"	0.7	3.90
‡A-3836	Transceiver Output. Plate to Low or High impedance phones	Pri—10,000 Sec—50 and 2,000	5	A	1 3/8"	2 7/8" x 1 1/2"	0.7	3.80

### SINGLE PLATE TO SINGLE GRID—FOR 7,000-20,000 OHM PLATE IMPEDANCES

Part No.	Turns Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-53	1:3	1/2" x 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 1/2"	0.5	\$2.40

### SINGLE PLATE TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-52-C	1:2	1/2" x 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 3/8"	0.4	\$2.50
A-62-C	1:2	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.75
‡A-4745	1:2	3/4" x 1"	10 ma.	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	7.50
Recommended for use in super-regenerative circuits. Has a static shield between pri. and sec. windings.								
A-53-C	1:3	1/2" x 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 3/8"	0.5	2.45
A-63-C	1:3	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.75
A-73-C	1:3	3/4" x 3/4"	10 ma.	A	2"	3 1/4" x 1 3/4"	1.0	3.45
A-4719	1:3	3/4" x 1"	10 ma.	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	6.60
‡A-83-C	1:3	1/2" x 1/2"	10 ma.	A	2 1/4"	3 3/4" x 2 1/4"	1.5	5.85
‡A-103-C	1:3	1" x 1"	10 ma.	A	2 5/8"	4" x 2 1/4"	2.2	6.85
A-64-C	1:4	5/8" x 5/8"	10 ma.	A	2"	2 3/8" x 1 3/4"	0.7	3.25
A-4206#	1:3.25	1" x 1"	15 ma.	C	3 1/8"	2 5/8" x 2 5/8"	2.5	8.70

### MULTI-PURPOSE INTERSTAGE—PIE-WOUND SPLIT SECONDARIES

May be used as a single plate to single grid, single plate to push-pull grid, or push-pull plate to push-pull grid interstate transformers. Overall ratios are 3:1, however, primaries are center-tapped and secondaries have split windings, thus providing ratios of 1:1, 3:1 and 6:1 in either step-up or step-down applications.

A-4774	1:3	3/4" x 3/4"	10 ma.	S	2 3/16"	2 7/8" x 1 3/4"	1.2	\$4.15
A-4773	1:3	3/4" x 1"	10 ma.	TD	2 11/16"	2 3/4" x 2 3/16"	1.7	6.90

### PUSH-PULL PLATES TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-4711	1:1	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$3.30
A-4155	1:3	3/4" x 3/4"	10 ma.	L	2 1/16"	2 3/8" x 1 3/4"	1.0	5.80

### PUSH-PULL PLATES TO PARALLEL OR PUSH-PULL GRIDS—FOR 7,000-20,000 OHM PLATE IMPEDANCES

A-4208	1:1.4	1" x 1"	15 ma.	C	3 3/16"	2 5/8" x 2 3/8"	2.5	\$7.40
‡A-4777	1:1.5	1" x 1"	10 ma.	C	3 3/16"	2 5/8" x 2 3/8"	2.5	8.60

#Has a dual primary—when properly connected the 500 and 200 ohm sections are center tapped.

‡Has a static shield between primary and secondary windings.

‡Designates part numbers to be removed from next catalog.







# OUTPUT TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION

### SINGLE PLATE TO VOICE COIL

Part No.	Application	Max. Pri. D.C.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3865	1,500 ohms to 6/4/2 ohms	55 ma.	48, 25B6, 25L6, 50L6	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	\$3.00
A-3332	2,000 ohms to 3.2 ohms	50 ma.	25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	3	A	1 3/8"	2 1/2" x 1"	0.4	1.45
A-3330	2,000 ohms to 3.5 ohms	50 ma.	25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.10
A-3876	2,000 ohms to 4 ohms	60 ma.	2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	1.75
A-3328	4,000 ohms to 3.5 ohms	10 ma.	1S4, 3S4	A	3	A	1 3/8"	2 1/2" x 1"	0.4	1.85
†A-2203	4,000 ohms to 8 ohms	40 ma.	43, 45, 48, 12A5, 25A6	A	5	A	1 3/8"	2 1/2" x 1 3/8"	0.7	3.35
A-3877	5,000 ohms to 4 ohms	40 ma.	43, 59, 6V6, 7C5, 25A5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	1.85
A-3310	5,000 ohms to 500/15/8/4 ohms	55 ma.	45, 6L6, 6V6, 25A6, 25A7	A	20	C	3 3/8"	2 3/8" x 2 3/8"	2.5	7.30
A-3878	7,000 ohms to 4 ohms	30 ma.	20, 31, 33, 42, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	1.80
A-2313	7,000 ohms to 8 ohms	40 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	10	A	2"	3 1/4" x 1 3/4"	1.0	3.10
A-8114	7,600 ohms to 3.2 ohms	32 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.40
A-3329	8,000 ohms to 3.5 ohms	10 ma.	1C5-GT, 1G5-G, 1Q5-GT/G, 1S4, 3S4	A	3	A	1 3/8"	2 1/2" x 1"	0.4	1.75
A-3879	10,000 ohms to 4 ohms	30 ma.	1J6, 3C5, 6A4, 6G6, 6N7	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	1.75
A-3881	15,000 ohms to 4 ohms	10 ma.	1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	1.95
A-3327	25,000 ohms to 4 ohms	5 ma.	1A5, 1D8-GT, 1F4, 1F5-G, 1LA4, 1LB4, 1N6-G	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.20

### PUSH-PULL PLATES TO VOICE COIL

†A-3306	P.P. Par. 2,500 ohms to 500/15/8/4 ohms	100 ma.	45, 48, 2A3, 25L6	AB	25	C	3 3/8"	3" x 3 1/2"	3.8	\$9.95
†A-3301	3,000 ohms to 500/15/8/4 ohms	55 ma.	48, 2A3, 6A3, 6B4, 25L6	AB	30	C	3 3/8"	3" x 3 1/2"	3.7	9.25
A-3802	3,800/3,300 to 500/250/8/4 ohms	250 ma.	45, 6L6, Par. 6L6	AB2, AB1	75	C	4 3/4"	4" x 3 1/2"	7.9	12.95
A-5528	4,000 ohms to 500/15/8/4 ohms	65 ma.	6Y6, 25LG	AB	8	C	3 3/8"	2 3/8" x 2 1/4"	1.9	7.25
A-3851§	4,400 ohms to 500/250/15/8/4 ohms	70 ma.	6L6	AB1	30	C	3 3/8"	3" x 3 1/2"	3.6	9.55
A-3872	5,000 ohms to 15/8/4 ohms	75 ma.	45, 2A3, 6A3, 6L6	AB	18	†D	2 1/16"	2 3/4" x 2 1/2"	1.7	6.20
A-3800	5,000 ohms to 500/250/15/8/4 ohms	80 ma.	45, 2A3, 6A3, 6L6	AB	30	C	3 3/8"	3" x 3 3/8"	3.7	7.90
A-3307	6,000 ohms to 500/15/8/4 ohms	100 ma.	46, 59, 42, 2A5, 6F6, Par. 53, 6A6, 6N7	B, AB2	30	C	3 3/8"	3" x 3 1/2"	3.5	10.25
A-3801	6,600 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4"	3 1/4" x 3 3/8"	5.8	9.50
†A-2201	8,000 ohms to 6 ohms	40 ma.	43, 45, 48, 71, 25A6	AB	10	A	2"	3 1/4" x 1 3/4"	1.0	4.25
A-3885	9,000 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4"	3 1/4" x 3 3/8"	4.5	11.25
A-3304	10,000/7,000 ohms to 500/15/8/4 ohms	60 ma.	45, 6V6, 6AC5	AB	25	C	3 3/8"	2 5/8" x 2 5/8"	2.7	8.75
A-3311	10,000 ohms to 500/15/8/4 ohms	70 ma.	6F6, 6V6, 6AC5	AB	25	C	3 3/8"	3" x 3 1/2"	3.5	8.25
A-3831	10,000 ohms to 8/4/2 ohms	40 ma.	30, 49	AB	5	A	1 3/8"	2" x 1 1/2"	0.7	3.05
A-2312	14,000 ohms to 4 ohms	40 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	10	A	2"	3 1/4" x 1 3/4"	1.0	3.15
A-3496	14,000 ohms to 4 ohms	25 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.90
A-3303	14,000 ohms to 500/15/8/4 ohms	55 ma.	41, 42, 47, 59, 89, 2A5, 6F6, 6K6, 7B5	AB	20	C	3 3/8"	2 5/8" x 2 5/8"	2.7	8.65
A-3857	25,000 ohms to 4 ohms	10 ma.	1F4, 1F5, 1J5, 1T5, 6G6, 12A7, 950	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.30

### CRYSTAL RECORDER OUTPUT

Part No.	Application	Max. Pri. D.C.	Audio Watts	Core Size	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3853	Single 7,000 ohm plate to 70,000 ohm crystal cutter OR 4 ohm voice coil	35 ma.	5	3/4" x 3/4"	A	2"	3 1/4" x 1 3/4"	1.0	\$5.25
A-3854	Single 7,000 ohm plate to 70,000 ohm crystal cutter AND 4 ohm voice coil	35 ma.	10	1/8" x 1/8"	A	2 1/4"	3 3/4" x 2 1/4"	1.5	5.85
A-3859	Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter OR 4 ohm voice coil	30 ma. ea. 1/2	5	3/4" x 3/4"	A	2"	3 1/4" x 1 3/4"	1.0	5.65
A-3860	Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter AND 4 ohm voice coil	35 ma. ea. 1/2	10	1/8" x 1/8"	A	2 1/4"	3 3/4" x 2 1/4"	1.5	6.35

‡Has tapped primary for use in hum-reducing circuit. §This unit has a tertiary winding to provide 10% inverse feedback.

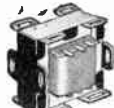
†Designates part number to be removed from next catalog.



CD



KA



L



M



N



Q



S



TD



WI-2

# OUTPUT TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION



### UNIVERSAL OUTPUT

Part No.	Application	Max. Pri. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3856	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	35 ma.	4	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	\$2.65
A-3822	Single plate (7,000 to 10,000 ohms) to voice coil	35 ma.	4	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	2.50
A-3848	Single plate (7,000 to 16,000 ohms) to voice coil	10 ma.	5	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	3.45
A-3823	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	Q	1 3/8"	2 3/8" x 1 1/2"	0.7	2.85
A-3850	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	J	2"	2 3/8" x 1 1/2"	0.7	3.25
A-3825	Single plate (1,500 to 4,500 ohms) to voice coil	75 ma.	8	Q	2"	3 1/4" x 1 5/8"	0.9	3.60
A-3824	Single or Push-pull plates (6,000 to 10,000 ohms) to voice coil	75 ma.	8	Q	2"	3 1/4" x 2"	1.4	4.50
A-3849	Single plate (1,500 to 10,000 ohms) to voice coil	55 ma.	10	Q	1 5/8"	2 7/8" x 1 1/2"	0.7	2.85
A-3880	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. 1/2	15	Q	2 1/4"	3 3/4" x 2 1/4"	1.7	5.40
A-2855	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	15	L	2 1/16"	2 5/16" x 1 3/4"	1.0	4.70
A-3890	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	15	TD	2 1/16"	2 3/4" x 2 3/16"	1.5	7.20
A-3852	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. 1/2	18	J	2 5/16"	2 7/8" x 2"	1.3	3.65
A-3870	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	18	Q	2"	3 1/4" x 2"	1.3	4.50
A-3830	Push-pull plates (3,000 to 10,000 ohms) to voice coil	60 ma. ea. 1/2	20	J	2 1/16"	3 5/16" x 2 1/4"	1.8	4.90

### TUBE TO LINE

Part No.	Application	Impedance in Ohms	Max. Pri. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3841	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500 Sec—500	60 ma.	10	J	2 1/16"	3 5/16" x 2 1/4"	1.5	\$6.80
A-3842	Push-pull plates to line	Pri—14,000/12,000/10,000/8,000 CT Sec—500	55 ma.	10	J	2 1/16"	3 5/16" x 2 1/4"	1.7	6.90
A-4770	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500 Sec—500	60 ma.	20	J	3 3/8"	3 3/8" x 2 1/4"	2.4	7.00
A-3250	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50	15 ma.	—	Q	2"	3 1/4" x 1 3/4"	1.0	4.50
A-3315	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50	35 ma.	—	D	3 5/16"	2 5/8" x 2 5/8"	2.7	10.00

### LINE TO VOICE COIL

Part No.	Impedance in Ohms	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-8101	Pri—500 Sec—3.2/6-8	5	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	\$2.00
A-3883	Pri—500 Sec—15/8/6/4	25	J	2 5/16"	2 7/8" x 1 3/4"	1.1	4.25
A-3882	Pri—500/333/250 Sec—15/8/4	25	D	3 5/16"	2 5/8" x 3 1/2"	2.3	8.25
A-3838	500/250/175/150/140/125/100/85/45/14/4/0.7 This Unit is designed to operate one or more speakers in series across a 500 ohm line or to match unequal lines.	30	B	3 3/8"	2 3/2" x 2 1/4"	2.3	6.50
A-3818	Pri—1,500/1,000/500 Sec—15/8/4	25	J	3 3/8"	3 3/8" x 2 1/4"	2.2	4.95
A-7947	Pri—2,000/1,500/1,000/500 Sec—6 ohms	8	Q	1 3/8"	2 13/16" x 1 9/16"	0.7	2.95
A-7949	Pri—2,000/1,500/1,000/500 Sec—6-8 ohms	12	J	2 1/16"	2 7/8" x 1 13/16"	1.1	3.85
A-3820	Pri—2,000/1,500/1,000/500 Sec—15/8/4	40	D	4 5/16"	3 5/8" x 4 1/2"	4.0	13.45
A-3837	Line to Line or V. C. (Autoformer) Pri—500 Sec—8/4/2.65/2.35/ 2/1.5/0.7/0.5/0.3/0.2/0.1/0.05	15	J	2 5/16"	2 7/8" x 2"	1.1	5.00

This Unit is designed to operate one or more speakers in parallel across a 500 ohm line.

### LINE TO VOICE COIL—OUTDOOR TYPE

Part No.	Impedance in Ohms	Rated Watts	Mtg.	Mtg. Centers Can or Brkt.	Height Overall	Base Area†	Shpg. Wt. in Lbs.	List Price
A-3333	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	14	TW	2" x 3 3/4"	3 1/2"	3 1/2" x 3"	3.4	\$12.95
A-3334	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	25	TW	2" x 3 3/4"	3 1/2"	3 1/2" x 3"	3.5	15.70

20-337 Adapter Hardware Set  
For clamping Part Numbers A-3333 and A-3334 to the mounting bracket of a trumpet projector. Set consists of holding plate and four each of screws, nuts and lockwashers to secure transformer assembly to speaker bracket up to 2" wide.

†Dimensions with bracket.





# POWER TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION

### COMBINATION PLATE AND FILAMENT SUPPLY

#### POWER TRANSFORMERS TO PROVIDE APPROXIMATELY 260 VOLTS D.C. TO CONDENSER INPUT FILTER

Type and Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Volts	Fil. Amps.	Other Volts	Windings Amps.	Base Area	Overall Height	Mtg. Centers	Shpg. Wt. in Lbs.	List Price
<b>PC8401</b>	235-0-235	40	5.0	2.0	6.3 CT	2.0	2 5/8" x 2 5/8"	3 3/16"	2" x 1 9/16"	2.2	<b>\$ 6.15</b>
<b>PM8401</b>							2 1/2" x 3"	2 5/8"	2" x 2 1/2"		
<b>PC8402</b>	240-0-240	55	5.0	2.0	6.3 CT	2.0	2 5/8" x 2 3/4"	3 3/16"	2" x 1 11/16"	2.4	<b>6.80</b>
<b>PM8402</b>							2 1/2" x 3"	2 3/4"	2" x 2 1/2"		
<b>PC8403</b>	250-0-250	70	5.0	2.0	6.3 CT	2.5	2 5/8" x 3 1/8"	3 3/16"	2" x 2 1/4"	3.2	<b>7.65</b>
<b>PM8403</b>							2 1/2" x 3"	3 1/8"	2" x 2 1/2"		
<b>PC8404</b>	260-0-260	90	5.0	2.0	6.3 CT	3.0	3" x 3 1/2"	3 5/8"	2 1/4" x 2 3/4"	4.0	<b>8.60</b>
<b>PM8404</b>							2 7/8" x 3 3/8"	3 5/8"	2 1/4" x 2 13/16"		
<b>PC8405</b>	270-0-270	120	5.0	3.0	6.3 CT	3.5	3 1/4" x 3 1/2"	4"	2 1/2" x 2 5/8"	4.9	<b>9.50</b>
<b>PM8405</b>							3 1/8" x 3 3/4"	3 1/2"	2 1/2" x 3 1/8"		

#### POWER TRANSFORMERS FOR USE WITH CHOKE INPUT FILTER, VR-TUBE REGULATED SUPPLY, SPEAKER FIELD IN FILTER, OR HIGHER VOLTAGE WITH CONDENSER INPUT FILTER

<b>PC8406</b>	325-0-325	40	5.0	2.0	6.3 CT	2.0	2 5/8" x 2 3/4"	3 3/16"	2" x 1 11/16"	2.4	<b>\$ 6.25</b>
<b>PM8406</b>							2 1/2" x 3"	2 3/4"	2" x 2 1/2"		
<b>PC8407</b>	325-0-325	55	5.0	2.0	6.3 CT	2.0	2 5/8" x 3 1/8"	3 3/16"	2" x 2 1/16"	3.2	<b>6.90</b>
<b>PM8407</b>							2 1/2" x 3"	3 1/8"	2" x 2 1/2"		
<b>PC8408</b>	340-0-340	70	5.0	2.0	6.3 CT	2.5	3" x 3 3/8"	3 5/8"	2 1/4" x 2 1/2"	3.8	<b>7.95</b>
<b>PM8408</b>							2 7/8" x 3 3/8"	3 1/2"	2 1/4" x 2 13/16"		
<b>PC8409</b>	350-0-350	90	5.0	2.0	6.3 CT	3.0	3" x 3 5/8"	3 5/8"	2 1/4" x 2 3/8"	4.5	<b>8.85</b>
<b>PM8409</b>							2 7/8" x 3 3/8"	3 3/4"	2 1/4" x 2 3/8"		
<b>PC8410</b>	360-0-360	120	5.0	3.0	6.3 CT	3.5	3 1/4" x 3 3/4"	4"	2 1/2" x 2 1/16"	5.5	<b>9.65</b>
<b>PM8410</b>							3 1/8" x 3 3/4"	3 3/4"	2 1/2" x 3 1/8"		
<b>PC8411</b>	375-0-375	150	5.0	3.0	6.3 CT	4.5	3 5/8" x 4"	4 1/16"	2 3/4" x 2 13/16"	5.8	<b>11.55</b>
<b>PM8411</b>							3 1/2" x 4 1/8"	3 7/8"	2 3/4" x 3 1/16"		
<b>PC8412</b>	400-0-400	200	5.0	3.0	6.3 CT	5.0	4" x 4"	4 3/4"	3" x 2 13/16"	8.2	<b>13.25</b>
<b>PM8412</b>							3 3/4" x 4 1/2"	3 7/8"	3" x 3 3/4"		
<b>PC8413</b>	400-0-400	250	5.0	4.0	6.3 CT	5.0	4" x 4 1/2"	4 3/4"	3" x 3 5/16"	10.0	<b>16.30</b>
<b>PC8414</b>	600-0-600	200	5.0	3.0	6.3	3.0	4" x 4"	4 3/4"	3" x 2 13/16"	8.3	<b>16.40</b>
					6.3	3.0					

#### POWER TRANSFORMERS FOR USE WITH 6AX5, 6X4, 6X5, OR SELENIUM RECTIFIERS

<b>PS8415</b>	125 1/2-wave	15	...	...	6.3	0.6	2 3/8" x 1 3/8"	2"	2"	0.7	<b>\$ 2.90</b>
<b>PS8416</b>	125-0-125	25	...	...	6.3	1.0	2 7/8" x 1 3/8"	2 5/16"	2 3/8"	1.0	<b>3.60</b>
<b>PC8417</b>	220-0-220	50	6.3	0.6	25.2	0.5	2 5/8" x 2 5/8"	3 3/16"	2" x 1 9/16"	2.2	<b>6.70</b>
<b>PC8418</b>	230-0-230	50	...	...	6.3	2.5	2 5/8" x 2 5/8"	3 3/16"	2" x 1 9/16"	2.2	<b>5.95</b>
<b>PM8418</b>							2 1/2" x 3"	2 5/8"	2" x 2 1/2"		
<b>PC8419</b>	240-0-240	70	...	...	6.3	3.0	2 5/8" x 2 7/8"	3 3/16"	2" x 1 13/16"	2.6	<b>6.80</b>
<b>PM8419</b>							2 1/2" x 3"	2 7/8"	2" x 2 1/2"		
<b>PC8420</b>	260-0-260	90	...	...	6.3	4.0	3" x 3 1/2"	3 1/2"	2" x 2 3/4"	3.5	<b>7.60</b>
<b>PM8420</b>							2 7/8" x 3 3/8"	3 1/2"	2 1/4" x 2 13/16"		

#### CATHODE RAY TUBE POWER TRANSFORMERS

For use with type 2X2 rectifier tubes in a conventional half-wave voltage supply.

Part No.	Plate Supply A.C. Volts	D.C. Milliamperes	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>*P-8150</b>	1,550 half-wave	1.5	2.5 1.75	...	TD	3 1/16"	3" x 2 1/2"	1.8	<b>\$ 9.75</b>
<b>*P-8151</b>	2,400 half-wave	5.0	2.5 2.0	2.5 2.0	C	4 1/16"	3 3/16" x 3 1/8"	6.4	<b>14.80</b>

#### SPEAKER FIELD SUPPLY TRANSFORMER

Part No.	Plate Supply A.C. Volts	D.C. Milliamperes	Rectifier Filament Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>P-6146</b>	120-0-120	250	5.0 3.0	C	4"	3 1/4" x 3 1/8"	4.2	<b>\$10.40</b>

All Primary Windings for 117 V-60 cycle operation unless otherwise indicated.

\*New part number.



PC



KA



L



PM



N



Q



PS



TD



VE

# POWER TRANSFORMERS



## STANDARD TRANSFORMER CORPORATION

### REPLACEMENT POWER TRANSFORMERS (Misc.)

Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6001	325-0-325	40	5.0 CT-2.0	2.5 CT-4.0	M	2 3/4"	2 1/2" x 3"	2.5	\$ 7.95
†P-6002	350-0-350	50	5.0 CT-2.0	2.5 CT-7.25	M	3 1/8"	2 1/2" x 3"	3.0	9.90
P-6003	350-0-350	70	5.0 CT-2.0	2.5 CT-9.0	M	3 1/8"	2 1/2" x 3 3/8"	3.7	11.30
P-6005	350-0-350	70	5.0 CT-3.0	2.5 CT-9.0 2.5 CT-3.5	M	4 1/4"	2 1/2" x 3 3/8"	4.8	7.75
†P-6009	275-0-275	70	5.0 CT-3.0	2.5 CT-10.5 5.0 C.T.-0.5	M	3 3/4"	2 7/8" x 3 3/8"	3.8	11.85
†P-4042	350-0-350	70	5.0-3.0	2.5 CT-3.5 2.5-7.5	C	4"	3 1/4" x 3"	3.8	11.90
†P-4047	350-0-350	70	5.0-3.0	2.5 CT-9.0 6.3-3.0	C	4"	3 1/4" x 3"	3.8	11.20
P-6004	350-0-350	90	5.0 CT-3.0	2.5 CT-12.5	M	3"	3 1/8" x 3 3/4"	4.2	10.20
†P-4043	350-0-350	90	5.0-3.0	2.5 CT-3.5 2.5-9.0	C	4 3/16"	3 3/8" x 3 3/8"	4.8	13.05
†P-4048	350-0-350	90	5.0-3.0	2.5 CT-10.0 6.3-3.5	C	4 3/16"	3 3/8" x 3 3/8"	5.2	12.55
P-6007	400-0-400	110	5.0 CT-3.0	2.5 CT-15.0 2.5 CT-3.5	M	3 3/8"	3 1/8" x 3 3/4"	5.4	12.50
†P-6290	350-0-350	120	18/24/50 v. † 5.0 CT-3.0	6.3 CT-4.7	M-2	3 1/8"	3 3/4" x 3 3/8"	5.4	13.60
P-6006	350-0-350	120	5.0 CT-3.0	2.5 CT-12.5 2.5 CT-3.5	M	3 3/8"	3 1/8" x 3 3/8"	5.5	13.20
P3005#	360-0-360 80 v. Bias	125	5.0 CT-3.0 5.0 CT-2.0	2.5 CT-10.0 6.3 CT-4.0	C	4 3/4"	4" x 3 3/8"	8.0	17.95
P-6143	440-0-440	130	5.0-3.0	6.3 CT-3.5	C	4 1/16"	3 5/8" x 3 3/8"	7.0	13.50
P-4004#	400-0-400 80 v. Bias	175	5.0 CT-3.0	2.5-1.75 6.3 CT-2.5 6.3 CT-2.5	C	4 3/4"	4" x 3 3/8"	8.3	15.80
P-5059#	337.5-0-337.5	200	5.0 CT-3.0	6.3 CT-5.0	C	4 3/8"	4" x 4 1/4"	9.6	15.35
P-6315	370-0-370	275	5.0 CT-3.0	6.3 CT-7.0	M	4 3/4"	3 3/4" x 4 1/2"	9.3	17.70

### VIBRATOR TRANSFORMERS WITH 6 VOLT D.C. PRIMARY

Part No.	Secondary A.C. Volts	Secondary Volts	D.C. to Filter Milliamperes	Recommended Buffer Cap.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6301	210-0-210	150	40	0.008 mfd.	S	2 5/16"	2 7/8" x 1 3/4"	1.2	\$4.60
P-4060	240-0-240	225	40	0.008 mfd.	N	3 1/8"	2 1/2" x 2 3/8"	2.5	5.95
P-4061	290-0-290	250	50	0.006 mfd.	N	3 1/8"	2 1/2" x 2 5/8"	2.5	5.90
P-4062	300-0-300	260	65	0.006 mfd.	N	3 1/8"	2 1/2" x 2 5/8"	2.3	6.50
P-4063	320-0-320	285	75	0.006 mfd.	N	3 1/8"	2 1/2" x 2 3/4"	2.8	8.25
P-6131	370-0-370	330	100	0.007 mfd.	N	3 1/2"	2 3/8" x 2 7/8"	3.5	8.90

### VIBRATOR TRANSFORMER WITH 6 VOLT D.C. AND 117 VOLT A.C. PRIMARY

P-6166	350-0-350	—	135	Filament—6.3 volts at 2.25 Amps.	C	4 3/4"	4" x 3 3/8"	6.9	\$14.90
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### AUTO RADIO VIBRATOR TRANSFORMERS—EXACT DUPLICATE

Exact duplicate of mounting type used in original equipment. For detailed drawings, see Howard W. Sams *Auto Radio Manual*.

Part No.	Original Part No.	Trade Name	D.C. Volts at Filter Input	D.C. Ma.	Recommended Buffer Cap.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
*P-4064	7240519	United Motors (Delco)	280	65	0.015-0.015 mfd.	3 3/8"	2 3/8" x 2 3/16"	2.5	\$10.40
*P-4065	7255881	United Motors (Delco)	265	56	0.006 mfd.	4 1/16"	2 3/8" x 2 7/16"	2.6	9.90
*P-6470	140-111	Regal (5-tube univ. series)	145	50	0.009 mfd.	2 11/16"	2 11/16" x 2 3/16"	1.1	6.75
*P-6471	25B472533	Motorola (408, 508, etc.)	235	70	0.006 mfd.	3"	3 3/8" x 2 3/16"	2.0	6.90
*P-6472	D 71014	Colonial-Detrola No. 8072	270	56	0.007 mfd.	2 5/8"	2 7/16" x 2 5/16"	2.0	6.90
	C 217020	Colonial-Bendix M1							
	C 71014	Colonial-Motorola							
	25B70950	Motorola (405, 505, etc.)							
*P-6473	95-1073	Zenith	272	73	0.008 mfd.	3 1/2"	2 3/8" x 2 1/2"	2.4	7.85
*P-6474	95-1066	Zenith	240	52.5	0.008 mfd.	3 1/2"	2 3/8" x 2 1/2"	2.2	7.00
*P-6476	D 70267	Colonial-Detrola No. 7070	220	53.5	0.008 mfd.	2 5/8"	2 7/16" x 2 3/16"	2.0	7.10
	C 70267	Col.-Mot.-Det. No. 8030							

All Primary Windings for 117 V-60 cycle operation unless otherwise indicated. #Primary for 117/107 volts.  
 †Motor-tuner windings for intermittent duty. ‡Designates part number to be removed from next catalog. \*New part number.





# FILTER CHOKES

## STANDARD TRANSFORMER CORPORATION

### SMOOTHING CHOKES FOR D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. They are rated at 10 volts, 60 cycles, with maximum D.C. in winding. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma.	D.C. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1515	20.0 hy. at 15 ma.		900	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$2.00
C-1706	4.5 hy. at 50 ma.		300	1500	A	1 3/8"	2 5/8" x 1 1/2"	0.4	1.65
C-1707	7.0 hy. at 50 ma.		550	1500	A	1 3/8"	2 5/8" x 1 1/2"	0.4	1.80
C-1093	16.0 hy. at 50 ma.		580	1500	A	2"	3 1/4" x 1 3/8"	1.1	2.25
C-1708	13.0 hy. at 65 ma.		500	1500	A	2"	3 1/4" x 1 3/8"	1.0	2.75
C-1355	8.0 hy. at 75 ma.		290	1500	L	2 1/8"	2 5/8" x 1 3/8"	1.0	2.75
C-1002	15.0 hy. at 75 ma.		400	1500	A	2 1/8"	3 3/4" x 2 1/8"	1.7	3.00
C-1420	16.0 hy. at 80 ma.		360	1500	C	3 5/8"	2 5/8" x 2 5/8"	2.5	4.90
C-1709	8.0 hy. at 85 ma.		250	1500	A	2"	3 1/4" x 2"	1.4	3.10
C-2305	5.0 hy. at 100 ma.		300	1500	TD	2 11/16"	2 5/8" x 2 5/8"	1.5	4.25
C-1001	10.5 hy. at 110 ma.		225	3000	A	2 5/8"	4" x 2 1/4"	2.3	4.10
C-2303	2.5 hy. at 130 ma.		100	2000	A	2"	3 1/4" x 1 3/8"	1.0	2.80
C-1421	7.0 hy. at 140 ma.		165	3000	C	3 5/8"	2 5/8" x 2 5/8"	2.5	5.60
C-2304	2.3 hy. at 150 ma.		60	1500	A	2"	3 1/4" x 1 3/8"	1.0	2.90
C-2309	3.0 hy. at 150 ma.		90	2000	A	2 1/8"	3 3/4" x 2 1/8"	1.7	3.50
C-1710	7.0 hy. at 150 ma.		200	1500	A	2 5/8"	4" x 2 1/4"	2.2	4.50
C-1410	4.0 hy. at 175 ma.		100	3000	C	3 5/8"	2 5/8" x 2 5/8"	2.4	5.70
C-1646	5.0 hy. at 200 ma.		90	5000	C	4"	3 1/4" x 3 3/8"	4.5	8.15
C-1411	4.5 hy. at 200 ma.		80	3000	C	3 5/8"	3" x 3 1/8"	3.5	6.50
C-1721	8.5 hy. at 200 ma.		120	3000	N	3 3/8"	3 1/8" x 3"	4.4	7.45
C-1703	4.0 hy. at 250 ma.		60	3000	B	3 1/8"	2 7/8" x 3 1/8"	4.2	8.25
C-1412	4.0 hy. at 250 ma.		60	3000	C	3 5/8"	3" x 3 1/8"	4.3	9.50
C-1722	8.0 hy. at 300 ma.		80	3000	N	4 5/8"	3 5/8" x 3 1/8"	7.3	12.00
C-2308	8.0 hy. at 300 ma.		80	3000	C	4 3/8"	4" x 3 7/8"	7.8	12.50
C-1413	8.0 hy. at 300 ma.		80	5000	D	4 3/8"	4" x 4 1/8"	7.8	12.15
C-1414	7.5 hy. at 400 ma.		60	5000	D	4 3/8"	4" x 5 1/8"	11.8	17.50
C-1415	6.0 hy. at 500 ma.		75	7500	FS	7 5/8"	6 1/8" x 7"	23.7	40.50

### SWINGING CHOKES FOR INPUT SECTION OF D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Swinging chokes are rated at 10 volts, 60 cycles, from maximum to 10% of maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Min. Swg. Induc.	D.C. Res. in Ohms	Approx. Range of Induc. at D.C. Ma.	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price	
C-1718	10 hy.	130	13.5-3.5 hy. at	15-150	2000	C	3 5/8"	2 5/8" x 2 1/8"	2.3	\$5.60
C-1400	10 hy.	100	12-2 at	17.5-175	3000	C	3 5/8"	2 5/8" x 2 5/8"	2.4	6.25
C-1401	10 hy.	80	12-2 at	20-200	3000	C	3 5/8"	3" x 3 1/8"	3.5	7.15
C-1645	10 hy.	90	12-2 at	20-200	5000	C	4"	3 1/4" x 3 1/8"	4.5	8.25
C-1702	10 hy.	60	12-2 at	25-250	3000	B	3 1/2"	2 5/8" x 3 1/8"	4.3	8.25
C-1402	10 hy.	60	12-2 at	25-250	3000	C	3 5/8"	3" x 3 1/8"	4.3	9.50
C-1720	16 hy.	80	20-4 at	30-300	3000	N	4 5/8"	3 5/8" x 3 1/8"	7.2	11.75
C-2307	16 hy.	80	20-4 at	30-300	3000	C	4 3/8"	4" x 3 7/8"	7.9	13.75
C-1403	16 hy.	80	20-4 at	30-300	5000	D	4 3/8"	4" x 4 1/8"	7.7	11.95
C-1404	14 hy.	60	17-3 at	40-400	5000	D	4 3/8"	4" x 5 1/8"	11.7	17.50
C-1405	12 hy.	75	16-4 at	50-500	7500	FS	7 5/8"	6 1/8" x 7"	24.3	36.00

### SMOOTHING CHOKES FOR USE IN A.C.-D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Filter chokes are rated at 10 volts, 60 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma.	D.C. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1080	3.5 hy. at 50 ma.		200	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$1.95
C-1325	5.0 hy. at 50 ma.		250	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.10
C-1277	7.0 hy. at 50 ma.		300	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.25
C-1723	4.5 hy. at 50 ma.		325	1500	A	1 5/8"	2 5/8" x 1 5/8"	0.4	1.75
C-1227	7.0 hy. at 50 ma.		350	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.25
C-1279	8.5 hy. at 50 ma.		400	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.00
C-1333	8.0 hy. at 50 ma.		450	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.00
C-1215	9.0 hy. at 50 ma.		500	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	1.85

### SPEAKER FIELD SUBSTITUTE CHOKE

Part No.	D.C. Resistance	Max. Current	Height Overall	Base Area	Mtg.	Shpg. Wt. in Lbs.	List Price
C-2302	1750/1000/750/500 ohms 3000/2500/2250/2000/1500/500 ohms	60 ma. cont. or 75 ma. int. 40 ma. cont. or 55 ma. int.	3 1/2"	2 7/8" x 2 3/4"	N	3.1	\$8.30

‡Designates part number to be removed from next catalog.



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# MODULATION TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION



### PLATE MODULATION

Part No.	Impedance in Ohms	Max. Ma. D.C./Tube Pri. Sec.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-3812</b>	Pri—10,000 CT Sec—4,000	32 50	Sgl.—37, 38, 41, 1G5, 6K6 Sgl.—19, 1G6, 1J6, 6E6, 6G6, 6Z7 P.P.—30, 49, 1H4	A B B	5	A	1 5/8"	2 7/8" x 1 1/2"	0.7	<b>\$3.25</b>
<b>A-3871</b>	Pri—4,500 Sec—3,500 #Secondary used as primary.	60 50	Sgl.—6L6, HY69 #Sgl.—6B5, 6F6, 6N6	A A	10	TD	2 11/16"	2 3/4" x 2 3/16"	1.4	<b>5.90</b>
<b>A-3873</b>	Pri—8,500 CT Sec—8,000	100 100	Sgl.—6B5, 6F6, 6N6 P.P.—6L6, RK56, HY60	A AB	25	C	3 3/16"	2 5/8" x 3 5/8"	4.2	<b>9.60</b>
<b>A-3845</b>	Pri—10,000 CT Sec—8,000/6,500/5,000/3,000	100 100	Sgl. 53, 79, 6A6, 6N7, 6Y7 P.P.—42, 2A5, 6F6, 6V6	B AB2	25	C	3 3/16"	2 5/8" x 2 3/4"	2.8	<b>7.60</b>
<b>A-3835</b>	Pri—5,000/3,000 CT Sec—10,000/8,350/5,350	80 100	P.P.—45, 50, 2A3, 6A3, 6A5, 6B4, 6L6	AB	25	C	4"	3 1/4" x 3 1/8"	4.0	<b>10.25</b>
<b>A-3868</b>	Pri—6,600 CT Sec—12,000/10,000	100 70	P.P.—6L6	AB	35	C	3 3/16"	2 5/8" x 3 5/8"	4.0	<b>9.95</b>
<b>A-3843</b>	Pri—6,600 CT Sec—14,500/7,500/5,000	150 150	P.P.—6L6, RK56, HY56	AB	40	D	4 3/8"	3 5/8" x 4 7/8"	6.2	<b>14.15</b>
<b>A-3808</b>	Pri—3,800/3,300 CT Sec—10,000/7,500/5,000/4,000	260 170	P.P.—6L6, 807, HY61, RK41 P.P. Par—6L6	AB2 AB1	60	D	4 3/4"	4" x 2 7/8"	7.7	<b>16.60</b>
<b>A-2907</b>	Pri—8,000 CT Sec—12,500/9,000/6,800/ 5,000/3,300	200 150	P.P.—10, T20, TZ20, HY25, 46, 801, 825, 841	B	90	D	4 3/4"	4" x 5 1/4"	9.7	<b>19.35</b>
<b>A-2908</b>	Pri—12,000/7,200 CT Sec—6,250/5,350/4,500/3,000	260 220	P.P.—RK18, T20, TZ20, HY25, RK31, 35T, 50T, 800, 801, 830B, 1623	B	120	D	4 3/4"	4" x 5 5/8"	9.7	<b>20.80</b>
<b>A-3829</b>	Pri—9,000/6,900 CT Sec—6,250/5,000/4,000/3,300	250 300	P.P.—RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	175	D	4 3/4"	4" x 6 1/8"	11.4	<b>21.00</b>

### POLY-PEDANCE MODULATION MULTI-TAPPED UNITS TO PROPERLY MATCH THE OUTPUT OF THE MODULATOR STAGE TO THE MODULATED LOAD. WILL MATCH ALL COMMON IMPEDANCES OF CLASS "B" MODULATOR (2,000 to 20,000 OHMS) TO CLASS "C" LOAD IMPEDANCES OF 2,000 TO 20,000 OHMS.

The number of excellent transmitting tubes available is constantly increasing. R.F. applications, too, have increased and it is sometimes difficult to obtain the correct modulation transformer suitable for

matching some given modulator tubes or R.F. load. These units give an almost unlimited range in power and impedance ratings to assure a correct impedance match in all cases.

Part No.	Max. Watts	Max. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
<b>A-3891</b>	15	Pri—100 ma. Sec—100 ma.	D	3 1/8"	2 5/8" x 2 7/8"	2.5	<b>\$12.00</b>
<b>A-3892</b>	30	Pri—150 ma. Sec—150 ma.	D	4"	3 1/4" x 3 5/8"	4.3	<b>15.20</b>
<b>A-3893</b>	60	Pri—180 ma. Sec—180 ma.	D	4"	3 1/4" x 4 1/8"	6.2	<b>14.75</b>
<b>A-3894</b>	125	Pri—225 ma. Sec—225 ma.	D	4 3/4"	4" x 4 5/8"	9.4	<b>19.90</b>
<b>A-3898</b>	300	Pri—260 ma. Sec—260 ma.	FS	7 3/4"	7 3/8" x 8 1/8"	37.9	<b>62.50</b>
<b>A-3899</b>	600	Pri—500 ma. Sec—500 ma.	FS	11 1/4"	7 3/8" x 9"	70.0	<b>124.50</b>



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# FILAMENT TRANSFORMERS

## STANDARD TRANSFORMER CORPORATION

### FILAMENT TRANSFORMERS WITH SINGLE SECONDARY

Part No.	Volts	Secondary Amperes	R.M.S. V. Insul.	Primary Volts <sup>‡</sup>	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-4026	2.5	1.5	2,500	117	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$3.25
P-4082	2.5 CT	2.5	2,500	117/107	TD	2 1/16"	2 3/4" x 2 3/16"	1.5	6.40
P-6133	2.5 CT	5.0	7,500	117	S	2 1/16"	3 1/8" x 2 1/4"	1.5	5.15
P-4083	2.5 CT	6.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.2	6.70
P-3024	2.5 CT	10.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 5/8"	2.5	6.80
P-3060	2.5 CT	10.0	10,000	117	B	3 1/2"	2 3/8" x 2 1/2"	2.5	6.25
†P-3025	2.5 CT	10.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	10.7	19.75
P-3026	5.0 CT	3.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 5/8"	2.4	6.80
P-4088	5.0 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	1.8	4.95
P-3062	5.0 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.3	5.75
P-5000	5.0 CT	6.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 7/8"	3.1	7.90
P-6135	5.0 CT	10.0	2,500	117	N	3 1/8"	2 1/2" x 2 7/8"	3.0	6.40
†P-4086	5.0 CT	14.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	12.3	22.50
P-6302	5.0 CT	22.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	13.5	24.60
†P-6305	5.0 CT	30.0	10,000	117/107	FB	5 1/8"	4 1/4" x 10"	18.3	30.70
P-6137	5.25 CT	13.0	2,500	117	N	3 7/8"	3 1/8" x 3 1/4"	5.2	10.25
P-6134	6.3 CT	1.2	2,500	117	A	1 5/8"	2 7/8" x 1 5/8"	0.8	2.70
P-5014	6.3 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.0	4.75
P-4019	6.3 CT	4.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 5/8"	2.7	6.55
P-3064	6.3 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.4	5.80
P-4089	6.3 CT	6.0	2,500	117/107	C	3 5/8"	3" x 3 1/8"	3.5	7.50
P-6308	6.3 CT	10.0	2,500	117/107	N	3 1/2"	2 7/8" x 2 3/4"	3.4	6.95
P-6309	6.3 CT	20.0	2,500	117/107	N	4 5/8"	3 3/4" x 3"	6.7	12.90
P-6164	6.3/5/2.5	2.5	2,500	117	J	2 1/16"	3 3/16" x 2 1/4"	1.7	5.30
P-5015	7.5 CT	4.0	2,500	117	B	3 1/8"	2 1/2" x 2 7/8"	2.7	5.75
P-4091	7.5 CT	5.0	2,500	117/107	C	3 5/8"	3" x 3"	3.4	8.90
P-6138	7.5 CT	8.0	2,500	117	N	3 7/8"	3 1/2" x 2 7/8"	4.7	8.15
P-4092	7.5 CT	8.0	2,500	117/107	C	4"	3 1/4" x 3 3/8"	4.7	9.25
P-5016	10.0 CT	4.0	2,500	117	B	3 1/2"	2 7/8" x 2 5/8"	3.3	6.95
P-4096	10.0 CT	5.0	2,500	117/107	C	4"	3 1/4" x 3 1/8"	4.0	8.25
P-6139	10.0 CT	8.0	2,500	117	N	3 7/8"	3 1/2" x 3 1/8"	4.9	8.45
P-4097	10.0 CT	8.0	2,500	117/107	C	4"	3 1/4" x 3 5/8"	5.2	8.95
P-5002	10.0 CT	12.0	7,500	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	14.7	23.65
P-3020	11.0 CT	10.0	2,500	117/107	C	4 3/4"	4" x 3 1/2"	7.7	13.25
*P-8130	12.6 CT	2.0	1,500	117	A	2"	3 1/4" x 2"	1.4	4.65
*P-6469	25.2	1.0	1,500	117	A	2"	3 1/4" x 2"	1.4	4.50

### FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

P-6144	2.5 CT	3.5	2,500	117	C	3 5/8"	3" x 3 1/8"	3.7	\$10.35
	5.0 CT	3.0	2,500						
	6.3 CT	3.0	2,500						
P-6338	2.5	3.0	2,500	117	N	3 1/2"	2 7/8" x 2 3/4"	3.4	9.80
	5.0	3.0	2,500						
	6.3 CT	3.0	2,500						
P-5009	5.0 CT	3.0	2,500	117/107	C	4"	3 1/4" x 3 1/4"	4.5	11.80
	6.3 CT	6.0	2,500						
P-5008	5.0 CT	4.0	2,500	117/107	C	3 5/8"	3" x 3 1/4"	3.8	10.40
	6.3 CT	3.6	2,500						
P-4022	5.0 CT	6.0	2,500	117/107	C	4"	3 1/4" x 3 3/8"	4.8	11.40
	6.3 CT	6.0	2,500						
P-6333	5.0	3.0	2,500	117	B	3 1/2"	2 7/8" x 3 7/8"	4.7	11.40
	5.0	3.0	2,500						
	6.3 CT	4.0	2,500						
	7.5/6.3 CT	3.0	2,500						

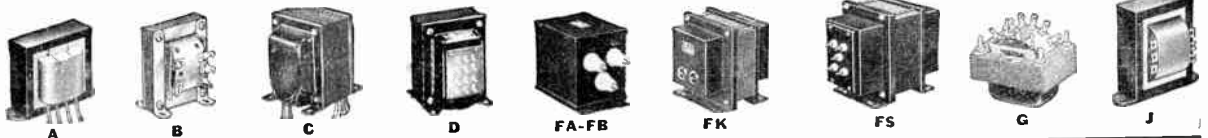
### TUBE CHECKER MULTI-TAPPED FILAMENT TRANSFORMER

Part No.	Secondary Volts	Primary Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-1834-3	1.1/ 1.4/ 1.5/ 2.0/ 2.5/ 3.0/ 3.3/ 5.0/ 6.3/ 7.0/ 7.5/ 12/ 25/ 30/ 35/ 50/ 70/ 85/ 110/ 117	125/115/105	A	2 5/8"	4" x 2"	2.4	\$12.90

<sup>‡</sup>All primary windings for 60 cycle operation.

\*New part number.

†Designates part number to be removed from next catalog.



# STANDARD TRANSFORMER CORPORATION

## PLATE TRANSFORMERS

Part No.	D.C. Volts	Sec. A.C. Volts at Plate	D.C. CCS	Ma. ICAS	Pri. Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8040	400 40	500/40-0-500	300	375	115	C	4 $\frac{3}{4}$ "	4" x 4 $\frac{1}{2}$ "	9.8	<b>\$16.85</b>
P-8041	500 400 40	615/520/40-0-520/615	250	310	115	C	4 $\frac{3}{4}$ "	4" x 5 $\frac{1}{8}$ "	13.6	<b>18.25</b>
P-8042	600 400 40	770/510/40-0-510/770	300	375	115	C	4 $\frac{3}{4}$ "	4" x 6 $\frac{3}{8}$ "	18.0	<b>26.95</b>
P-8043	750 600 40	950/750/40-0-750/950	300	375	115	FS	7 $\frac{5}{8}$ "	6 $\frac{1}{8}$ " x 8"	29.0	<b>50.15</b>
‡P-8045	1000 750	1225/850-0-850/1225	250	310	115	FS	7 $\frac{5}{8}$ "	6 $\frac{1}{8}$ " x 8"	28.5	<b>53.95</b>
‡P-8025	1000 750	1230/940-0-940/1230	400	500	115	FS	7 $\frac{5}{8}$ "	6 $\frac{1}{8}$ " x 8 $\frac{3}{4}$ "	35.0	<b>63.65</b>
‡P-8026	1250 1000	1475/1175-0-1175/1475	300	375	115	FS	7 $\frac{3}{4}$ "	7 $\frac{3}{8}$ " x 8 $\frac{1}{4}$ "	36.5	<b>60.55</b>
‡P-8027	1250 1000	1510/1210-0-1210/1510	500	625	115	FS	7 $\frac{3}{4}$ "	7 $\frac{3}{8}$ " x 9"	45.2	<b>71.60</b>
‡P-8028	1500 1250	1740/1460-0-1460/1740	300	375	115	FS	7 $\frac{3}{4}$ "	7 $\frac{3}{8}$ " x 8 $\frac{1}{2}$ "	38.7	<b>64.10</b>
‡P-8029	1500 1250	1775/1500-0-1500/1775	500	625	115-230	FS	11 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ "	65.0	<b>99.40</b>
‡P-8030	1750 1500	2100/1800-0-1800/2100	300	375	115	FS	7 $\frac{3}{4}$ "	7 $\frac{3}{8}$ " x 9"	45.8	<b>70.70</b>
‡P-8031	1750 1500	2075/1775-0-1775/2075	500	625	115-230	FS	11 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ "	65.5	<b>97.85</b>
‡P-8032	2000 1750	2400/2100-0-2100/2400	300	375	115	FS	7 $\frac{3}{4}$ "	7 $\frac{3}{8}$ " x 9 $\frac{1}{4}$ "	46.0	<b>83.65</b>
‡P-8033	2000 1750	2375/2065-0-2065/2375	500	625	115-230	FS	11 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 9 $\frac{1}{2}$ "	77.0	<b>122.40</b>
‡P-8034	2500 2000	2900/2385-0-2385/2900	300	375	115-230	FS	11 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ "	62.8	<b>119.00</b>
‡P-8035	2500 2000	2950/2375-0-2375/2950	500	575	115-230	FS	11 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 9 $\frac{3}{4}$ "	80.0	<b>130.00</b>
‡P-9920	2500§ 2000	2980-0-2980 2450-0-2450	350 500	450 625	117	Y	9 $\frac{1}{8}$ "	11 $\frac{1}{8}$ " x 9 $\frac{7}{8}$ "	122.0	<b>203.40</b>

## PLATE TRANSFORMERS—NEW FUNCTIONAL UNITS

No exposed terminals. Insulated leads provide protected routing to circuits. Simplified design offers ease of mounting and neat, convenient circuit wiring. No difficult cutouts needed.

Each of these units is "all transformer," taking a minimum of chassis space. No bulky casing or protruding, "hot" terminals to increase mounting area.

D.C. output rated CCS at load terminals of single-section reactor-input filter, ICAS with single-section capacitor-input filter. Primaries for 117 volts, 60 cycles.

Type Part No.	Secondary A.C. Volts	D.C. Output Volts	Ma.	Type Filter	Rectifier	List Price
PC8301	415-0-415	300 425	200 160	Reactor Input Capacitor Input	5U4G 5U4G	<b>\$10.65</b>
PC8302	515-0-515	385 500	235 200	Reactor Input Capacitor Input	5U4G 5R4GY	<b>13.65</b>
PC8303	665-0-665	500 750	250 200	Reactor Input Capacitor Input	5R4GY 5R4GY	<b>17.30</b>
PC8304	750-0-750	600 850	265 200	Reactor Input Capacitor Input	2-5R4GY 5R4GY	<b>19.35</b>
PC8305	920-0-920	750 1000	250 200	Reactor Input Capacitor Input	2-5R4GY 5R4GY	<b>20.20</b>
PC8306*	920-0-920 500-0-500	750 1100 380 550	150 125 150 125	Reactor Input Capacitor Input Reactor Input Capacitor Input	5R4GY 5R4GY 5U4G 5U4G	<b>20.50</b>

D.C. output rated at load terminals of single-section, reactor-input filter with full-wave mercury-vapor rectification. Primaries for 117 volts, 60 cycles.

Type and Part No.	Secondary A.C. Volts	D.C. Volts	CCS	D.C. Ma.	ICAS	List Price
PT8311	1200-0-1200	1000	225	280		<b>\$22.30</b>
PT8312	1200-0-1200	1000	325	405		<b>36.90</b>
PT8313	1475-0-1475	1250	250	310		<b>36.30</b>
PT8314	1790-0-1790	1500	225	280		<b>41.50</b>
PT8315	2065-0-2065	1750	200	250		<b>41.15</b>

## BIAS SUPPLY TRANSFORMERS

Part No.	High Voltage Supply A.C. Volts at D.C. Milliamps.	Rectifier Fil. Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6317	200/170/130/90/0/90/130/170/200 @ 200 ma.	5.0 3.0	CD	4"	3 $\frac{1}{4}$ " x 3 $\frac{3}{8}$ "	4.9	<b>\$15.20</b>
P-6318	450/400/350/250/0/250/350/400/450 @ 200 ma.	5.0 3.0	CD	4 $\frac{5}{16}$ "	3 $\frac{5}{8}$ " x 4 $\frac{1}{8}$ "	7.0	<b>17.30</b>

All Primary Windings for 60 cycle operation.

‡Designates part number to be removed from next catalog.

§Output changed by means of tap on primary winding. Rating is for a single section choke input filter using a 6 mfd. condenser.





# ISOLATION AND AUTOFORMERS

## STANDARD TRANSFORMER CORPORATION

### STRAIGHT ISOLATION—125/115/105 VOLTS TO 115 VOLTS.

Part No.	Wattage	Primary #	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6160	100	125/115/105	115	KA	4 3/8"	4" x 3 5/8"	7.0	\$17.25
P-6161	250	125/115/105	115	KA	4 3/8"	4" x 5 5/8"	14.2	32.50
P-6298	500	125/115/105	115	FK	7 5/8"	6 3/8" x 7 5/8"	28.0	49.50
P-6125	1000	125/115/105	115	FK	7 5/8"	7 5/8" x 6 1/2"	34.8	64.90
P-6123	1500	125/115/105	115	FK	7 5/8"	7 5/8" x 8 1/2"	49.8	80.95

### STEP-DOWN ISOLATION—250/230/210 VOLTS TO 115 VOLTS.

P-6383	100	250/230/210	115	KA	4 3/8"	4" x 3 5/8"	7.3	\$18.40
P-6385	250	250/230/210	115	KA	4 3/8"	4" x 5 5/8"	14.2	29.80
P-6387	500	250/230/210	115	FK	7 5/8"	6 3/8" x 7 5/8"	29.5	51.10
P-6389	1000	250/230/210	115	FK	7 5/8"	7 5/8" x 6 1/2"	33.8	65.85
P-6390	1500	250/230/210	115	FK	7 5/8"	7 5/8" x 8 1/2"	50.3	91.10

### ISOLATION TESTING TRANSFORMER

P-6415	350	117	105/115/125	KC	5 3/8"	4 1/2" x 5 3/4"	17.0	\$27.50
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Large enough to handle almost any television or radio receiver on test. 115 and 125, with 117 volts, A.C., from the line for testing purposes or Has three standard receptacles, providing output voltages of 105. for correction of high or low line voltage. Has electrostatic shield.

### AUTOFORMERS

P-6287	40	230	115	—	4 1/2"	3" Diam. can	2.7	\$ 8.40
P-5062	80	230	115	K	3 5/8"	3" x 3 1/4"	3.8	9.00
P-5063	100	230	115	K	4"	3 1/2" x 3 1/4"	4.5	10.20
P-5064	150	230	115	K	4 3/8"	3 5/8" x 3 5/8"	5.2	11.80
P-5065	300	230	115	K	4 3/8"	4" x 4 1/2"	8.8	16.00
P-6141	500	230	115	K	4 3/8"	4" x 5 1/2"	13.7	21.00
P-6124	1000	230	115	FK	7 5/8"	6 1/2" x 6 1/2"	24.5	44.50
P-6299	150	115	150/140/130/120/110/100/90	KA	4"	3 3/4" x 4 3/4"	6.0	16.85

**Testing Autoformer**—Designed especially for various service and test application. Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. It may be used to apply an overload voltage to amplifiers, radio receivers, or other electronic

devices being serviced, which will indicate and cause suspected parts to break down. Primary equipped with 6 ft. approved cord and plug. Secondary connected to female receptacle.

### LINE ADJUSTING AUTOFORMERS

Stancor Line Adjusters permit operation of electrical devices at 115 volts when the supplied voltage is 65, 75, 90, 100, 115, 130 or 145. They are also useful for altering a 115 volt line above or below that level. The line adjuster input is correctable in seven steps by means

of a selector switch and is accurately indicated by an output voltmeter. The meter has a convenient red-line marker at 115 volts on a 150 volt scale.

Type and Part No.	Va.*	Input Voltage 50-60 Cycle	Output Voltage	Height	Base Area	Shpg. Wt. in Lbs.	List Price
PV-6441	150	65/75/90/100/115/130/145	115	5 1/2"	3 7/8" x 5 5/8"	6.4	\$19.95
PV-6442	350	65/75/90/100/115/130/145	115	5 1/2"	3 7/8" x 6 1/2"	10.5	25.35
PV-6443	500	65/75/90/100/115/130/145	115	5 1/2"	3 7/8" x 6 7/8"	15.0	31.60
PV-6444	750	65/75/90/100/115/130/145	115	6 5/16"	4 1/2" x 8 1/2"	19.0	46.35

\*Watts to pure resistive load. To other types of loads, multiply rating of line adjuster by power factor of load for actual wattage.  
 †All Primary Windings for 60 cycle operation.

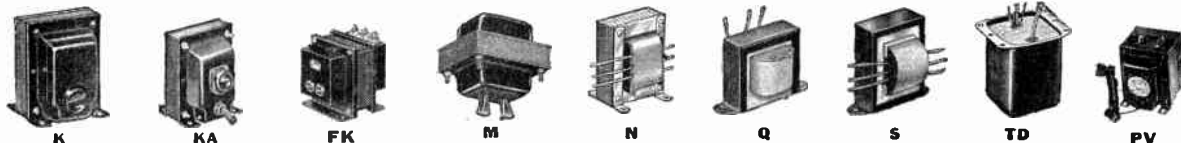
### SIX VOLT DC POWER SUPPLY

The Stancor Model 752 Master Pack replaces bothersome storage batteries, meeting the needs of the serviceman for a six volt power supply that is practical in design, convenient to use, and large enough to handle heavy-duty jobs.

The Stancor Master Pack is conservatively rated to provide 6 volts D.C. at 12.5 amperes continuously from the standard 115 volt, 50-60 cycle source. An instantaneous rating of 25 amperes makes the Model 752 ideal for demonstrating or testing auto radios with push-button or floor-switch magnetic tuning. Reserve power permits simultaneous operation of two or more receivers. Separate voltmeter and ammeter afford a continuous, visual check of voltage and current delivered to load. Meter needles are damped to prevent annoying "wobble." The extractor-type line fuse gives positive protection against damage from excessive overloads. Thorough filtering, less than 3% ripple through a choke-capacitor filter, allows use in applications where the hum from a poorly filtered power supply cannot be tolerated. Selenium rectifiers are used for dependability and cooler operation. Controls and terminals are conveniently located on the front panel. The sturdy steel case is finished in durable gray hammertone. No detail has been slighted in making the Stancor Model 752 Master Pack the outstanding power supply for the service bench. Size overall, 9 1/2" high, 7 3/8" wide, 12" long. Weight in carton, 30 pounds.



MODEL 752 MASTER PACK USERS NET.....\$43.90



# "HS" (hermetically sealed) SERIES TRANSFORMERS



TRIAD "HS" Series Transformers are designed to meet MIL-T-27 specifications and hence have an immediate application for military use. Such transformers are also desirable for high quality commercial equipment where continuity of service and superior performance is paramount. "HS" Series Transformers feature:

**DEPENDABILITY:** Liberally designed and accurately wound transformers of low temperature rise; "Climatite" treated, poured with silica-filled asphalt of high heat conductivity, rigidly supported, and hermetically sealed, TRIAD leaves no step untaken to supply the best in quality transformers.

**STRONG MECHANICAL CONSTRUCTION:** Heavy steel cases with welded internal supports and TRIAD'S own hermetic seals, employing sturdy brass studs and low-loss molded plastics, minimize mechanical failures in production, service and storage.

**ATTRACTIVE APPEARANCE:** Sturdy deep-drawn steel cases, of smoothly matching lines, and finished in attractive TRIAD gray, add much to the appearance of the equipment in which "HS" Series Transformers are used.

**STANDARD MIL-T-27 CASES:** The standardized series of MIL-T-27 cases are used in all designs where magnetic shielding is not required. Current military procurement is specifying these cases.

## "HS" Series Audio INPUT Transformers

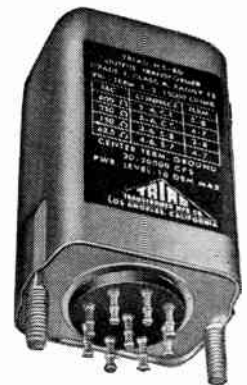
TRIAD Low-Level Audio Transformers have attained an enviable reputation wherever high-quality transformers are used. These transformers offer wide frequency range (20-20000 cycles), protection against stray fields (up to 95db), all in case sizes only a fraction of the size of pre-war designs. TRIAD low-level transformers are used by a great majority of manufacturers of high quality audio equipment.

Type No.	Application	Primary Impedance	Turn Ratio	Freq. Resp.	Max. Level VU	Shielding	Case No.	List Price
HS-1	Univ. line or mike to grid.	600*/250*/150/62.5	1:11.4	20-20000	10	P-5	GP-4	\$38.50
HS-11	Same as above.					P-1	GP-2	26.40
HS-3	Univ. line or mike to p.p. class A grids.	600*/250*/150/62.5	1:14 overall	20-20000	10	P-5	GP-5	43.50
HS-4	Same as above.					P-3	GP-4	39.70
HS-14	Same as above.					P-1	GP-3	28.60
HS-5	Dynamic mike to grid—Hi-gain.	80-50	1:65.7	50-10000	0	P-5	GP-4	38.50
HS-8	Line to p.p. class A grids—Hi-level.	600*/250*/150/62.5	1:10 overall	20-20000	26	P-1	GP-4	38.50

\*Balanced center tap available.

## "HS" Series Audio INTERSTAGE Transformers

Type No.	Application	Primary Impedance	Turn Ratio	Freq. Resp.	Max. Level Pri. Volts	Shielding	Case No.	List Price
HS-23	Single plate to single grid.	15000	1:2.7	20-20000	15	P-3	GP-4	\$26.40
HS-25	Single plate to p.p. class A grids.	15000	1:2.72 overall	20-20000	25	P-1	GP-4	28.60
HS-35	Single plate to p.p. class A grids.	15000	1:2.72 overall	20-20000	20	P-1	GP-2	21.80
HS-27	P.p. plates to p.p. class A grids.	20000/5000	1:1.72 overall	20-20000	50	P-1	GP-4	29.70
HS-29	Bridging-line to 1 or 2 grids.	20000/5000	1:2 overall	20-20000	20	P-5	GP-4	38.50
HSM-31	P.p. 6J5's or parallel-fed 6F6 triode to AB grids.	20000/5000	1:1 or 2:1	20-20000	240		FA	25.00



Only TRIAD transformers are

**CLIMATITE TREATED**

—the improved and exclusive vacuum impregnation process used on all TRIAD transformers.

## "HS" Series LOW LEVEL OUTPUT, MIXING, MATCHING and BRIDGING Transformers

Type No.	Application	Impedance		Freq. Resp.	Max. Level VU	Shielding	Case No.	List Price
		Primary	Secondary					
HS-50	Plate to universal line.	15000	600*/250*/150/62.5	20-20000	26	P-3	GP-4	\$29.70
HS-60	Plate to universal line.	15000	600*/250*/150/62.5	20-20000	10	P-1	GP-2	21.80
HS-52	P.p. plates to universal line.	20000/5000	600*/250*/150/62.5	20-20000	26	P-1	GP-4	32.50
HS-54	Bridging, single or p.p. plates to univ. line.	20000/5000	600*/250*/150/62.5	20-20000	10	P-5	GP-4	38.50
HS-56	Universal line to universal line.	600*/250*/150/62.5	600*/250*/150/62.5	10-30000	20	P-3	GP-4	32.50
HS-66	Same as above.			10-30000	20	P-1	GP-3	27.50

\*Balanced center tap available.

# TRIAD TRANSFORMER MFG. CO.



# "HS" (hermetically sealed) SERIES TRANSFORMERS

## "HS" Series HIGH LEVEL OUTPUT Transformers Tube to Line — Tube to Voice Coil — Line to Voice Coil

TRIAD "HS" Series Output Transformers represent the application of the most modern techniques in the design of fine audio equipment. Use of the very best core materials combined with interleaved coil structures, have resulted in an open circuit inductance to leakage inductance ratio of 10,000, representing a frequency response range of better than 13 octaves. These transformers will deliver full rated power output within 1 db. from 20-20000 cycles. Full DC plate current can be carried through the primary windings, but every effort should be made to balance the two plates in push-pull circuits to obtain optimum results at the extreme low frequencies.

Type No.	Application	Impedance		Freq. Response	Max. Level-Watts	Case No.	List Price
		Primary	Secondary				
HSM-81	P.p. 6V6's, etc. to voice coil	8000 C.T.	16/8/4	7-50000	15	JB	\$30.50
HSM-82	As above—to line	8000 C.T.	500/250/125	7-50000	15	JB	30.50
HSM-84	P.p. 2A3's, 6B4's, 6L6's, etc. to V.C.	5000 C.T.	16/8/4	7-50000	20	JB	30.50
HSM-85	As above—to line	5000 C.T.	500/250/125	7-50000	20	JB	30.50
*HSM-89	P.p. KT-66's, 807's, etc.—for Williamson circuit.	10000 C.T.	16/8/4	7-50000	25	KB	37.50
*HSM-90	As above—to line	10000 C.T.	500/250/125	7-50000	25	KB	37.50
HSM-87	AB, 6L6's, etc. to voice coil	9000 C.T.	16/8/4	7-50000	25	KB	35.80
HSM-88	As above—to line	9000 C.T.	500/250/125	7-50000	25	KB	35.80
HSM-91	P.p. parallel 2A3's, 6L6's, etc. to V.C.	2500 C.T.	16/8/4	7-50000	50	LA	49.50
HSM-94	P.p. par. 6L6's to voice coil	4500 C.T.	16/8/4	7-50000	55	LA	61.00
HSM-95	As above—to line	4500 C.T.	500/250/125	7-50000	55	LA	61.00
HS-97	P.p. 845's to line	6600 C.T.	50/250/125	10-30000	125	Spec.	115.00
HS-101	Line to parallel lines—autoformer.		500/250/167/125/ 100/88/71	10-30000	30	Spec.	35.80
HS-103	Line to V.C.—autoformer		500/16/8/4	10-30000	30	Spec.	30.50

\*New item.

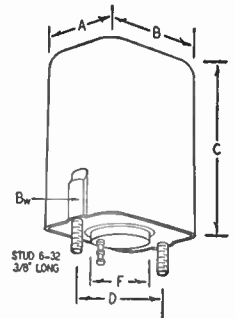
## POWER Transformers, Combined Plate and Filament

All types electrostatically shielded

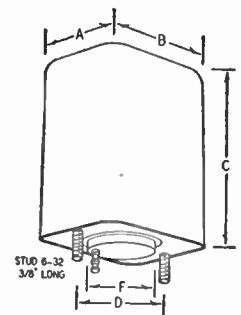
Primary 115 volts, 50-60 cycles

Type No.	Plate Supply		Filaments	Case No.	List Price
	AC Volts	DC Ma			
HSM-201†	500 C.T.	20	6.3 C.T.-2A.	GA	\$16.75
*HSM-203	600 C.T.	50	6.3 C.T.-2.5A. 5 -2A.	JB	24.50
HSM-205	700 C.T.	70	6.3 C.T.-3A. 5 -3A.	JA	27.50
HSM-207	700 C.T.	120	6.3 C.T.-5A. 5 -3A.	KA	30.80
HSM-211	700 C.T.-70 v. bias tap.	150	6.3 C.T.-6A. 2.5 C.T.-5A. 5 -3A.	LA	33.00
HSM-215	800/700 C.T. 70 v. bias tap.	200	6.3 C.T.-6A. 2.5 C.T.-10A. 5 -6A.	MA	41.50
HS-217	800/700 C.T. 70 v. bias tap.	300	6.3 C.T.-8A. 2.5 C.T.-10A. 5 -6A.	Spec.	48.00

†Low flux density—for pre-amplifier service.  
\*New item.



	GP-1	GP-2	GP-3
A	7/8	1 1/16	1 1/4
B	1 1/16	1 1/4	1 1/2
BW	1 1/8	1 3/8	1 5/8
C	1 1/16	2 1/4	2 3/8
D	1 5/16	1 5/8	1 1/2
F	3/4	3/4	7/8
Wt.	3 oz.	5 1/2 oz.	8 oz.



	GP-4	GP-5
A	1 1/16	1 5/8
B	1 3/4	2
C	2 1/2	2 3/4
D	1 1/2	1 1/2
F	3/8	3/8
Wt.	12 oz.	17 oz.

### SHIELDING AGAINST STRAY FIELDS AVAILABLE IN "HS" Series

#### AUDIO TRANSFORMERS

**P-1** — One nickel-alloy high permeability shield — 45 db. reduction in pickup.

**P-3** — Two nickel-alloy shields inter-leaved with one heavy copper shading ring — 70 db. reduction in pickup.

**P-5** — Three nickel-alloy shields inter-leaved with two heavy copper shading rings—95 db. reduction in pickup.

# ... For HIGHEST QUALITY EQUIPMENT



## POWER Transformers, Combined Plate and Filament (Con't)

Primary 115 volts, 380-1500 cycles  
Double filament windings to supply 6.3 or 12.6 volt tubes

Type No.	Plate Supply AC Volts	D C Ma.	Filaments	Case No.	List Price
HS-401	500 C.T.	40	6.3 C.T.-1A. 6.3-1A.	EB	\$19.80
HS-405	600 C.T.	70	6.3 C.T.-2A. 6.3-2A. †6.3/5-2A.	GA	25.70
HS-407	600 C.T.	120	6.3 C.T.-3.5A. 6.3-3.5A. †6.3/5-3A.	JB	30.80
*HS-413	450 C.T.	200	6.3 C.T.-6A. 6.3-6A. †6.3/5-4A.	JA	42.00
HS-415	800/600 C.T.	200	6.3 C.T.-6A. 6.3-6A. †6.3/5-6A.	KB	42.00
HS-417	800/600 C.T.	300	6.3 C.T.-6A. 6.3-6A. †6.3/5-6A.	LA	45.00

†Tapped for 5 volt rectifier use.

\*New item.

## FILAMENT Transformers

50-60 cycles

Type No.	Primary Volts	Secondary Volts	Amperes	Insulation Test Voltage	Case No.	List Price
*HSM-223	115	6.3	.6	1500	AJ	\$10.25
HSM-225	105-115-125	6.3 C.T.	2	2500	EA	9.90
*HSM-227	105-115-125	6.3 C.T. 6.3	3 3	2500	GA	18.00
HSM-229	105-115-125	6.3 C.T.	8	2500	JB	16.50
*HSM-228	105-115-125	6.3 C.T. 6.3	6 6	2500	JA	27.60
HSM-231	105-115-125	6.3 C.T. 5 C.T.	5 3	2500	JB	17.60
HSM-235	105-115-125	2.5 C.T. 10 C.T.	10 10	7500	MA	23.00

\*New item.

380-1500 cycles

HS-425	105-115-125	6.3 C.T.	2	1500	AJ	13.75
HS-427	105-115-125	6.3 C.T.	5	1500	EA	19.40
HS-433	105-115-125	*6.3 C.T. 6.3	5 5	2500	FA	21.20
HS-435	105-115-125	*6.3 C.T. 6.3 †6.3/5	3.5 3.5 3	2000	FA	22.50
HS-441	105-115-125	*5 C.T. 5 2.5 C.T.	10 10 10	2000 7500	HA	28.00

\*Series or parallel connection.

†5 volt tap for filament type rectifiers.

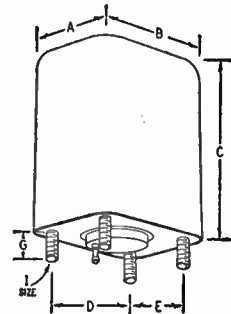
## FILTER Reactors

Miniaturized for use with high-frequency power supplies

Type No.	Current DC Ma.	Inductance Henries	Resistance Ohms	Test Voltage	Case No.	List Price
HS-331	40	4	375	1500	AH	\$11.00
HS-333	70	3	225	1500	AJ	11.50
HS-335	120	3	150	1500	EB	12.00
HS-339	200	3	105	2000	FB	13.60
HS-341	300	2	48	2000	GB	14.60

General purpose smoothing reactors

HSM-301	20	30	1000	1500	EA	10.30
HSM-305	70	15	300	2500	GB	11.90
HSM-307	120	15	185	2500	JB	15.10
HSM-309	150	9	115	2500	JB	15.90
HSM-315	200	10	100	2500	JA	17.35
HSM-319	300	10	85	2500	LB	24.20



Standard MIL-T-27  
Case Sizes

	EA	EB	FA	FB	GA	GB
A	1 1/8	1 1/8	2 1/8	2 1/8	2 3/8	2 3/8
B	1 1/8	1 1/8	2 1/8	2 1/8	2 3/8	2 3/8
C	2 3/4	2 7/8	3 1/2	2 1/2	3 1/8	2 1/8
D	1 3/4	1 3/4	1 1/2	1 1/2	2 1/2	2 1/2
E	1 1/4	1 1/4	1 1/8	1 1/8	1 3/4	1 3/4
G	3/8	3/8	3/8	3/8	3/8	3/8
I	6-32	6-32	6-32	6-32	6-32	6-32
Wt. Lbs.	1	15 oz.	1 3/4	1 1/2	2	1 3/4

	HA	HB	JA	JB	KA	KB
A	2 5/8	2 5/8	3 1/8	3 1/8	3 3/8	3 3/8
B	3 1/8	3 1/8	3 3/8	3 3/8	3 1/2	3 1/2
C	4 1/4	3 3/8	4 3/8	3 3/8	5 1/4	4 3/8
D	2 1/8	2 1/8	2 5/8	2 5/8	3	3
E	1 3/4	1 3/4	2 1/2	2 1/2	2 7/8	2 7/8
G	3/8	3/8	3/8	3/8	1/2	1/2
I	8-32	8-32	8-32	8-32	10-32	10-32
Wt. Lbs.	2 1/2	2 1/4	4 1/2	4	7 3/4	7

	LA	LB	MA	MB	NA	NB
A	3 1/4	3 1/4	4	4	4 3/8	4 3/8
B	4 3/8	4 3/8	4 1/2	4 1/2	5 1/8	5 1/8
C	5 3/8	4 1/2	6	4 1/8	6 1/2	5 1/2
D	3 3/8	3 3/8	3 1/2	3 1/2	4 3/8	4 3/8
E	2 1/2	2 1/2	3	3	3 3/8	3 3/8
G	1/2	1/2	3/8	3/8	3/8	3/8
I	10-32	10-32	1/4-20	1/4-20	1/4-20	1/4-20
Wt. Lbs.	9 1/4	8 1/2	13 1/2	12 1/2	18	16



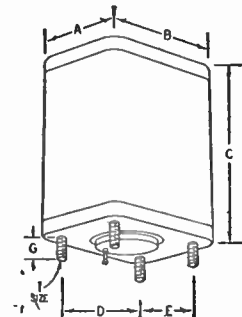
# MINIATURE AUDIO TRANSFORMERS

## Dimensions of JO and MIL Standard Cases

	JOA	JOB
A	$1\frac{1}{4}$ dia.	$1\frac{1}{8}$ dia.
B	Round	Round
C	$1\frac{1}{2}$	$1\frac{3}{8}$
D	$\frac{1}{16}$	$\frac{1}{16}$
F	$\frac{7}{16}$	$\frac{7}{16}$
Wt.	$1\frac{1}{4}$ oz.	$1\frac{1}{2}$ oz.

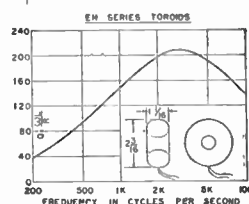
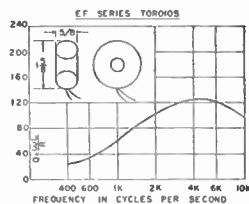
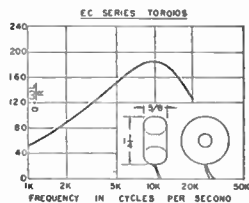
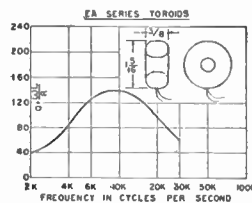
Type No.	Application	Impedance		Max. Level-VU	Shielding db.	Freq. Resp.	Case No.	List Price
		Primary	Secondary					
JO-1	Line or mike to grid.	600/250/50	50000	0	45	50-10000	JOA	\$14.50
*JAF-1	Line or mike to grid.	600/250/50	50000	0	45	100-10000	AF	14.50
JO-2	Line or mike to grid.	600/250/50	250000	0	45	300-3000	JOA	15.30
*JAF-2	Line or mike to grid. Hi-gain.	600/250/50	250000	0	45	300-3000	AF	15.30
JO-3	Line or mike to p.p. grids.	600/250/50	60000 C.T.	0	45	50-10000	JOA	15.30
*JAF-3	Line or mike to p.p. grids.	600/250/50	60000 C.T.	0	45	100-10000	AF	15.30
JO-5	Dynamic mike or speaker VC to grid.	30/12/4	50000	0	45	50-10000	JOA	14.50
JO-11	Plate to grid.	15000	50000	10	45	50-10000	JOB	13.60
*JAF-11	Plate to grid.	15000	50000	10	45	100-10000	AF	13.60
JO-12	Plate to p.p. grids.	15000	60000 C.T.	10	45	50-10000	JOB	14.50
*JAF-12	Plate to p.p. grids.	15000	60000 C.T.	10	45	100-10000	AF	14.50
JO-13	Plate to p.p. grids. DC in pri.	15000	95000 C.T.	10	45	300-3000	JOB	15.30
*JAF-13	Plate to p.p. grids. DC in pri.	15000	95000 C.T.	10	45	350-5000	AF	15.30
JO-21	Plate to line	15000	600/250/50	10	45	50-10000	JOB	14.50
*JAF-21	Plate to line.	15000	600/250/50	10	45	100-10000	AF	14.50
JO-22	Plate to line. DC in pri.	15000	600/250/50	10	45	300-3000	JOB	14.50
*JAF-22	Plate to line. DC in pri.	15000	600/250/50	10	45	350-5000	AF	14.50
JO-23	P.p. plates to line.	20000 C.T.	600/250/50	10	45	50-10000	JOB	15.30
*JAF-23	P.p. plates to line.	20000 C.T.	600/250/50	10	45	100-10000	AF	15.30
JO-31	Line to line.	600/250/50	600/250/50	10	45	50-10000	JOB	14.50
*JAF-31	Line to line.	600/250/50	600/250/50	10	45	100-10000	AF	14.50
JO-101	Coupling Reactor.	50 h.-2 Ma.			45		JOB	11.60
*JAF-101	Coupling Reactor.	50 h.-1 Ma.			45		AF	11.60
HS-71	Plate to line. DC in pri.	10000 (10 Ma.)	600/150	33		300-3000	AH	16.00
HS-73	Plate to line & VC-DC in pri.	5000 (40 Ma.)	4-8-16-250-500	37		300-3000	AJ	18.30
HS-75	P.p. plates to line & VC.	10000 C.T. (50 Ma. bal.)	4-8-16-250-500	40		300-3000	EB	20.40

\*New item.



	AF	AG	AH	AJ
A	$\frac{1}{2}$	1	$1\frac{5}{16}$	$1\frac{1}{8}$
B	$\frac{3}{4}$	1	$1\frac{1}{16}$	$1\frac{1}{8}$
C	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{1}{4}$	$3\frac{3}{8}$
D	$\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{8}$
F	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{9}{8}$
Wt.	1 oz.	$2\frac{1}{2}$ oz.	4 oz.	9 oz.

\*Studs 4-40 in opposite corners of case.



## Uncased "TRIJET"

Type No.	Application	Primary Impedance	Secondary Impedance	List Price
T-1	Line or mike to grid.	600/250/50	50000	\$ 4.85
T-5	Dynamic mike or speaker VC to grid.	30/12/4	50000	4.85
T-21	Plate to line.	30000	50	4.85
T-101	Coupling Reactor.	50 henries @ 1 Ma.		4.70

## TOROIDS for wave filters

TRIAD toroids are supplied unmounted and can be readily trimmed for intermediate values of inductance. All types are supplied to the exact value of inductance shown within  $\pm 1\%$ . If other exact values are desired they can be ordered from the factory at the price of the next higher value of inductance plus the following adders. Lots 1-9—20%. 10-24—10%. 25 and over—no adder. Coils can be supplied in hermetically sealed cases with one or more coils per case. Prices on application. We supply wave filters on special order and will be glad to quote on your design in any quantity.

Inductance	Type No. EA Series	Type No. EC Series	Type No. EF Series	Type No. EH Series
5 mh.	EA-005	EC-005	EF-005	EH-105
15 mh.	EA-015	EC-015	EF-015	EH-105
40 mh.	EA-040	EC-040	EF-040	EH-105
100 mh.	EA-100	EC-100	EF-100	EH-105
250 mh.	EA-250	EC-250	EF-250	EH-105
600 mh.	EA-600	EC-600	EF-600	EH-105
1 h.	EA-1000			
1.5 h.		EC-1500	EF-1500	EH-1500
4.0 h.		EC-4000	EF-4000	EH-4000
6.0 h.			EF-6000	
10.0 h.				EH-10000
25.0 h.				EH-25000

All above are new items.

# HF-10 HI-FIDELITY AMPLIFIER KIT . . .

## WIDE RANGE REPRODUCTION FOR THE HOME



Lovers of good music have had a difficult time obtaining complete commercial equipment capable of doing justice to the fine musical material currently available from FM radio, AM radio, and recordings. Few, if any, of the commercial radio-phonographs include the quality of components which will permit transmission of a wide enough range of frequencies, with enough power, with low enough distortion to permit life-like musical reproductions. Fortunately there are available highly efficient speakers, well designed AM and FM tuners, wow-free turntables, good pickups, and exceptional amplifiers of high quality and output which may be combined to make a system comparable in quality to a fine grand piano.

The HF-10 Amplifier has been designed to fit into such a system. For those who like to build their own equipment, the HF-10 kit supplies the basic engineering and solves the most difficult mechanical layout problems.

### KITS . . .

- HF-10 Kit** .....\$43.00  
Includes S-31A, R-14A, A-74J, and C-10X Triad transformers. chassis, prints, and assembly instructions.
- HF-10A Kit** .....\$63.50  
Same as above except for substitution of HSM-81 output transformer for S-31A.
- HF-10B Kit** .....\$43.00  
Same as HF-10 except for S-32A output transformer — 500/250/125 ohm secondary.
- HF-10C Kit** .....\$63.50  
Same as above except for substitution of HSM-82 output transformer for S-32A.

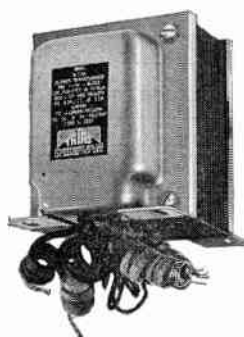
### FEATURES . . .

- Wide Frequency Response:** HF-10A within one db. from 20-70,000 cycles.
- Low Distortion:** HF-10A less than .5% from 40-40,000 cycles at full 10 watts output. Less than .5% from 20-40,000 cycles at 5 watts.
- Heavy Speaker Damping:** Reflects less than 2 ohms to speaker from 16 ohm tap.
- Equalization:** Continuously variable to +12 db. or -30 db. at 50 or 8000 cycles.
- High Gain:** 74 db. from crystal microphone or radio receiver; 96 db. (equalized for magnetic pickup) through preamplifier.
- Low Noise:** Hum and other noise 60 db. below maximum output. A-74J equalizing coil has 70 db. shielding.
- Beautiful Appearance:** Gray hammertone chassis with ivory silk-screened lettering, matched gray Triad transformers.

## HIGH FIDELITY OUTPUT Transformers

The TRIAD high-fidelity transformers in the group at right afford a standard of performance exceeded only by the "HS" Series outputs.

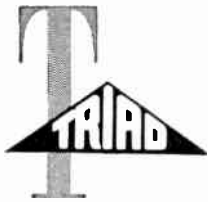
Designed with plenty of the highest quality core material and with interleaved windings of low resistance, these coils have a frequency response linear within 1 db. from 30-15000 cycles and will deliver their full rated output within 3 db. over this entire range of frequencies. Their high open circuit reactance and low leakage reactance will permit their use within feedback loops employing as high as 30 db. of negative feedback.



CASE A

Type No.	Application	Primary	Impedance Secondary	Output Watts	Dimen.-Ins.			Wt. Lbs.	List Price
				H W D					
S-31A	P.p. 6V6, 45, etc.	8000 C.T.	4-8-16	15	3 1/8	2 3/8	3 3/8	3 1/2	\$10.50
S-32A	P.p. 6V6, 45, etc.	8000 C.T.	500/250/125	15	3 1/8	2 5/8	3 3/8	3 1/2	11.00
S-33A	P.p. 2A3, 6A5, 6B4, etc.	3000 C.T.	4-8-16	15	3 1/8	2 5/8	3 3/8	3 1/2	10.50
S-35A	P.p. 2A3, 6L6, etc.	5000 C.T.	4-8-16	20	3 1/8	2 5/8	3 3/8	4	11.50
S-36A	P.p. 2A3, 6L6, etc.	5000 C.T.	500/250/125	20	3 1/8	2 5/8	3 3/8	4	12.00
*S-48A	P.p. KT-66, 807, etc. triodes (for Williamson circuit)	10000 C.T.	4-8-16	25	3 1/2	2 7/8	4 1/4	5 3/4	24.50
S-38A	P.p. 6L6, class AB.	9000 C.T.	4-8-16	25	3 1/2	2 7/8	4 1/4	5 3/4	15.20
S-39A	P.p. 6L6, class AB.	9000 C.T.	500/250/125	25	3 1/2	2 7/8	4 1/4	5 3/4	16.00
S-40A	P.p. par. 2A3, 6L6, etc.	2500 C.T.	4-8-16	30	3 1/2	2 7/8	4 1/4	5 3/4	15.20
S-42A	P.p. par. 6L6, class A.	4500 C.T.	4-8-16	50	4 1/4	3 1/2	4 3/4	8 3/4	21.25
S-45Z	70 volt line. Autoformer.	4000/2000/1000/500	4-8	10	2 5/8	3 1/8	2 1/4	2	5.80
S-46A	70 volt line. Autoformer.	2000/1000/500/250	4-8-16	20	3 1/8	2 5/8	3 3/8	4	12.95

\*New item.



# POWER Transformers, Combined Plate and Filament General Purpose

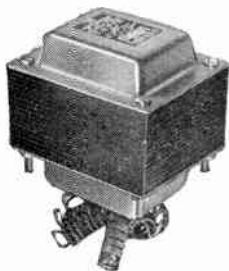


**CASE A**

Leads out side  
for 866 plates

### ORDERING INSTRUCTIONS

TRIAD transformer numbers are so arranged as to indicate the type of transformer and type of mounting. The prefix letter indicates the type of transformer. For example: **A**—Audio. Type of mounting is indicated by the suffix letter which refers to the illustration. For example: **A-1X**—Audio transformer in **X** case.



**CASE B**

Type No.	Plate Supply		Rect. Fil.		Other Fil.		Dim.-Inches			Wt. Lbs.	List Price
	AC Volts	DC Ma.	Volts	Amp.	Volts	Amp.	H	W	D		
R-4A	500 C.T.	40			6.3 C.T.	2	2 3/8	2 3/8	2 3/8	1 3/4	\$ 6.50
*R-4B	500 C.T.	40			6.3 C.T.	2	1 3/8	2 3/8	2 3/8	1 3/4	6.65
R-5A	600 C.T.	65			6.3 C.T.	2.7	3 3/8	2 5/8	2 5/8	2 3/4	6.65
*R-5B	600 C.T.	65			6.3 C.T.	2.7	1 7/8	3	2 1/2	2 3/4	6.90
*R-6A	480 C.T.	50	5	2	6.3 C.T.	2	3 3/8	2 5/8	2 5/8	2 3/4	7.15
*R-6B	480 C.T.	50	5	2	6.3 C.T.	2	1 7/8	3	2 1/2	2 3/4	7.05
R-7A	600 C.T.	50	5	2	6.3 C.T.	2	3 3/8	2 5/8	2 3/4	2 3/4	8.00
R-7B	600 C.T.	50	5	2	6.3 C.T.	2	1 7/8	3	2 1/2	2 3/4	7.70
*R-8A	500 C.T.	75	5	2	6.3 C.T.	2.5	3 3/8	2 5/8	3 1/8	3	8.45
*R-8B	500 C.T.	75	5	2	6.3 C.T.	2.5	2 3/8	3	2 1/2	3	8.35
R-9A	600 C.T.	75	5	2	6.3 C.T.	3	3 9/16	3	3 3/8	3 1/2	8.50
R-9B	600 C.T.	75	5	2	6.3 C.T.	3	2 1/2	3 3/8	2 1/8	3 1/2	8.20
*R-10A	525 C.T.	90	5	2	6.3 C.T.	5	3 1/8	3	3 7/8	3 1/2	9.55
*R-10B	525 C.T.	90	5	2	6.3 C.T.	5	2 3/8	3 3/8	2 1/8	3 1/2	9.45
R-11A	700 C.T.	90	5	3	6.3 C.T.	3.5	3 9/16	3	3 7/8	4 1/4	9.25
R-11B	700 C.T.	90	5	3	6.3 C.T.	3.5	2 3/8	3 3/8	2 1/8	4 1/4	8.90
*R-12A	550 C.T.	110	5	2	6.3 C.T.	5	4	3 1/4	3 1/2	4 1/4	10.50
*R-12B	550 C.T.	110	5	2	6.3 C.T.	5	2 7/8	3 3/4	3 1/8	4 1/4	10.35
R-14A	700 C.T.	125	5	3	6.3 C.T.	4.5	4	3 1/4	3 1/8	5	11.50
R-14B	700 C.T.	125	5	3	6.3 C.T.	4.5	2 7/8	3 3/4	3 1/8	5	11.10
R-16A	700 C.T.	160	5	3	6.3 C.T.	5	4	3 1/4	4 7/8	7	12.85
R-16B	700 C.T.	160	5	3	6.3 C.T.	5	3 3/8	3 3/4	3 1/8	7	12.50
R-17A	750 C.T. 80 Tap	160	5	3	6.3 C.T. 2.5 C.T.	5 5	4 1/8	3 5/8	4 3/8	7 1/4	15.10
*R-18A	750 C.T.	175	5	3	6.3 C.T.	8	4 1/8	3 5/8	4 1/2	12 1/2	16.90
*R-18B	750 C.T.	175	5	3	6.3 C.T.	8	3 3/8	4 1/8	3 1/8	12 1/2	16.60
R-19A	750 C.T. 80 Tap	200	5	3	6.3 C.T. 2.5 C.T.	6 10	4 3/4	4 3/4	4 1/2	9 1/4	19.40
*R-20A	700 C.T.	200	5	3	6.3 C.T.	8	4 5/8	3 5/8	4 5/8	9 1/4	15.00
*R-20B	700 C.T.	200	5	3	6.3 C.T.	8	3 1/8	4 3/8	3 1/8	9 1/4	14.75
R-21A	800 C.T.	200	5	3	6.3 C.T.	6	4 1/8	3 5/8	5	9 1/4	17.60
*R-21B	800 C.T.	200	5	3	6.3 C.T.	6	3 1/8	4 1/8	3 1/8	9 1/4	17.75
R-24A	800 C.T.	300	5	6	6.3 C.T.	6	4 3/4	3 7/8	5 3/4	14	24.60
*R-24B	800 C.T.	300	5	6	6.3 C.T.	6	5 1/8	4 1/2	3 3/4	14	23.25
*R-25A	800 C.T.	500	5	6	6.3 C.T. 6.3	3 7	5 3/8	4 7/8	5 3/4	20	42.00

\*New item.

## PLATE POWER Transformers

Type No.	Secondary Volts		Sec. D.C. Ma.		Rect. Fil.	Dim.-Inches			Wt. Lbs.	List Price
	AC	DC	CCS	ICAS		H	W	D		
P-1A	440/220 C.T.	180/90	160	190	5V-3A	3 9/16	3	3 3/8	4 1/2	\$ 8.95
P-3A	600/300 C.T.	250/125	300	360	5V-4A	4	3 1/4	3 1/8	5 3/4	12.50
P-5A	1100 C.T.	400	250	310	5V-3A	4 3/4	3 7/8	4 1/4	7 1/2	16.50
P-7A	1235 C.T.	500	250	310	5V-3A	4 3/4	3 3/8	4 3/4	9 1/2	19.00
P-9A	1235 C.T.	500	500	600	5V-6A	5 1/8	4 1/2	5 7/8	20	33.00
P-11A	1455 C.T.	600	250	310		4 3/4	3 7/8	5	11 1/2	21.50
†P-13A	1780 C.T.	750	250	310		5 5/8	4 1/2	4 7/8	12	28.60
*†P14-A	1780 C.T.	750/600	250	310		5 5/8	4 1/2	4 7/8	12	32.50
†P-15A	2340 C.T.	1000	250	310		5 5/8	4 1/2	5 3/8	15	32.00
†P-17A	2880 C.T.	1250	250	310		5 5/8	4 1/2	5 7/8	21	38.50

†Plate leads out side of case for 866 rectifiers.

\*New item.

‡Tapped Pri. to produce the lower D.C. voltage.

## SWINGING Filter REACTORS

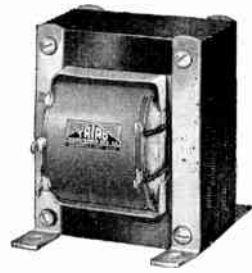
Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
C-31A	25/5	20/200	150	2500	3 9/16	3	3 5/8	4	\$ 7.25
C-33A	25/5	30/300	105	3000	4 1/8	3 5/8	4 1/4	7 1/4	11.25
C-35A	20/4	40/400	60	3000	4 3/4	3 7/8	4 1/2	9 1/2	16.00
C-39A	25/5	50/500	65	3000	5 1/8	4 1/2	5 3/8	16 1/2	22.70

# SMOOTHING Filter REACTORS



Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
*C-30X	50	15	3500	1500	1 7/8	2 3/8	1 1/2	1/2	\$ 2.95
*C-2X	2	15	70	1500	1 7/8	2 1/8	1 1/4	1/4	1.55
C-1X	15	20	1000	1500	1 7/8	2 1/2	1 1/4	1/4	1.60
C-3X	10	50	500	1500	1 1/2	2 1/8	1 1/2	3/4	1.80
*C-4X	4	50	360	1500	1 3/8	2 3/8	1 1/2	3/4	1.85
*C-6X	5	65	330	1500	1 1/2	2 1/8	1 1/2	3/4	1.80
C-5X	12	75	400	1500	1 1/8	3 1/4	1 3/8	1	2.30
*C-8X	7	75	240	1500	1 1/8	3 1/4	1 3/8	1	2.45
C-7X	10	90	270	1500	1 1/8	3 1/4	2	1 1/4	2.70
*C-9X	4	90	100	1500	1 1/2	3 1/4	1 3/8	1 1/4	2.75
*C-11X	6	110	160	1500	2 1/4	3 1/8	2 1/8	1 1/2	3.25
C-10X	9	125	250	1500	2 1/4	3 1/8	2 1/8	1 1/2	3.30
C-12X	6	160	165	1500	2 1/4	3 1/8	2 1/4	1 3/4	3.60
*C-12A	6	160	165	1500	2 3/4	2 3/8	2 5/8	1 3/4	4.35
*C-13X	3	160	75	1500	2 3/4	3 1/8	2 1/4	1 3/4	3.30
C-14X	6	200	150	1500	2 3/4	4 1/8	2 1/2	2 1/2	4.15
*C-14A	6	200	150	1500	3 1/8	2 5/8	2 5/8	2 1/2	4.95
C-16A	10	200	150	2500	3 1/8	3	3 5/8	4	7.25
*C-21X	1.5	225	65	1500	1 1/8	3 1/4	1 3/8	1 1/2	3.75
C-15X	4	250	100	1500	2 5/8	4 1/8	2 1/2	2 1/2	4.05
*C-15A	4	250	100	1500	3 1/8	2 5/8	2 5/8	2 1/2	4.90
*C-23X	1.2	260	45	1500	1 1/8	3 1/4	1 3/8	1 1/2	3.75
C-17X	1.5	300	40	1500	2 1/4	3 1/8	2 1/8	1 1/2	3.45
C-18A	8	300	90	2500	4	3 1/4	3 1/8	5 1/2	9.15
C-19A	10	300	105	3000	4 5/8	3 5/8	4 1/4	7 1/4	11.25
*C-25A	2.6	310	60	1500	3 1/8	2 5/8	3 1/8	3	4.95
C-20A	8	400	60	3000	4 3/4	3 3/8	4 1/2	9 1/2	16.00
C-22A	10	500	65	3000	5 1/8	4 1/2	5 3/8	16 1/2	22.70

\*New item.



CASE U



CASE A

# FILAMENT Transformers, Single Secondary

Type No.	Secondary		Test Volts	Dim.-Inches			Wt. Lbs.	List Price
	Volts	Amperes		H	W	D		
F-1X	2.5 C.T.	3	1500	1 1/8	2 1/8	1 5/8	3/4	\$ 2.70
F-3X	2.5 C.T.	10	3000	2 1/4	3 1/8	2 1/4	1 3/4	3.95
F-5U	2.5 C.T.	10	7500	3	2 1/2	2 3/8	2	6.90
F-7X	5 C.T.	3	1500	1 1/8	3 1/4	2	1 1/4	3.60
†F-8X	5 C.T.	6	1500	2 1/4	3 1/8	2 1/4	1 3/4	5.50
F-9U	5.2 C.T.	13	1500	3 3/8	2 1/8	3 3/8	3 1/2	7.80
F-11U	5.2 C.T.	24	1500	3 3/4	3 1/8	4	5 1/2	10.85
†F-13X	6.3	.6	1500	1 3/8	2 3/8	1 1/2	1/2	2.75
F-14X	6.3 C.T.	1.2	1500	1 1/8	2 1/8	1 5/8	3/4	2.70
*†F-52X	6.3	1.2	5000	1 1/8	3 1/4	1 3/8	1 1/4	3.55
*†F-51X	6.3/5	2	5000	1 1/8	3 1/4	2	1 1/4	3.95
F-16X	6.3 C.T.	3	1500	1 1/8	3 1/4	2	1 1/4	3.80
†F-18X	6.3 C.T.	6	1500	2 1/8	4	2 1/2	2 1/4	6.90
F-18A	6.3 C.T.	6	1500	3 1/8	2 5/8	2 5/8	2 1/4	6.90
F-21A	6.3 C.T.	10	1500	3 3/8	3	3 1/4	3 1/2	8.70
†F-22A	6.3 C.T.	20	2000	4	3 1/4	4 3/8	6 1/2	14.25
F-23U	10 C.T.	7	1500	3 3/8	2 1/8	3 3/8	4	7.65
†F-25X	12.6 C.T.	1.5	1500	1 1/8	3 1/4	1 3/8	1 1/4	3.90
F-40X	24	1	1500	1 1/8	3 1/4	2	1 1/4	3.65
*†F-50X	Filament line transformer Pri. 6.3V/5 Sec 6.3/5V 2A			1 1/8	3 1/4	2	1 1/4	3.85

†New item. \*Low capacity—High voltage test for damper tube operation.



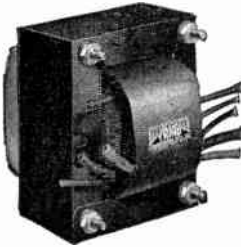
CASE X





## FILAMENT Transformers, Multiple Secondary

Type No.	Secondary		Test Volts RMS	Dim.-Inches			Wt. Lbs.	List Price
	Volts	Amperes		H	W	D		
F-27U	10 C.T.-10A. 2.5 C.T.-10A.		1500 7500	4 1/8	3 1/8	3 1/2	7	\$10.85
F-30A	5 C.T.-3A. 6.3 C.T.-8A.		1500	3 3/8	3	3 3/8	3 1/2	8.20
F-32A	6.3 C.T.-3A.	6.3 C.T.-3A.	1500	3 3/8	2 5/8	2 5/8	2 1/2	8.20
F-34A	6.3 C.T.-1.75A. 6.3V.-1.75A.	6.3V.-1.75A. 6.3V.-1.75A.	2500	3 3/8	2 5/8	3	2 3/4	8.00
F-36A	6.3 C.T.-3.5A. 6.3V.-3.5A.	6.3V.-3.5A. 6.3V.-3.5A.	2500	4	3 1/4	3 3/8	4 3/4	11.60
F-38A	6.3 C.T.-5A. 6.3V.-1A. 5V.-4A.	6.3V.-5A. 5 C.T.-2A.	2500	4	3 1/4	3 1/8	5 1/4	13.20



CASE C

## DRY DISK RECTIFIER Transformers

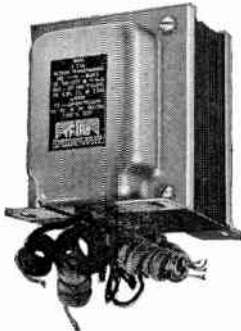
Type No.	Secondary		Test Volts	Dim.-Inches			Wt. Lbs.	List Price
	Volts	Amperes		H	W	D		
*F-47U	17-18	3	1500	3	2 1/2	2 7/8	2 1/2	\$ 8.25
*F-48U	17-18	6	1500	3 3/4	3 1/8	2 5/8	5 1/4	12.50
*F-49U	36 36	3 3	1500	4 1/2	3 3/4	3	9 1/4	20.00

\*New item.

## POWER TRANSFORMERS for Regulated Power Supplies

Type No.	Plate Supply		Filament Windings		Dim.-Inches			Wt. Lbs.	List Price
	AC Volts	DC Ma.	Volts and Amperes	Volts and Amperes	H	W	D		
R-26A	880-720 C.T.	200	6.3 C.T.-8A. 6.3V.-1A.	6.3V.-3A. 5V.-3A.	4 3/4	3 7/8	4 3/4	10 1/2	\$20.40
R-28A	1250 C.T.	300	6.3 C.T.-8A. 6.3V.-3A.	6.3V.-3A. 5V.-6A.	5 5/8	4 1/2	5 7/8	21	32.50
*R-27A	1500 C.T.	400	5V.-6A.	6.3V.-3A. 6.3V.-8A.	5 5/8	4 1/8	7 1/4	23 1/2	56.25

\*New item.



CASE A

## for Cathode-ray Tubes

Type No.	Plate Supply		Filament Windings		Dim.-Inches			Wt. Lbs.	List Price
	AC Volts	DC Ma.	Volts and Amperes	Volts and Amperes	H	W	D		
R-41C	440-0-440-1250	125/5	†6.3AV.-.6A. †2.5V.-1.75A.	†2.5V.-1.75A. 5V.-3A.	3 1/4	4 1/8	3 1/2	7 1/4	\$23.15
R-45C	400-0-400-800	30/5	†6.3AV.-.6A. 6.3 C.T.-3A. †5V.-2A.	6.3V.-1A. 5V.-2A.	2 1/2	3 3/4	3 3/8	3 1/2	16.90
*R-43C	1600 C.T.	3	†6.3/5/2.5V.-1A. †6.3/5/2.5V.-3A.		2 1/4	2 5/8	2 3/8	1 1/2	13.80

†Statically shielded and insulated for full plate voltage. †Insulated for full plate voltage. \*New item.

## for Preampifiers, VTVM, etc.

Type No.	Plate Supply		Filament Windings		Dim.-Inches			Wt. Lbs.	List Price
	AC Volts	DC Ma.	Volts and Amperes	Volts and Amperes	H	W	D		
R-2C	135	15	6.3V.-.9A.		1 7/8	1 7/8	1 3/8	1	\$ 4.90
R-3A	500 C.T.	20	6.3 C.T.-2A.		2 3/4	2 3/8	2 5/8	1 3/4	6.05
R-29A	230 C.T.	40	6.3V.-1.5A.		2 3/4	2 3/8	2 1/2	1 1/2	6.05
*R-30X	135	50	6.3V.-1.5A.		2 1/4	3 1/8	2 1/8	1 1/2	5.20

\*New item.



CASE K

## for Vibrator Power Supplies

Type No.	Primary Volts	Secondary		Dim.-Inches			Wt. Lbs.	List Price
		AC Volts	DC Ma.	H	W	D		
V-1K	6-8	450 C.T.	40	3	2 3/8	2 3/8	2 1/4	\$ 8.25
V-3K	6-8	500 C.T.	50	3	2 1/2	2 3/8	2 1/2	8.95
V-5A	6-8	600 C.T.	75	3 3/8	2 5/8	2 7/8	2 1/2	9.15
V-7A	6-8	600 C.T.	100	3 1/8	3	3 1/4	3 1/2	11.70

# POWER Transformers (Con't)

for Auto Radio (Vibrator)

Type No.	Primary Volts	Secondary		Replacement	Dim.-Inches			Wt. Lbs.	List Price
		AC Volts	DC Ma.		H	W	D		
*V-11K	6-8	760 C.T.	65	Buick	3 5/8	2 3/8	2 3/8	2 1/2	\$ 9.55
*V-12K	6-8	550 C.T.	55	Cadillac, Chevrolet, Firestone, Ford, Hudson, Kaiser, Motorola, Nash, Oldsmobile, Packard, Philco, Studebaker, Truetone.	2 5/8	2 3/8	2 1/4	2 1/2	9.00
*V-13K	6-8	580 C.T.	70	Delco, Ford, Lincoln, Motorola, Philco, Pontiac.	3	2 1/2	2 3/8	3 1/2	7.50
*V-16K	6-8	460 C.T.	50	Ford, Kaiser, MoPar, Philco, Truetone, Willys.	2 5/8	2 3/8	2 1/4	2 1/4	8.25
*V-18X	6-8	580 C.T.	60	Chevrolet, MoPar, Oldsmobile, Pontiac, Silvertone.	2 1/4	3 1/8	2 1/8	1 3/4	6.15
*V-19A	6-8	320 C.T.	40	Automatic, Coronado, Philco, Regal, Studebaker.	2 3/4	2 3/8	2 3/8	1 1/2	5.65
*V-20K	6-8	560 C.T.	50	Motorola, Truetone.	3	2 1/2	2 3/8	2 1/2	8.55

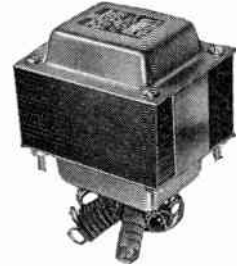
\*New item.

# Combine Plate and Filament

for Television Replacements

Type No.	Plate Supply		Filaments		Dim. Inches			Wt. Lbs.	List Price
	AC Volts	DC Ma.	Volts	Amperes	H	W	D		
R-31A	760 V.C.T.	320	5V.-6A. 5V.-2A.	12.6 C.T.-5A.	4 3/4	3 3/8	6	15	\$25.00
*R-31BC	R-31A and R-31BC are designed for a great many of the 28 to 30 tube chassis where a 5V damper tube is used.								
R-32A	760 V.C.T.	320	5V.-6A.	12.6 V.C.T.-5A. 6.3V.-1.2A.	4 3/4	3 3/8	6	15	25.00
R-32A is designed for 28 to 30 tube chassis where a 6.3V damper tube is used.									
*R-33A	775 V.C.T.	280	5V.-3A.	6.3V.-9A. 6.8V./5V.-2A.†	4 3/4	3 3/8	5 1/2	13	23.00
*R-33BC	R-33A or R-33BC are designed to deliver 400V into an 80 m.f.d. condenser using 5U4G rectifier. 6.3V or 5V damper tube (low capacity).								
R-34A	750 V.C.T.	280	5V.-3A.	6.3V.-8.5A. 6.3V.-1.2A.	4 3/4	3 3/8	4 3/4	10 1/2	17.60
R-34A is designed to deliver 390V into an 80 m.f.d. condenser using 5U4G rectifier. 6.3V damper tube.									
*R-35A	725/340 V.C.T.	250	5V.-3A. 5V.-2A.	6.3V.-8A. 6.3V.-2.5A.	4 3/4	3 3/8	5 1/4	12	23.35
*R-35BC	R-35A and R-35BC are designed to deliver 380V DC into an 80 m.f.d. condenser out of a 5U4G rectifier and simultaneously delivering 200V DC from the taps with a 5U4G rectifier, the accumulative current to be a maximum of 250 ma.								
R-36A	775 V.C.T.	275	5V.-6A.	6.3V.-8.5A. 6.3V.-1.2A.†	4 3/4	3 3/8	5 1/4	12	21.00
*R-36BC	R-36A and R-36BC are designed to deliver 410V into 80 m.f.d. condenser, using 2 5U4G tubes as rectifiers. 6.3V damper tube (low capacity).								
*R-37BC	735 V.C.T.	275	5V.-6A.	6.3V.-8.5A. 6.3V./5V.-2A.†	3 1/8	4 1/2	3 3/4	12	23.30
R-37BC is designed for 380V into filter condenser using 5U4G rectifier tubes. Either 6.3V or 5V damper tube (low capacity).									
*R38A	750 V.C.T.	225	5V.-3A.	6.3V.-10A. 6.3V.-1.2A.† 6.3V.-.9A.	4 3/4	3 3/8	4 3/4	10 1/2	18.55
R-38BC	R-38A and R-38BC are designed to deliver 395V into 80 m.f.d. condenser, using 5U4G rectifier. 6.3V damper tube (low capacity).								
R-39A	640 V.C.T.	225	5V.-3A.	6.3V.-10A. 6.8V.-1.2A.†	4 3/4	3 3/8	4 3/4	10 1/2	17.60
*R-39BC	R-39A and R-39BC are designed to deliver 335V into 60 m.f.d. condenser using 5U4G rectifier. 6.3V damper tube (low capacity).								
*R-40A	780/440 V.C.T.	300	5V.-3A. 5V.-3A. 5V.-2A.	6.3V.-8.5A. 6.3V.-3.5A.	4 3/4	3 3/8	5 1/4	15	26.00
*R-40BC	R-40A and R-40BC are designed to deliver 410V to 80 m.f.d. filter using 5U4G tube and simultaneously delivering 235V DC from the taps with suitable rectifier, and the V accumulative current to be a maximum of 300 Ma.								
*R-42A	675 V.C.T.	185	5V.-3A.	6.3V.-7A. 6.3V.-2A.†	4 3/4	3 3/8	3 3/8	10	21.30
*R-42BC	R-42A and R-42BC are designed to deliver 350V DC to 80 m.f.d. filter using 5U4G rectifier. 6.3V damper tube (low capacity).								
*R-50A	790/650 V.C.T.	310	5V.-3A. 5V.-3A. 5V.-2A.	6.3V.-5A. 6.3V.-5A. 6.3V.-2.6A.	4 3/4	3 3/8	6	20	27.15
*R-50BC	R-50A and R-50BC are designed to deliver 415V to 80 m.f.d. filter using 5U4G rectifier tube and simultaneously delivery 340V DC from the taps with suitable rectifier, the accumulative current to be a maximum of 310 Ma.								

†Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube. \*New item. Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.



CASE BC

## ORDERING INSTRUCTIONS

TRIAD transformer numbers are so arranged as to indicate the type of transformer and type of mounting. The prefix letter indicates the type of transformer. For example: A = Audio. Type of mounting is indicated by the suffix letter which refers to the illustration. For example: A-1X = Audio transformer in X case.



CASE X



## STEPDOWN Autoformers

Type No.	V. A. Output	Input Volts	Output Volts	Dim.-Inches			Wt. Lbs.	List Price
				H	W	D		
N-1X	50	230	115	2 1/4	3 1/8	2 1/8	1 1/2	\$ 5.05
N-3M	85	230	115	3 1/8	3	2 7/8	2 3/4	9.80
N-5M	250	230	115	4	3 3/4	4 1/8	4 3/4	14.30
N-7M	500	230	115	4 3/4	3 7/8	5	11 1/2	22.00
N-9M	1000	230	115	5 1/8	4 1/2	6 3/8	22	40.75
N-11M	2000	230	115	5 1/8	4 1/2	8 3/8	27	67.20
*N-34X	150	95-105-115-125-135	115	2 1/2	4	2 1/2	2	10.25
†N-35M	250	90-100-110-115-125-135	115	4 1/8	3 3/8	3 1/2	4 1/2	18.50

\*New item. †M case with switch for primary voltage control.



CASE M

## ISOLATION Transformers

Type No.	V. A. Output	Input Volts	Output Volts	Dim.-Inches			Wt. Lbs.	List Price
				H	W	D		
N-51X	35	115	115	2 1/4	3 1/8	2 1/4	1 3/4	\$ 5.95
N-53M	85	115	115	3 1/8	3	3 3/8	4	12.00
N-55M	250	115	115	4 3/4	3 7/8	5	11 1/2	25.30
N-57M	500	115	115	5 1/8	4 1/2	6 3/8	22	40.75
N-59M	1000	115	115	5 1/8	4 1/2	8 3/8	27	67.20
†N-60	2000	230/115	230/115	4 3/4	8 1/2	13 1/4	53	115 00

†Special case.

## VERTICAL OUTPUT Transformers

Type No.	Application	Ratio	Dim.-Inches			Wt. Lbs.	List Price
			H	W	D		
A-99X	Output—to couple vertical output tube to deflection coil.	10:1	2 1/4	3 1/8	2 1/8	1 1/2	\$ 4.90
A-101U	Same—different mounting.	10:1	3	2 1/2	2 3/4	2	6.50
A-104X	Vertical output autoformer.	18:1	2 3/4	3 1/8	2 1/8	1 1/2	4.85
A-102X	Vertical output autoformer.	11.4:1	1 1/8	3 1/4	1 7/8	1	3.80
A-103X	Vertical output transformer.	49:1	2 1/4	3 1/8	2 1/8	1 1/2	4.95
*A-105X	Vertical output transformer.	25:1	2 1/4	3 1/8	2 1/8	1 1/2	5.25
*A-107X	Vertical output transformer.	10:1	2 3/8	4 1/8	2 1/2	2 1/2	6.50

\*New item.



CASE K

## VERTICAL BLOCKING OSCILLATOR Transformers

Type No.	Application	Ratio	Dim.-Inches			Wt. Lbs.	List Price
			H	W	D		
*A-96X	Dumont type. 3 windings	1:0.5 1:1	1 3/8	2 7/8	1 3/8	1/2	\$ 3.75
A-97X	Blocking oscillator transformer for vertical sweep.	1:4.14	1 3/8	2 1/8	1 1/4	1/4	2.65
A-97K	Same—Case K.	1:4.14	1 3/8	2 1/8	1 1/2	1/2	3.50
A-97Y	Same—Case Y.	1:4.14	1 1/8	1 1/4	1 3/8	1/2	3.15

\*New item.



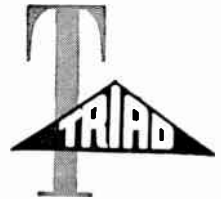
CASE Y

## HORIZONTAL OUTPUT (Flyback) Transformers

Type No.	Application	Mtg. Type	Dim.-Inches			Wt. Lbs.	List Price
			H	W	D		
D-1	Delivers 12,000-14,000 anode volts from single 6BG6 or 6BQ6 driver and single HV rectifier. Ample deflection for 70° tubes.	Q	4 1/2	3 1/2	3 1/2	3/4	\$10.45
D-2	Autoformer type. Delivers 14,000 V. from 6BG6 or 6BQ6 driver and single HV rect. Sufficient for 70° tubes.	Q	4 1/2	3 1/2	3 1/2	3/4	10.45
*D-11	Delivers 9,000-10,000 V. from single 6BG6 tube, and single HV rect. 53° operation.	II	4 1/8	3 3/4	2 3/8	2	9.65
*D-14	Delivers 14,000 V. from 1 driver tube, replaces GE 77J1.	P	4 1/2	3	2 1/2	3/4	11.50
*D-15	Delivers 14,000 V. from 1 driver tube. 2 tapped secondary windings for A.G.C. circuits.	P	4 1/2	3	2 1/2	3/4	12.00
*D-19	Delivers 14,000 to 16,000 V. —Single driver—70°—17" to 24" tubes—replaces RCA 225T1.	P	4 1/2	3	2 1/2	3/4	11.00
*DA-20	Delivers 13,000 to 14,000 V. Single driver—air core.	T	2 5/8	3	3	1/2	7.50
*WC-11	Width control coil—15—30 mh. has sec. winding use for A.G.C.		2	3/4	3/4	1/4	2.50

\*New item.

# HORIZONTAL BLOCKING OSCILLATOR Transformers



Type No.	Application	Dim.-Inches			Wt. Lbs.	List Price
		H	W	D		
*A-98X	Generates 15750 pulse.	1 3/8	2 1/8	1 1/4	1/4	\$ 2.75
*A-98K	Generates 15750 pulse.	1 3/4	2 3/8	1 1/2	1/2	3.75

\*New item.

## DEFLECTION YOKES

Type No.	Core	Construction	Inductance-mh.		Defl.	Resistor & Leads	Dim.-Inches		List Price
			Horz.	Vert.			Dia.	L.	
*Y-11	Iron	Semi-cosine	8.3	50	53°	Yes	3 1/4	3	\$ 9.50
*Y-12	Ferrite	Cosine	8.3	50	70°	Yes	3 1/4	2 3/8	11.25
*Y-17	Ferrite	Cosine	13.5	41.5	70°	Yes	3 1/4	2 3/8	11.25
*Y-19	Ferrite	Cosine	23.	41.5	70°	No	3 1/4	2 3/8	11.25
*Y-20	Ferrite	Cos-anast	30.	3.3	70°	No	3 1/4	2 3/8	11.25

\*New item.



R

## FOCUS Coils

Type No.	Application	Case	Mtg.	Dim.-Inches			Wt. Lbs.	List Price
				H	W	D		
B-160-S	160 ohm coil. Focuses tubes up to 70° deflection with 210† Ma.	Sq.	4-Bracket	3 1/2	3 1/2	1 3/8	1 1/2	\$ 8.80
B-247-S	247 ohm coil. Focuses tubes up to 70° deflection with 170† Ma. Direct replacement for RCA 202-D1.	Sq.	2-Stud	3 1/2	3 1/2	1 3/8	1 1/2	8.25
*B-365-S	365 ohm coil. Focuses tubes up to 70° deflection with 150† Ma.	Sq.	2-Stud	3 1/2	3 1/2	1 3/8	1 1/2	8.70
B-470-R	470 ohm coil. Narrow cross section. For focusing tubes up to 70° deflection with 125† Ma.	Round	3-Bracket	4 3/4	4 3/4	1 1/4	1 1/4	10.45
B-1000-S	1000 ohm coil. Focuses tubes up to 70° deflection with 85† Ma.	Sq.	2-Bracket 1-Stud	3 1/2	3 1/2	1 3/8	1 1/2	8.80

†Max. current required for 70° tubes.

\*New item.

## REPLACEMENT OUTPUT Transformers

Tube to Standard Voice Coil (3-4 ohms)

Type No.	Primary Tubes Used	Impedance	DC-Ma.	Audio Watts	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
S-1X	25L6, 50L6, 35A5, 50B5, 2A3, 6B4, etc.	2500	60	3	1 3/8	2 3/8	1 3/8	1/2	\$1.70
*S-2X	2A3, 6A3, 6B4, 6Y6, 7A5, 25B6, 50L6.	2000	55	4	1 3/8	2 3/8	1 3/8	1/2	1.80
S-3X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	40	3	1 3/8	2 3/8	1 3/8	1/2	1.80
*S-4X	2A3, 6B4, 6L6, 6U6, 12A5, 25L6, 50A5, 117N7.	3000	70	5	1 13/16	3 1/4	1 3/8	1 1/4	2.80
S-5Z	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5	2 1/4	2 7/8	1 3/8	1 1/4	2.95
*S-5X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5	1 13/16	3 1/4	1 3/8	1 1/4	3.10
*S-6X	3B5, 6AQ5, 6AS5, 25A6, 25A7, 35L6, 43, 117L7.	5000	35	2	1 7/8	2 1/8	1 3/8	1/4	2.00
S-7X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	40	3	1 3/8	2 3/8	1 3/8	1/2	1.80
*S-8X	1C5, 1H4, 1Q5, 1S4, 3Q5, 3S4, 14A5, 25AC5.	8000	30	2	1 7/8	2 1/8	1 3/8	1/4	2.00
S-9Z	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5	2 1/4	2 7/8	1 3/8	1 1/4	3.10
*S-9X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5	1 13/16	3 1/4	1 3/8	1 1/4	3.25
S-11X	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	2	1 7/8	2 3/8	1 1/4	1/4	1.85
S-13X	1A5, 1N6, 1LA4.	25000	10	2	1 7/8	2 3/8	1 1/4	1/4	1.85
S-15X	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 C.T.	40	7	1 13/16	2 13/16	1 1/2	3/4	2.95
S-19Z	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 C.T.	50	10	2 1/4	2 7/8	2	1 1/4	3.75
S-21A	P.p.—6V6, 7C5, 45, 6L6, etc.	8000 C.T.	50	15	2 3/4	2 7/8	2 1/2	2 1/4	5.60
S-23X	Line to VC. autoformer.	50/3.2	0	3	1 7/8	2 3/8	1 1/4	1/4	2.20
S-25Z	70 volt line to VC. autoformer.	4000/2000/ 1000/500 to 4-8	0	10	2 1/4	2 7/8	1 3/8	1	3.80

\*New item.



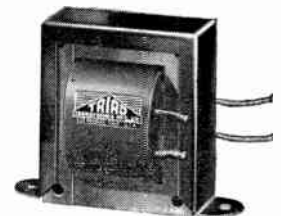
S

## UNIVERSAL OUTPUT Transformers

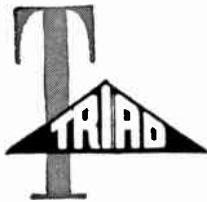
Any Tube to Any Voice Coil

Type No.	Application	Pri. DC Ma.	Audio Watts	Dim.-Inches			Wt. Lbs.	List Price
				H	W	D		
S-51X	Single or p.p. plates (4,000 to 14,000 ohms) to VC.	35	5	1 3/8	2 3/8	1 3/8	1/2	\$2.75
S-53X	Single or p.p. plates (4,000 to 14,000 ohms) to VC.	40	8	1 11/16	2 13/16	1 1/2	3/4	3.10
S-55Z	Push-pull plates (4,000 to 14,000 ohms) to VC.	40 ea. side	10	2 1/4	2 7/8	1 3/8	1 1/4	3.95
*S-55X	Push-pull plates (4,000 to 14,000 ohms) to VC.	40 ea. side	10	1 13/16	3 1/4	1 3/8	1 1/4	4.15
S-57Z	Push-pull plates (4,000 to 14,000 ohms) to VC.	50 ea. side	15	2 3/8	3 5/16	2 1/8	1 3/4	5.15

\*New item.



CASE Z



## INPUT Transformers, Line or Microphone to Grid

Type No.	Application	Frequency Response	Primary Impedance Ohms	Turn Ratio	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
A-1X	Line or single button mike to grid.	300-3000	100	31.4	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{4}$	$\frac{1}{4}$	\$ 2.40
A-3X	Line or d.b. mike to grid.	300-3000	400 C.T.	15.8	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{4}$	$\frac{1}{4}$	2.60
A-5X	Single button mike to p.p. grids—III-gain.	300-3000	100	84	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{2}$	$\frac{3}{4}$	3.80
A-7J	Speaker VC (3.2 ohms) to grid. 40 db. shielding.	300-3000	3.2	124	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	$\frac{1}{8}$	4.50
A-9J	Line or mike to grid. 60 db. shielding.	30-15000	600/250/50	12	1 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{4}$	10.70



CASE J

## Special TRANSCEIVER Transformers

(Voice Frequencies)

Type No.	Application	Impedance-ohms		Ratio	Dim.-Inches			Wt. Lbs.	List Price
		Primary	Secondary		H	W	D		
A-21X	SB mike and plate to grid (2 pri.)	100 10000	100000		1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{4}$	$\frac{1}{4}$	\$ 2.50
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000		1 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{2}$	2.85

## INTERSTAGE Transformers, Plate to Grid

Type No.	Application	Frequency Response	Impedance-ohms		Ratio	Dim.-Inches			Wt. Lbs.	List Price
			Primary	Secondary		H	W	D		
A-31X	Plate to single or p.p. grids.	300-3000	10000	90000	1:3	1 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{2}$	\$ 2.50
A-33X	Plate to single or p.p. grids.	70-7000	10000	90000	1:3	1 $\frac{1}{8}$	3 $\frac{1}{4}$	1 $\frac{3}{8}$	1	3.80
A-35A	Plate to single or p.p. grids.	50-10000	10000	90000	1:3	2 $\frac{3}{4}$	2 $\frac{3}{4}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	5.85
A-39A	P.p. plates to p.p. grids.	50-10000	20000 C.T.	45000	1:1.5	2 $\frac{3}{4}$	2 $\frac{3}{4}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$	6.15
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid. 60 db. shielding.	30-15000	15000	86000	1:2.76	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{4}$	10.70

Only TRIAD transformers are

### CLIMATITE TREATED

—the improved and exclusive vacuum impregnation process used on all TRIAD transformers.

## LOW LEVEL OUTPUT Transformers

Type No.	Application	Frequency Response	Primary Impedance	Ohms Secondary	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
A-51X	Tube to line.	300-3000	7000	50	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{4}$	$\frac{1}{4}$	\$ 2.50
A-53X	Single or p.p. tubes to line.	70-7000	18000 C.T.	600/250/50	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{2}$	$\frac{3}{4}$	3.15
A-55J	Parallel-fed 6J5 or 6SN7 to line. 60 db. shielding.	30-15000	15000	600/250/50	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{4}$	10.70
A-57J	Line to line. 60 db. shielding.	30-15000	600/250/50	600/250/50	1 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{4}$	10.90



CASE X

## EQUALIZING Reactors

Type No.	Application	Ind.	D.C. Ma.	Res. Ohms	Dim.-Inches			Wt. Lbs.	List Price
					H	W	D		
*A-71K	Simple pentode equalizer—hi and low frequency	2 160	2 2	100 8000	3 $\frac{3}{8}$	3	2 $\frac{1}{2}$	2	\$ 9.75
*A-73J	Choke for cathode equalizer.	15	0	750	1 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{1}{2}$	6.00
**A-74J	Choke for cathode equalizer.	15	0	750	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	$\frac{3}{4}$	9.10
††A-75J	Choke for cathode equalizer.	15	0	300	2 $\frac{3}{4}$	1 $\frac{3}{4}$	1 $\frac{3}{4}$	$\frac{3}{4}$	9.75

\*40 db. alloy shielding.

\*\*70 db. alloy shielding.

††tumbucking and 45 db. shielding single hole mtg.

‡New item.



CASE A

**ORDERING INSTRUCTIONS**

TRIAD transformers numbers are so arranged as to indicate the type of transformer and type of mounting. The prefix letter indicates the type of transformer. For example: **A** = Audio. Type of mounting is indicated by the suffix letter which refers to the illustration. For example: **A-1X** = Audio transformers in **X** case.

## DRIVER Transformers

Type No.	Driver Tubes	Output Tubes	Frequency Response	Ratio Pri. 1/2 Sec.	Pri. D.C. Ma.	Dim.-Inches			Wt. Lbs.	List Price
						H	W	D		
A-81X	30, 11H4, etc.	P.p. 19, 30's, 1J6, etc.	300-3000	2.66:1	15	1 3/8	2 1/8	1 1/4	1/4	\$ 2.65
A-83X	6F6, 42, 45, etc.	P.p. 6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40	1 1/8	2 1/8	1 1/2	3/8	3.00
A-85X	6F6, 42, 45, etc.	P.p. 6L6, 6F6, 6V6, 807, etc.	50-10000	1.33:1	40	1 1/8	3 1/4	1 7/8	1 1/4	3.50
A-89A	P.p. plates to class B or AB grids—Universal 15 watt.	Any class B or AB tubes. 100-500 watts output.	50-10000	3.1 or 2.2:1	100 per side	3 3/8	2 5/8	2 5/8	2 3/4	8.70
A-91A	P.p. plates to class B or AB grids—Universal 30 watt.	Any class B or AB tubes. 400-1500 watts output.	50-10000	3.1 or 2.2:1	160 per side	3 3/8	3	3 1/2	3 1/2	14.40

## MODULATION Transformers, Tube to RF Load

Type No.	Primary	Frequency Response	Secondary Impedance	Ma.	Audio Watts	Dim.-Inches			Wt. Lbs.	List Price
						H	W	D		
M-1X	10000 C.T. for 19, 1J6, 6N7, 6A6, etc.	300-3000	5000-8000-10000	50	5	1 3/8	2 1/8	1 1/4	1/4	\$ 3.80
M-3X	10000 C.T. for 6N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20	2 1/4	3 1/8	2 1/8	1 1/2	5.20
M-7A	4250 C.T. for 807's	300-3000	3000-5000-8000	200	60	4 3/8	3 3/8	4	6	15.20

## REPLACEMENT OUTPUT Transformers

### Single Tube to Voice Coil and Line

Type No.	Primary		Secondary Imp.	DC Pri.	Audio Watts	Dim.-Inches			Wt. Lbs.	List Price
	Tubes	Impedance				H	W	D		
*S-27A	2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	4-8-16-500	80	8	2 3/4	2 3/4	2 1/2	2 1/4	\$ 7.50
*S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5,	7500	4-8-16-500	40	5	1 1/8	3 1/4	1 7/8	1 1/4	4.50
*S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25NG, 35A5, 35L6.	5000	4-8-16-500	45	5	1 1/8	3 1/4	1 7/8	1 1/4	4.50

\*New item.

## Triad GEOPHYSICAL Transformers

Triad "Geoformers" are individually calibrated components for incorporation in 5-50\* cycle measuring equipment of laboratory precision. Inductance is held within ±5% for the entire production and frequently within ±2% for any given shipment of transformers. "Geoformers" incorporate hum-bucking coils and multiple alloy shielding for minimum pick-up; are of minimum size and weight,

and are vacuum-filled and hermetically sealed. Designs are based on years of specialization in this difficult field by pioneers in geophysical transformer design. Standard designs for use in the most used circuits are carried in stock at the factory and by Triad distributors. Complete specifications for "Geoformers" are given in Triad Catalog TR-52, available on request.

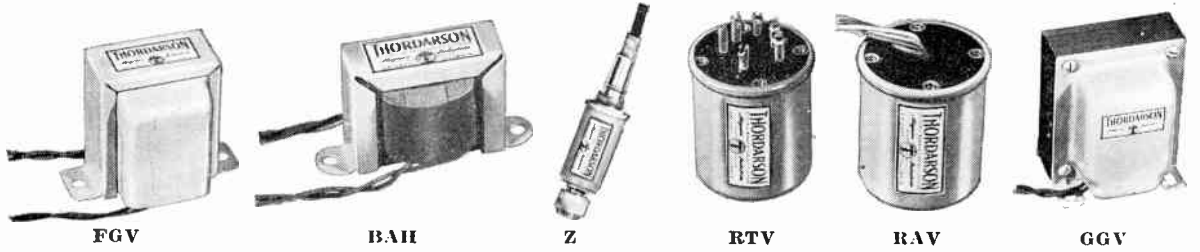
## Triad HERMETIC TERMINALS for Transformers, Relays, etc.

The MIL-T-27 series of tests for transformers covers the range of from -55°C to +85°C in temperature and equally wide test ranges for humidity, corrosion and acceleration, while continually checking for a high degree of electrical performance. The most serious cause for failure is the terminal. Triad terminals have successfully passed these tests and, in addition, have been constructed in a manner which provides strength and mechanical stability greatly in excess of that demanded by MIL specifications. Constructed with sturdy,

low resistance, turret type brass studs molded into low loss plastic, these terminals eliminate mechanical failures due to mistreatment and to temperature changes.

Three types of single terminals, varying in size and voltage rating, and eight types of multiple headers with up to sixteen legibly and permanently marked studs, are listed in Triad Catalog TH-52 describing these terminals. Free on request.

# TRIAD TRANSFORMER MFG. CO.



### AUDIO INPUT TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance		Turns Ratio	Mtg. Centers	Dimensions			Wt. Lbs.
				Primary	Secondary			W.	D.	H.	
T-20A00	\$3.50	BAH	Line or mic to single or push-pull grids.....	600 Ct. 200 Ct.	60,000 Ct. 20,000 Ct.	1:10	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20A01	5.55	FGV	Line or mic to single grid.....	600 Ct. 200 Ct.	240,000 80,000	1:20	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>
T-20A02	5.40	FGV	Line or mic to push-pull grids.....	600 Ct. 200 Ct.	240,000 Ct. 80,000 Ct.	1:20	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>
T-20A03	5.20	BAH	Single plate and mic or line to grid.....	5,000 to 10,000	100,000 250,000	1:3.25	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	3 <sup>4</sup> / <sub>8</sub>
T-20A04	3.50	BAH	Voice coil or mic to grid.....	3 to 6	38,400 320,000	1:80	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20A05	12.70	RTV	Line or mic to single or push-pull grids..... (Hum-bucking coil and core—fully potted)	600 Ct. 200 Ct.	60,000 Ct. 20,000 Ct.	1:10	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> Diam.	2		1 <sup>1</sup> / <sub>2</sub>
T-20A06	12.70	RTV	Line to Line..... (Hum-bucking coil and core—fully potted)	600 Ct. 200 Ct.	600 Ct. 200 Ct.	1:1	1 <sup>5</sup> / <sub>8</sub> x 1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> Diam.	2		1 <sup>1</sup> / <sub>2</sub>
T-20A40	30.00	Z	Microphone cable input transformer.....	30 to 60	50,000	1:31.6		1 Diam.		2 <sup>11</sup> / <sub>16</sub>	3 <sup>4</sup> / <sub>8</sub>
T-20A41	30.00	Z	Microphone cable input transformer.....	200 to 250	50,000	1:14.2		1 Diam.		2 <sup>11</sup> / <sub>16</sub>	3 <sup>4</sup> / <sub>8</sub>

### AUDIO INTERSTAGE TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance		Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions			Wt. Lbs.
				Primary	Secondary				W.	D.	H.	
T-20A16	\$3.00	BAH	Single plate to single or push-pull grids.....	10,000	40,000 Ct.	1:2	8	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20A17	5.10	RAV	Single plate to single or push-pull grids.....	10,000	40,000 Ct.	1:2	8	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> Diam.	2	1 <sup>1</sup> / <sub>2</sub>	
T-20A19	4.10	BAH	Single or push-pull plates to single or push-pull grids	Universal		1:3	8	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	
T-20A22	5.10	BAH	Single plate to single or push-pull grids.....	10,000	90,000 Ct.	1:3	8	2 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>
T-20A23	5.90	FGV	Single plate to single or push-pull grids.....	10,000	90,000 Ct.	1:3	8	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20A24	6.00	FGV	Push-pull plates to push-pull grids.....	20,000 Ct.	180,000 Ct.	1:3	8 Bal.	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20A25	12.70	RTV	Single or push-pull plates to single or push-pull grids (Hum-bucking coil and core—fully potted)	Universal		1:1.41	8 Bal.	1 <sup>1</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> Diam.	2	1 <sup>1</sup> / <sub>2</sub>	
T-20A27	12.70	RTV	Single plate to single or push-pull grids.....	10,000 2,500	40,000 20,000	1:2			2 <sup>3</sup> / <sub>8</sub> Diam.	3 <sup>5</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>2</sub>	

### TUBE TO LINE TRANSFORMERS (Low Level)

T-22S90	\$5.40	FGV	Single or push-pull plates to line.....	20,000 Ct.	500 Ct. or 125 to 200	8		2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
T-22S92	11.90	RTV	Single or push-pull plates to line (Hum-bucking coil and core—fully potted)	20,000 Ct.	500 Ct. or 125 to 200	8		1 <sup>5</sup> / <sub>8</sub> x 1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> Diam.	2		1 <sup>1</sup> / <sub>2</sub>

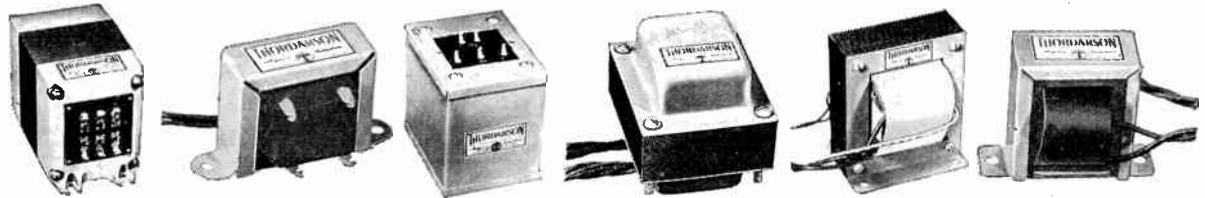
### DRIVER TRANSFORMERS

Type No.	List Price	Mtg.	Application	Turns Ratio		Pri. M.A.	Mtg. Centers	Dimensions			Wt. Lbs.
				Pri.—1/2 Sec.	Sec.			W.	D.	H.	
T-20D75	\$3.30	BAH	Single plate to push-pull Class B grids..... Primary 10,000 ohms—1H4-G or 30 to 19, etc.	2.4:1		5	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20D76	3.50	BAH	Single plate to push-pull Class B grids..... Primary single 6N7 to Class B 6N7, etc.	5.2:1		15	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20D77	5.20	FGV	Primary single 6F6 to PP 6F6, etc.	2.5:1		30	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
T-20D78	6.90	GGV	Push-pull plates to push-pull grids..... Primary 6F6 triode to PP 6L6, etc.	4:1		40	2 x 1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
T-20D79	5.90	FGV	Parallel or P-P parallel 6N7 to P-P parallel 6N7, etc.	5.2:1		30	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
T-20D80	8.20	GGV	Push-pull 2A3 or 6A3 to 805-838, etc.	3.2:1		100	2 x 1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
T-20D81	10.40	GGV	Push-pull 815 to push-pull 805-833, etc.	5:1		100	2 <sup>1</sup> / <sub>2</sub> x 2 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>
T-20D82	9.00	GGV	Push-pull plates to push-pull grids..... Push-pull 2A3-6F6, etc. to 805, etc.	6:1		100	2 x 1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
T-20D83	31.70	PUV	20 Watt 500 Ohm line to class B grids.	4:1, 3.2:1							
T-20D84	17.40	GGV* 20 Watt 500 Ohm line to class B grids.....		1:1.75, 1:1.85, 1:1.25, 1:1.4, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3			1 <sup>1</sup> / <sub>4</sub> x 4 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	4	8

\*Terminal Board with Solder Lugs on Both Shields 20 Watts Capacity.

### MODULATION TRANSFORMERS

Type No.	List Price	Mtg.	Capacity Watts	Primary Imp. Ohms		Secondary Imp. Ohms		Secondary Volts M.A.	Primary Application	Mtg. Centers	Dimensions			Wt. Lbs.
				Primary	Secondary	Primary	Secondary				W.	D.	H.	
T-21M50	\$4.10	BAH	3	10,000 Ct.	4500	135	30		19, etc.	2	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
T-21M52	5.90	FGV	10	10,000 Ct.	4500/3750/3000	350	80		6N7, etc.	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>
T-21M54	7.90	GGV	25	6,000 Ct.	4000	400	100		PP 6L6, etc.	2 x 1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
T-21M56	13.15	GGV	75	10,000 Ct.	6600/3750	1250	200		TZ-20-809	2 <sup>1</sup> / <sub>2</sub> x 2 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>
T-21M58	31.10	KTV	100	15,000 Ct.	6250	1250	200		811-812, etc.	3 <sup>1</sup> / <sub>2</sub> x 4 <sup>1</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>8</sub>	13



PUV

BHH

KTV

AGF

CAV

BAV

**UNIVERSAL MULTI-MATCH MODULATION TRANSFORMERS**

Type No.	List Price	Mtg.	Capacity Watts	Primary M.A. each side	Secondary Series	M.A. Parallel	Mtg. Centers	W.	Dimensions D.	H.	Wt. Lbs.
T-21M60	\$21.45	KTV	15	50	50	100	2 1/4 x 2 1/2	2 1/4	3 1/4	4	3 3/4
T-21M61	28.80	PUV	60	125	125	250	1 3/4 x 4 3/8	3 1/2	5 1/4	4	8 3/4
T-21M62	43.20	PUV	125	210	160	320	2 1/4 x 6 1/8	4 1/4	6 3/4	5 3/8	16 3/8
T-21M64	68.95	PUV	200	250	250	500	2 1/4 x 6 7/8	4 1/4	7 3/4	6	20
T-21M65	115.10	PUV	500	320	320	640	3 1/4 x 10	5 3/4	11	6 7/8	50
T-21M66	32.40	KTV	50	500 Ohm Line to R.F. Load—5000/6000/7000/8000/9000/10,000 Ohms—Max. Sec. D.C. 200 M.A.			3 1/4 x 3 3/4	4 3/8	5 3/8	5 1/4	11

**VIBRATOR POWER TRANSFORMERS**

Type No.	List Price	Mtg.	Primary	H.V. Secondary	See. No. 2	Mtg. Centers	Dimensions W. D. H.	Wt. Lbs.
T-22R25	\$7.80	TTV†	6-8 volts D.C.	150 volts D.C. at 40 M.A.			Exact Repl. 2 3/8 x 2 3/8	3 2
T-22R27	8.40	TTV†	6-8 volts D.C.	250 volts D.C. at 50 M.A.			Exact Repl. 2 3/8 x 2 3/8	3 2
T-22R20	7.65	CAV	6-8 volts D.C.	250 volts D.C. at 50 M.A.			2 x 1 3/4	2 1/2 2 1/4 3 1/2
T-22R22	9.00	CAV	6-8 volts D.C.	325 volts D.C. at 75 M.A.			2 x 2 1/2	2 1/2 3 3 1/4 3 1/2
T-22R24	17.30	GGV	117V. 60 cycle or 6-8 volts D.C.	325 volts D.C. at 135 M.A.	6.3 volts Ct. at 4.75 A.	3 x 3 1/8	3 1/8 4 3/8 4 3/8	8 3/4

**OUTPUT TRANSFORMERS**

Type No.	List Price	Mtg.	Application	Primary Imp. Ohms	Max. Prim. Per Side	D.C. M.A. Unbal.	Secondary Imp. Ohms	Power Watts	Mtg. Centers	Dimensions W D H	Wt. Lbs.
T-22S45	\$2.45	BAH	Single plate to voice coil....	1500 to 3000.....	..	55	3.2	3	2	2 3/8 1 1/4 1 3/8	1/2
T-22S46	2.80	BAH	Single plate to voice coil....	3000 to 6000.....	..	35	3.2	3	2	2 3/8 1 1/4 1 3/8	1/2
T-22S47	3.35	BAH	Single or push-pull plates to voice coil	6000 to 12000 Ct.....	35	35	3.2	3	2	2 3/8 1 1/4 1 3/8	1/2
T-22S48	3.40	BAH	Single or push-pull plates to voice coil	12000 to 25000 Ct.....	10	8	3.2	3	2	2 3/8 1 1/4 1 3/8	1/2
T-22S56	5.00	BAH	Single or push-pull plates to voice coil	8000/10000 Ct.....	50	35	3.2 to 4/6 to 8	8	2 1/2	3 1/4 1 3/4 2	1 1/4
T-22S58	5.00	BAH	Single or push-pull plates to voice coil	5000/7000 Ct.....	50	45	3.2 to 4/6 to 8	8	2 1/2	3 1/4 1 3/4 2	1 1/4
T-22S60	5.20	BAH	Single or push-pull plates to voice coil	2500/4000 Ct.....	60	60	3.2 to 4/6 to 8	8	2 1/2	3 1/4 1 3/4 2	1 1/4
T-22S64	8.70	GGV	Single or push-pull plates to voice coil	10000 Ct.....	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 1/8	2 1/2 2 1/8 3 3/8	2 1/2
T-22S66	8.70	GGV	Single or push-pull plates to voice coil	8000 Ct.....	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 1/8	2 1/2 2 1/8 3 3/8	2 1/2
T-22S68	8.15	GGV	Single or push-pull plates to voice coil	6500 Ct.....	70	40	3.2 to 4/6 to 8/15/250/500	25	2 x 1 1/8	2 1/2 2 1/8 3 3/8	2 1/2
T-22S70	9.30	GGV	Single or push-pull plates to voice coil	5000 Ct.....	80	45	3.2 to 4/6 to 8/15/250/500	25	2 x 1 1/8	2 1/2 2 1/8 3 3/8	2 1/2
T-22S72	9.30	GGV	Single or push-pull plates to voice coil	3000 Ct.....	90	50	3.2 to 4/6 to 8/15/250/500	25	2 x 1 1/8	2 1/2 2 1/8 3 3/8	2 1/2
T-22S78	13.15	GGV	Single or push-pull plates to voice coil	3300 Ct.....	180	150	3.2 to 4/6 to 8/15/250/500	60	2 1/2 x 2 1/8	3 3/8 3 3/8 3 1/4	5 1/4
T-22S74	7.65	BHH	Universal single or push-pull tubes to voice coil	14000/10000/8000/6600/5000/3000/2500 Ct.	80	60	1 to 30	25	3 3/8	4 2 1/2 2 3/8	2 1/2
T-22S76	7.90	BHH	Universal single or push-pull tubes to line	14000/12000/10000/8000/5000/3000 Ct.	80	60	500	25	3 3/8	4 2 1/2 2 3/8	2 1/2
T-22S80	5.30	BHH	Single line to voice coil.....	500 to 600	..	..	3.2 to 4/6 to 8/15	8	3 1/2	3 1/4 2 2 1/4	1 1/2
T-22S82	8.60	BHH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	25	3 3/8	4 2 3/4 2 3/8	2 1/4
T-22S83	5.90	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	15	3 1/2	3 1/4 2 2 1/4	1 1/2
T-22S84	5.40	BAH	Multiple lines to voice coil....	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	5	2 1/2	3 1/4 1 3/4 2	1
T-22S85	4.90	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	3	2 1/2	2 3/4 1 1/2 1 3/8	3/4
T-22S62	5.15	BHH	Universal single plate to voice coil	4000/3000/2500/2000/1500	..	50	.1 to 29	8	2 1/2	3 1/4 2 2	1 1/4
T-22S88	4.50	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	10	3.2 to 4/6 to 8/15	8	2 1/2	3 1/4 1 3/4 2	1
T-22S87	4.15	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	10	3.2 to 4/6 to 8	6	2 3/8	2 3/4 1 1/2 1 3/8	3/4
T-22S86	3.80	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./3500/2000	50	10	3.2 to 4/6 to 8	3	2	2 3/4 1 1/4 1 3/8	1/2

Type No.	List Price	Mtg. Fig.	Typical Tube Applications	Class	Pri. Imp.	Pri. Ma.	Secondary Imp. Ohms	Max. Watts	Mtg. Centers	Dimensions W D H	Wt. Lbs.
TS-24S50	\$1.65	BAH	2A3, 6A3, 6B4, 6W6, 7A5, 23AC5, 25B5, 25N6, 25L6, 35A5, 35L6, 35B5, 50A5, 50L6, 70L7, 48, etc.	A	2000	55	3-4	5	2	2 3/8 1 1/4 1 3/8	1/2
TS-24S51	1.70	BAH	31, 43, 45, 50, 59, 71A, 1S4, 2B6, 6A5G, 6V6, 7C5, 12A5, 25A5, 25A6, 25A7, 35L6, etc.	A	5000	40	3-4	5	2	2 3/8 1 1/4 1 3/8	1/2
TS-24S52	1.60	BAH	20, 31, 33, 41, 42, 46, 47, 59, 89, 1C5, 1G5, 1Q5, 1S4, 2A5, 3Q5, 6A4, 6AC5, 6B5, 6F6, 6K6, 6N6, 6V6, 7B5, etc.	A	7000	30	3-4	5	2	2 3/8 1 1/4 1 3/8	1/2
TS-24S54	1.80	BAH	38, 85, 1D5, 1E7, 1F4, 1F5, 1J5, 1T5, 6F6, 6V7, 6Y7, etc.	A	15000 to 25000	10	3-4	5	2	2 3/8 1 1/4 1 3/8	1/2
TS-24S60	\$2.90	BHH	Single or push-pull plates.....	A	4M, 7M, 8M, 10M, 14M C.T.	35	.1 to 29 ohms	4	2	2 3/8 1 1/4 1 3/8	1/2
TS-24S61	3.30	BHH	Single or push-pull plates.....	A	4M, 7M, 8M, 10M, 14M C.T.	40	.1 to 29 ohms	8	2 3/8	2 3/8 1 1/2 1 3/8	1

**TELEVISION REPLACEMENT & EXPERIMENTAL POWER TRANSFORMERS**

Type No.	List Price	Case Style	Secondary No. 1 A.C. Volts	D.C. MA	Reet. Fil.	Fil. No. 2	Fil. No. 3	Mtg. Centers	Dimensions W D H	Wt. Lbs.
T-22R40	\$18.00	GGV	1800	2	2.5V-1.8A	6.3V-6A	Tapped at 2.5V-2.1A	2 1/4 x 2 1/4	3 3/4 3 3/4 3 1/2	4 3/4
TV-24R92	14.40	GGV	2400	10	2.5V-1.75A			2 1/4 x 2 1/4	3 1/2 3 3/4 4 1/4	5
TV-24R98	18.00	AGF	350-0-350	200	5V-2A 5V-3A	6.3V-7A	6.3V-9A	3 x 3 3/4	3 3/4 4 1/2 4 3/8	10 1/4





# THORDARSON

## TRANSFORMER SPECIALISTS SINCE 1895

MT. CARMEL, ILL.

(SEE CATALOG FOR SPLATTER CHOKES, ETC.)

### REPLACEMENT POWER TRANSFORMERS

Type No.	List Price	Mtg.	H.V. Secondary A.C. Volts	M.A. D.C.	Ret. Fil.	Fil. No. 2	Fil. No. 3	Pri. Volts 50/60 Cy.	Pri. Volts V.A.	Mtg. Centers	Dimensions W. D. H.	Wt. Lbs.
T-22R00	\$8.30	AGF	250-0-250	40	5V.-2A.	6.3V. CT-2A.		117	45	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3	1 $\frac{1}{16}$ 1 $\frac{3}{4}$
T-22R01	8.40	AGF	275-0-275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3	1 $\frac{1}{16}$ 2 $\frac{1}{4}$
T-22R02	10.00	AGF	300-0-300	70	5V.-2A.	6.3V. CT-3A.		117	65	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3	2 $\frac{1}{16}$ 2 $\frac{3}{4}$
T-22R04	10.25	AGF	300-0-300	90	5V.-2A.	6.3V. CT-3.5A.		117	80	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3 $\frac{3}{8}$	2 $\frac{1}{16}$ 3
T-22R05	11.40	AGF	300-0-300	120	5V.-3A.	6.3V. CT-5A.		117	95	2 $\frac{1}{2}$ x 3 $\frac{3}{8}$	3 $\frac{1}{8}$ 3 $\frac{3}{8}$	4 $\frac{1}{16}$ 4 $\frac{1}{8}$
T-22R06	12.00	AGF	325-0-325	150	5V.-3A.	6.3V. CT-5A.		117	125	2 $\frac{1}{2}$ x 3 $\frac{3}{8}$	3 $\frac{1}{8}$ 3 $\frac{3}{8}$	3 $\frac{1}{16}$ 5 $\frac{3}{8}$
T-22R07	14.90	AGF	350-0-350	200	5V.-3A.	6.3V. CT-6A.		117	165	3 x 3 $\frac{3}{8}$	3 $\frac{1}{8}$ 4 $\frac{1}{8}$	2 $\frac{1}{16}$ 7 $\frac{1}{2}$
T-22R08	8.30	AGF	250-0-250	40	5V.-2A.	2.5V. CT-4A.		117	40	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3	1 $\frac{1}{16}$ 1 $\frac{3}{4}$
T-22R09	9.00	AGF	275-0-275	50	5V.-2A.	2.5V. CT-7.5A.		117	55	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3	1 $\frac{1}{16}$ 2 $\frac{1}{4}$
T-22R10	11.80	AGF	325-0-325	85	5V.-2A.	2.5V. CT-9A.	2.5V. CT-3.5A.	117	90	2 $\frac{1}{2}$ x 3 $\frac{1}{2}$	3 $\frac{1}{8}$ 3 $\frac{3}{8}$	2 $\frac{1}{4}$ 3 $\frac{1}{2}$
T-22R11	13.15	AGF	325-0-325	120	5V.-3A.	2.5V. CT-12.5A	2.5V. CT-3A.	117	125	2 $\frac{1}{2}$ x 3 $\frac{1}{2}$	3 $\frac{1}{8}$ 3 $\frac{3}{8}$	3 $\frac{1}{16}$ 5 $\frac{1}{2}$
T-22R12	4.80	BAH	120V	75	6.3V.-1.5A					3 $\frac{1}{8}$	3 $\frac{1}{8}$ 1 $\frac{1}{16}$	2 $\frac{3}{16}$ 1
T-22R30	\$10.05	GGV	275-0-275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3 $\frac{1}{16}$	3 $\frac{3}{8}$ 3 $\frac{3}{4}$
T-22R31	11.40	GGV	300-0-300	80	5V.-2A.	6.3V. CT-2.5A.		117	70	2 x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ 3 $\frac{1}{16}$	3 $\frac{3}{8}$ 4
T-22R32	13.55	GGV	350-0-350	110	5V.-2A.	6.3V. CT-3A.	6.3V. CT-3A.	117	107	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{3}{8}$ 3 $\frac{1}{16}$	4 $\frac{1}{8}$ 5 $\frac{3}{8}$
T-22R33	14.50	GGV	375-0-375	160	5V.-3A.	6.3V. CT-5A.		117	145	3 x 3 $\frac{3}{8}$	3 $\frac{3}{8}$ 2 $\frac{1}{16}$	4 $\frac{1}{8}$ 7 $\frac{3}{8}$
T-22R34	18.65	GGV	385-0-385	225	5V.-3A.	6.3V. CT-5A.		117	186	3 x 3 $\frac{3}{8}$	3 $\frac{3}{8}$ 4 $\frac{1}{16}$	4 $\frac{1}{8}$ 10
T-22R35	19.80	GGV	400-0-400	340	5V.-6A.	6.3V. CT-7A.		117	290	3 x 4 $\frac{1}{16}$	3 $\frac{3}{8}$ 5 $\frac{3}{8}$	4 $\frac{1}{8}$ 12 $\frac{1}{2}$
T-22R36	15.00	GGV	600-0-600	200	5V.-3A.	6.3V. CT-5A.			3	3 x 3 $\frac{3}{8}$	3 $\frac{1}{16}$ 4 $\frac{1}{16}$	4 $\frac{1}{8}$ 8 $\frac{1}{2}$
TS-24R00	\$5.90	AGF	240-0-240	40	5V.-2A	6.3V. CT-2A		2 x 2 $\frac{1}{2}$		2 $\frac{1}{2}$	3	1 $\frac{1}{16}$ 1 $\frac{3}{4}$
TS-24R01	6.20	AGF	325-0-325	40	5V.-2A	6.3V. CT-2A		2 x 2 $\frac{1}{2}$		2 $\frac{1}{2}$	3	1 $\frac{1}{16}$ 2 $\frac{1}{4}$
TS-24R02	7.50	AGF	350-0-350	70	5V.-2A	6.3V. CT-2.5A		2 $\frac{1}{2}$ x 2 $\frac{1}{2}$		2 $\frac{1}{2}$	3 $\frac{3}{8}$	2 $\frac{1}{16}$ 3 $\frac{1}{2}$
TS-24R04	8.10	AGF	350-0-350	90	5V.-3A.	6.3V. CT-3.5A		2 $\frac{1}{2}$ x 2 $\frac{1}{2}$		2 $\frac{1}{2}$	3 $\frac{3}{8}$	2 $\frac{1}{16}$ 3 $\frac{1}{2}$
TS-24R05	9.20	AGF	350-0-350	120	5V.-3A.	6.3V. CT-4.7A		2 $\frac{1}{2}$ x 3 $\frac{1}{8}$		3 $\frac{1}{8}$	3 $\frac{3}{8}$	3
TS-24R06	10.85	AGF	375-0-375	150	5V.-3A.	6.3V. CT-4.7A		2 $\frac{3}{4}$ x 3 $\frac{1}{16}$		3 $\frac{1}{16}$	4 $\frac{1}{8}$	3 $\frac{1}{16}$ 5 $\frac{3}{8}$
TS-24R07	14.40	AGF	400-0-400	200	5V.-3A.	6.3V. CT-5A		3 x 3 $\frac{3}{8}$		3 $\frac{3}{8}$	4 $\frac{1}{8}$	3 $\frac{1}{16}$ 8 $\frac{1}{2}$

### Voltage Changer—Auto Transformers

Type No.	List Price	Mtg.	Pri. Volts	Sec. Volts	Wt. Lbs.
T-23V21	\$ 9.00	GGV*	220-250	110-125 $\frac{1}{2}$	100
T-23V22	13.20	GGV*	220-250	110-125 $\frac{1}{2}$	150
T-23V23	15.60	GGV*	220-250	110-125 $\frac{1}{2}$	250
T-23V24	23.10	GGV*	220-250	110-125 $\frac{1}{2}$	500

### PLATE TRANSFORMERS

Type No.	List Price	Mtg.	Pri. Volts 50-60 Cy.	Prim. ICAS	V.A. CCS	Secondary Volts A.C. R.M.S.	D.C. Volts	D.C.M.A. ICAS	Mtg. Centers	Dimensions W. D. H.	Wt. Lb.	
T-21P75	\$186.20	PUV	115/230	1900	1500	3000-2400-1500-0-1500-2400-3000	2500-2000-1250	650	500	4 $\frac{1}{2}$ x 12 $\frac{3}{8}$	7 $\frac{7}{8}$ 13 $\frac{1}{2}$ 9 $\frac{3}{8}$	135
T-21P77	108.50	PUV	115/230	1250	900	3000-2450-0-2450-3000	2500-2000	425	300	3 $\frac{1}{2}$ x 10	6 $\frac{3}{8}$ 11 9	77
T-21P79	88.75	PUV	115/230	1000	750	1875-1560-0-1560-1875	1500-1250	550	400	3 $\frac{1}{2}$ x 10 $\frac{1}{8}$	5 $\frac{3}{8}$ 11 6 $\frac{3}{8}$	60
T-21P81	82.75	PUV	115	630	480	1560-1265-0-1265-1560	1250-1000	425	300	3 $\frac{1}{2}$ x 10 $\frac{1}{8}$	5 $\frac{3}{8}$ 11 6 $\frac{3}{8}$	57
T-21P82	82.75	PUV	115	820	600	2335-1700-0-1700-2335	2000-1500	300	220	3 $\frac{1}{2}$ x 9 $\frac{1}{8}$	5 $\frac{3}{8}$ 10 6 $\frac{3}{8}$	43
T-21P83	43.20	PUV	115	440	300	1560-1250-0-1250-1560	1250-1000	300	200	2 $\frac{1}{2}$ x 7 $\frac{7}{8}$	4 $\frac{1}{8}$ 8 $\frac{1}{2}$ 6	33
T-21P85	35.20	PUV	115	370	260	850-730-0-730-850	600-500	425	300	2 $\frac{1}{2}$ x 6 $\frac{3}{8}$	4 $\frac{1}{8}$ 6 $\frac{1}{2}$ 5 $\frac{3}{8}$	19
T-21P87	20.70	GGV	115	250	185	835-656-0-656-835	650-500	300	220	3 x 3 $\frac{3}{8}$	3 $\frac{3}{8}$ 4 $\frac{1}{8}$ 4 $\frac{3}{8}$	10
T-21P89	13.80	GGV	115	135	95	550-0-550	450	200	175	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{3}{8}$ 4 $\frac{3}{8}$ 5 $\frac{3}{8}$	6 $\frac{1}{2}$
T-21P91	47.95	PUV	115	375	280	1200-0-1200-900-0-900	1000 and 750 $\frac{1}{2}$	250	150	2 $\frac{1}{2}$ x 6 $\frac{3}{8}$	4 $\frac{1}{8}$ 7 $\frac{3}{8}$ 3 $\frac{3}{8}$	22
T-21P93	19.30	GGV	115	210	160	1075-0-1075-500-0-500	1000 and 400 $\frac{1}{2}$	110	95	3 x 3 $\frac{3}{8}$	3 $\frac{3}{8}$ 4 $\frac{1}{16}$ 4 $\frac{3}{8}$	10

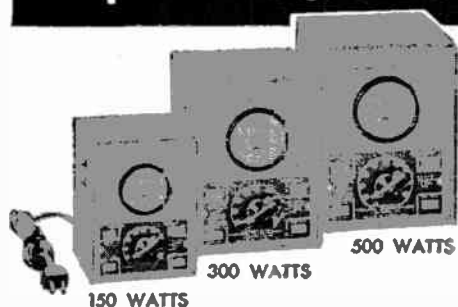
### FILAMENT TRANSFORMERS

Type No.	List Price	Mtg.	Secondary Volts	Ins. R.M.S.	Pri. Volts 50/60 Cy.	Mtg. Centers	Dimensions W. D. H.	Wt. Lbs.
T-21F00	\$4.30	BAV	2.5 Ct. @ 5	1600	117	2 $\frac{3}{8}$	2 $\frac{1}{2}$ 1 $\frac{3}{4}$	1
T-21F01	5.85	BAV	2.5 Ct. @ 10	1600	117	2 $\frac{1}{2}$	2 $\frac{1}{2}$ 1 $\frac{3}{4}$	1 $\frac{1}{2}$
T-21F02	7.45	CAV	2.5 Ct. @ 10	7500	117	2 x 1 $\frac{3}{4}$	2 $\frac{1}{2}$ 2 $\frac{1}{2}$	2 $\frac{1}{2}$
T-21F03	5.00	BAV	5 Ct. @ 3	1600	117	2 $\frac{3}{8}$	2 $\frac{1}{2}$ 1 $\frac{3}{4}$	1 $\frac{1}{2}$
T-21F04	6.60	BAV	5 Ct. @ 8	1600	117	2 $\frac{1}{2}$	2 $\frac{1}{2}$ 2 $\frac{1}{2}$	1 $\frac{1}{2}$
T-21F05	7.20	CAV	5 Ct. @ 3	10,000	117	2 x 1 $\frac{3}{4}$	2 $\frac{1}{2}$ 2 $\frac{1}{2}$	2
T-21F06	7.65	CAV	5 Ct. @ 13	1600	117	2 x 2	2 $\frac{1}{2}$ 3 $\frac{1}{8}$	2 $\frac{3}{4}$
T-21F07	10.40	CAV	5 Ct. @ 21	1600	117	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	3 $\frac{1}{8}$ 3 $\frac{1}{2}$	5 $\frac{1}{4}$
T-21F08	3.80	BAV	6.3 Ct. @ 1	1600	117	2	2 $\frac{3}{8}$ 1 $\frac{1}{2}$	3 $\frac{1}{8}$
T-21F10	5.00	BAH	6.3 Ct. @ 3	1600	117	2 $\frac{1}{2}$	3 $\frac{1}{4}$ 1 $\frac{3}{4}$	1
T-21F11	7.40	BAV	6.3 Ct. @ 6	1600	117	2 x 2	3 $\frac{3}{8}$ 2	1 $\frac{1}{2}$
T-21F12	7.25	CAV	6.3 Ct. @ 10	1600	117	2 x 2	2 $\frac{1}{2}$ 2 $\frac{3}{4}$	2 $\frac{3}{4}$
T-21F14	5.00	BAH	6.3-5-2.5 @ 2.5	1600	117	2 $\frac{1}{2}$	3 $\frac{3}{4}$ 1 $\frac{3}{4}$	2
T-21F15	5.55	BAV	7.5 Ct. @ 4	1600	117	2 $\frac{1}{2}$	3 $\frac{3}{8}$ 2	2 $\frac{1}{16}$
T-21F16	7.25	CAV	7.5 Ct. @ 8	1600	117	2 x 2	3 $\frac{3}{8}$ 2 $\frac{3}{4}$	2 $\frac{3}{4}$
T-21F17	9.00	CAV	7.5 Ct. @ 12	1600	117	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	2 $\frac{1}{2}$ 3 $\frac{3}{4}$	3 $\frac{1}{2}$
T-21F18	7.25	CAV	10 Ct. @ 5	1600	117	2 x 1 $\frac{3}{4}$	2 $\frac{1}{2}$ 3 $\frac{3}{8}$	2 $\frac{1}{4}$
T-21F19	10.40	CAV	10 Ct. @ 12 or 11 Ct. @ 11	1600	117	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	3 $\frac{1}{8}$ 3 $\frac{3}{4}$	5 $\frac{1}{4}$

### CHOKES—REACTORS—Universal Types—Swinging and Smoothing

Type No.	List Price	Mtg. Fig.	O D.C.	Henries Rated D.C.	Max. D.C.	Current in M.A. Rated D.C.	D.C. Res. Ohms	Test Volts R.M.S.	Mtg. Centers	Dimensions W. D. H.	Wt. Lbs.	
T-20C50	\$4.15	BAH	475	350	75	5	25	5500	2000	2 $\frac{1}{2}$	3 $\frac{1}{4}$ 2 2	1 $\frac{1}{2}$
T-20C51	2.80	BAH	70	35	15	15	25	1850	1200	2	2 $\frac{1}{2}$ 1 $\frac{1}{2}$ 1 $\frac{1}{2}$	1 $\frac{1}{2}$
T-20C52	2.40	BAH	13	8	4	40	65	450	1200	2	2 $\frac{3}{8}$ 1 $\frac{1}{4}$ 1 $\frac{1}{8}$	3 $\frac{1}{4}$
T-20C59	2.90	BAH	14	7	5	55	65	200	1600	2	2 $\frac{3}{8}$ 1 $\frac{1}{8}$ 1 $\frac{1}{8}$	3 $\frac{1}{4}$
T-20C53	3.55	BAH	24	12	8	80	100	375	2000	2 $\frac{1}{2}$	3 $\frac{1}{8}$ 2 2	1 $\frac{1}{4}$
T-20C64	4.30	BAH	15	4	3	130	150	100	1600	3 $\frac{1}{8}$	3 $\frac{1}{8}$ 2 $\frac{5}{8}$ 2 $\frac{1}{4}$	1 $\frac{1}{2}$
T-20C54	5.90	GGV	16	8	4	150	200	145	2700	2x1 $\frac{1}{4}$ x2	2 $\frac{1}{2}$ 2 $\frac{3}{8}$ 3 $\frac{1}{8}$	2 $\frac{3}{4}$
T-20C54-P	12.00	CHT	16	8	4	150	200	145	2700	2 $\$		

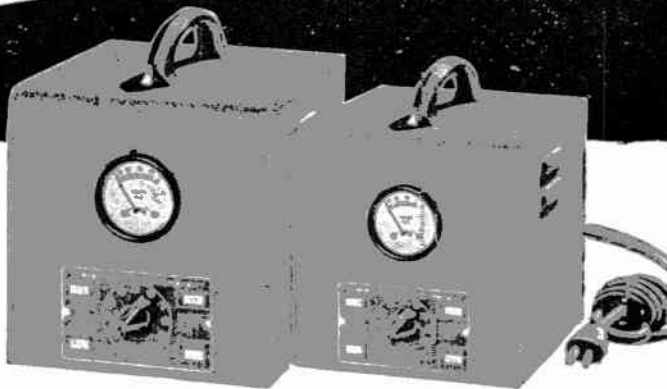
*Proved* FOR BETTER VOLTAGE CONTROL  
**GRAMER**  
**"REG-U-VOLTS"**



150 WATTS

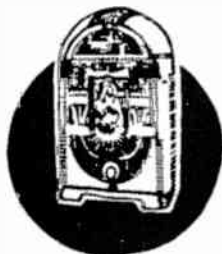
300 WATTS

500 WATTS



1500 WATTS

1000 WATTS



Protect your electrical and radio apparatus, as well as television sets from damage by using the new Gramer Super "Reg-U-Volts". The correct operation of all your electrical appliances is insured by utilizing Gramer's voltage regulators, because Gramer Super "Reg-U-Volts" deliver the specific voltage required for the proper operation of your television sets, radios and electrical appliances. There is a Gramer Super "Reg-U-Volt" to deliver the correct voltage for any electrically powered equipment. Be sure to insist on Gramer Super "Reg-U-Volts". Accept no substitute.

LIST PRICES ON SUPER "REG-U-VOLTS" GRAMER PRICES EFFECTIVE NOVEMBER 15, 1950

UNIT NO.	INPUT VOLTAGE	OUTPUT VOLTAGE	WATTAGE	UNIT PRICE IN U. S. CURRENCY
CV- 150	55 to 135 V. in 10 V. steps	115 V.A.C.	150 Watts	\$ 26.25
CV- 300	55 to 135 V. in 10 V. steps	115 V.A.C.	300 Watts	32.00
CV- 500	55 to 135 V. in 10 V. steps	115 V.A.C.	500 Watts	37.90
CV-1000	55 to 135 V. in 10 V. steps	115 V.A.C.	1000 Watts	79.50
CV-1500	55 to 135 V. in 10 V. steps	115 V.A.C.	1500 Watts	112.60
CV- 152	160 to 240 V. in 10 V. steps	220 V.A.C.	150 Watts	27.25
CV- 302	160 to 240 V. in 10 V. steps	220 V.A.C.	300 Watts	32.50
CV- 502	160 to 240 V. in 10 V. steps	220 V.A.C.	500 Watts	38.00
CV-1002	160 to 240 V. in 10 V. steps	220 V.A.C.	1000 Watts	81.50
CV-1502	160 to 240 V. in 10 V. steps	220 V.A.C.	1500 Watts	113.50



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QUALITY...**

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FOR GOVERNMENT  
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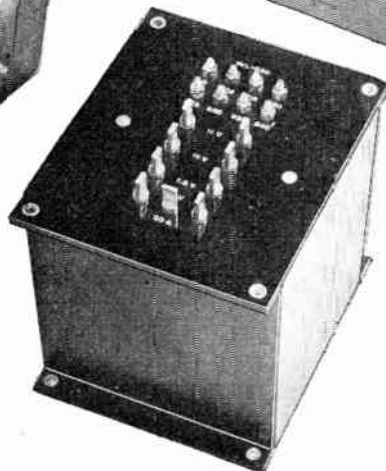
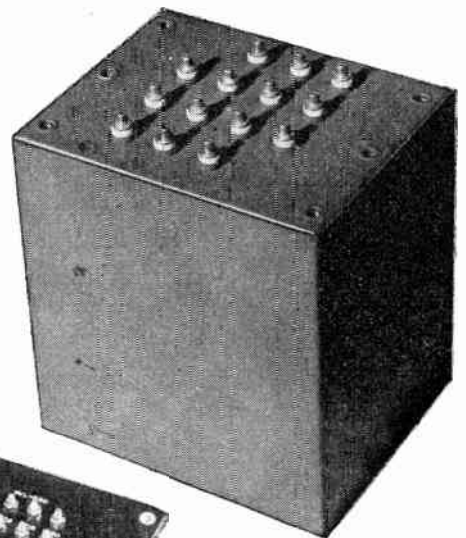
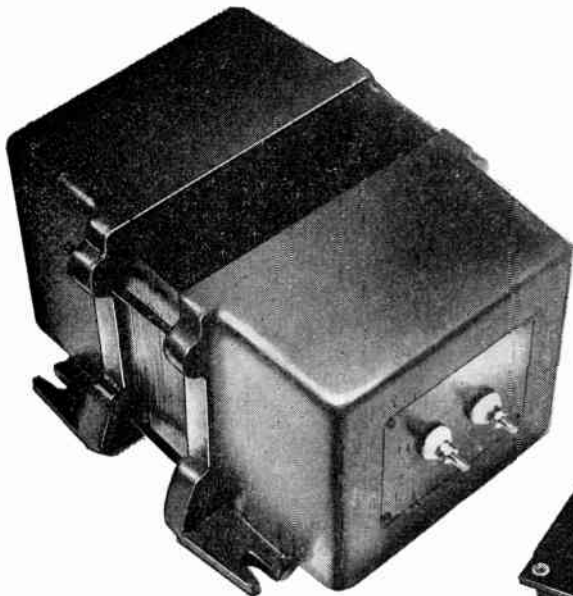
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**REACTORS**

**RESONANT FILTERS**

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AND POWER APPLICATIONS**



***We have been  
solving the  
transformer  
engineering  
problems of  
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since 1938!***

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# UNITED TRANSFORMER CO.

## PRICE LIST

Type No.	List Price	Type No.	List Price	Type No.	* Net Price	Type No.	List Price	Type No.	List Price	Type No.	* Net Price
A-10	\$16.00	CVM-0	\$10.00	HQB-1	\$16.00	LS-103	\$110.00	R-48	\$15.00	S-42	\$17.00
A-11	18.00	CVM-1	15.00	HQB-2	16.00	LS-104A	500.00	R-53	4.00	S-43	22.00
A-12	16.00	CVM-2	23.00	HQB-3	16.00	LS-105	120.00	R-55	2.00	S-44	18.00
A-14	17.00	CVM-3	33.00	HQB-4	17.00	LS-106	270.00	R-56	4.00	S-45	15.00
A-16	15.00	CVM-4	55.00	HQB-5	17.00	LS-120	50.00	R-57	6.50	S-46	18.00
A-17	17.00	CVM-5	130.00	HQB-6	18.00	LS-121Y	60.00	R-58	3.30	S-47	23.00
A-18	16.00			HQB-7	20.00	LS-140	35.00	R-59	4.00	S-48	34.00
A-19	19.00			HQB-8	20.00	LS-141	30.00	R-60	4.10	S-49	33.00
A-20	16.00	CVP-1	11.00	HQB-9	21.00	LS-142	30.00	R-72	80.00	S-50	50.00
A-21	18.00	CVP-2	16.00	HQB-10	22.00	LS-143	30.00	R-73	9.50	S-51	11.00
A-24	16.00	CVP-3	25.00	HQB-11	23.00	LS-150	30.00	R-74	14.00	S-52	14.00
A-25	17.00	CVP-4	35.00	HQB-12	24.00	LS-151	27.00	R-75	25.00	S-53	3.70
A-26	16.00	CVP-5	60.00			LS-180	20.00	R-76	40.00	S-54	3.70
A-27	16.00			HQC-1	13.00	LS-183	125.00	R-77	65.00	S-55	3.70
A-30	12.00			HQC-2	13.00	LS-184	200.00	R-78	110.00	S-56	3.70
A-32	10.00	FT-1	3.50	HQC-3	13.00	LS-185	450.00	R-79	20.00	S-57	5.50
CG-1C	75.00	FT-2	3.20	HQC-4	13.00	LS-190	30.00	R-80	25.00	S-58	6.50
CG-1S	75.00	FT-3	4.00	HQC-5	13.00	LS-192	35.00	R-81	35.00	S-59	5.50
CG-21S	20.00	FT-4	4.25	HQD-1	15.00	LS-681	400.00	R-82	70.00	S-60	12.00
CG-41S	35.00	FT-5	4.50	HQD-2	15.00	LS-682	800.00	R-83	20.00	S-61	5.50
CG-41S	35.00	FT-6	4.50	HQD-3	15.00	LS-684	15.00	R-84	25.00	S-62	6.50
CG-1S	13.00	FT-7	4.50	HQD-4	15.00	LS-950	40.00	R-85	35.00	S-63	12.50
CG-16	13.00	FT-8	6.00	HQD-5	15.00	MA-1	15.00	R-86	70.00	S-64	6.50
CG-19	13.00	FT-9	6.00	HQE-1	6.00	MB-1	15.00	R-90	3.30	S-65	6.50
CG-33	8.00	FT-10	7.00	HQE-2	6.00	MC-1	15.00	R-91	7.50	S-66	6.50
CG-34	13.00			HQE-3	7.00	MC-2	17.00	R-92	7.50	S-67	6.50
CG-40	10.00	H-1	16.50	HQE-4	7.50			R-93	15.00	S-68	7.00
CG-41	10.00	H-2	16.00	HQE-5	8.00			R-94	20.00	S-69	7.00
CG-44	10.00	H-3	13.50					R-95	17.00	S-70	7.00
CG-45	10.00	H-4	13.50	Type No.	List Price	0-1	14.00	R-101	7.50	S-71	12.00
CG-48C	10.00	H-5	15.50	LS-6L1	50.00	0-2	14.00	R-102	9.00	S-72	7.50
CG-50	16.00	H-6	16.00	LS-6L3	35.00	0-3	13.00	R-103	9.50	S-74	20.00
CG-51AX	13.00	H-7	16.50	LS-6L4	60.00	0-4	11.00	R-104	10.50	SC-1	3.00
CG-53AX	15.00	H-8	15.50	LS-5	50.00	0-5	11.00	R-105	13.00	SC-2	4.50
CG-59AX	15.00	H-9	16.50	LS-6	35.00	0-6	13.00	R-106	7.50	SC-3	5.00
CG-100	11.00	H-10	15.00	LS-7	40.00	0-7	13.00	R-107	10.50	SC-4	7.00
CG-101	11.00	H-11	12.00	LS-8	35.00	0-8	14.00	R-108	16.00	SC-5	13.00
CG-102	16.00	H-20	20.00	LS-9	35.00	0-9	14.00	R-109	7.50	V-0	13.00
CG-103	16.00	H-21	23.00	LS-10	25.00	0-10	14.00	R-110	9.00	V-0-B	17.00
CG-104	23.00	H-22	21.00	LS-10X	35.00	0-11	14.00	R-111	10.50	V-1	20.00
CG-105	23.00	H-23	20.00	LS-12	28.00	0-12	13.00	R-112	16.00	V1-M	35.00
CG-108	45.00	H-24	15.00	LS-12X	35.00	0-13	10.00			V-2	17.00
CG-109	45.00	H-30	13.00	LS-14	32.00	0-14	14.00	S0-1	6.50	V-2-B	20.00
CG-120	17.00	H-31	13.00	LS-14X	37.00	0-15	14.00	S0-2	6.50	V-3	25.00
CG-121	25.00	H-32	13.00	LS-15	32.00	P-1	15.00	S0-3	6.50	V-3-B	33.00
CG-122	20.00	H-33	13.00	LS-15X	37.00	P-2	15.00	S0-4	6.50	V-4	37.00
CG-124	22.00	H-34	13.00	LS-18	31.00	P-3	14.00	S0-5	5.50	Type No.	List Price
CG-125	23.00	H-35	11.00	LS-19	26.00	P-4	13.00	S0-6	6.50	V1-C1	11.00
CG-128	37.00			LS-20	25.00	P-5	13.00	SS0-1	6.50	V1-C2	11.00
CG-131	11.00	HA-100	21.00	LS-21	26.00	P-6	14.00	SS0-2	6.50	V1-C3	11.00
CG-132	12.00	HA-100X	26.00	LS-22	32.00	P-7	14.00	SS0-3	6.50	V1-C4	11.00
CG-133	14.00	HA-101	24.00	LS-23	32.00	P-8	15.00	SS0-4	6.50	V1-C5	11.00
CG-134	14.00	HA-101X	29.00	LS-25	32.00	P-9	15.00	SS0-5	5.50	V1-C6	11.00
CG-135	15.00	HA-103A	25.00	LS-26	30.00	P-10	15.00	SS0-6	6.50	V1-C7	14.00
CG-138	15.00	HA-104	22.00	LS-27	26.00	P-11	11.00			V1-C8	14.00
CG-137	12.00	HA-105	16.00	LS-30	25.00	P-12	11.00	S-1	3.60	V1-C9	14.00
CG-140	12.00	HA-106	18.00	LS-30X	32.00	P-13	12.00	S-2	4.50	V1-C10	14.00
CG-141	14.00	HA-107	26.00	LS-31	32.00	P-14	11.00	S-3	3.50	V1-C11	14.00
CG-233	13.00	HA-108	21.00	LS-31X	39.00	P-15	15.00	S-4	5.70	V1-C12	14.00
CG-235	18.00	HA-108X	25.00	LS-32	30.00	PF-1	12.00	S-5	4.70	V1-C13	14.00
CG-238AX	35.00	HA-111	22.00	LS-33	30.00	PF-2	12.00	S-6	3.50	V1-C14	14.00
CG-300	30.00	HA-113	20.00	LS-34	45.00	PF-3	5.00	S-7	5.50	V1-C15	16.50
CG-301	37.00	HA-114	22.00	LS-38	40.00	PF-4	12.00	S-8	5.00	V1-C16	16.50
CG-303	50.00	HA-130X	30.00	LS-39	30.00	R-14	2.20	S-9	6.00	V1-C17	16.50
CG-304	140.00	HA-133	20.00	LS-40	26.00	R-15	2.20	S-10	5.50	V1-C18	16.50
CG-305	75.00	HA-134	25.00	LS-47	35.00	R-16	2.20	S-11	4.70	V1-C19	16.50
CG-306	140.00	HA-135	25.00	LS-48	60.00	R-17	2.20	S-12	5.50	V1-C20	16.50
CG-307	125.00	HA-137	22.00	LS-49	60.00	R-18	3.00	S-13	7.00	V1-C21	17.50
CG-308	165.00			LS-50	26.00	R-19	3.20	S-14	5.20	V1-C22	18.50
CG-309	300.00	HC-115	13.00	LS-51	28.00	R-20	4.60	S-15	5.50		
CG-310	210.00	HC-116	20.00	LS-52	38.00	R-21	4.60	S-16	7.00	<b>FILTERS AND EQUALIZERS</b>	
CG-311	75.00	HC-117	13.00	LS-54	25.00	R-22	4.20	S-17	9.00	Type No.	* Net Price
CG-312	75.00			LS-55	35.00	R-23	4.40	S-18	6.00	3A	150.00
CG-315	20.00	HP-122	15.00	LS-56	35.00	R-24	4.60	S-19	9.00	3AX	240.00
CG-316	30.00	HP-123	22.00	LS-57	25.00	R-25	4.90	S-20	13.00	4C	200.00
CG-333	14.00			LS-60A	40.00	R-26	4.90	S-21	18.00	BMI	25.00
CG-422	22.00			LS-61	35.00	R-27	4.50	S-22	28.00	BML	25.00
CG-428	30.00			LS-62A	35.00	R-28	6.50	S-23	3.80	HMI	25.00
CG-429	31.00			LS-63	25.00	R-29	4.90	S-24	4.20	HML	25.00
CG-431	45.00			LS-66	110.00	R-30	13.50	S-25	4.20	LMI	25.00
CG-433	14.00			LS-67	110.00	R-31	4.00	S-26	3.50	LML	25.00
CG-512	35.00	HQA-1	7.00	LS-70	40.00	R-32	5.50	S-27	4.50		
CG-710	13.00	HQA-2	7.00	LS-72	43.00	R-33	3.20	S-28	4.50	<b>AMPLIFIER KITS</b>	
CGE-1A	30.00	HQA-3	7.50	LS-74	40.00	R-34	3.20	S-29	4.50	Type No.	List Price
CVA-1	14.00	HQA-4	7.50	LS-80	30.00	R-35	4.20	S-30	6.00	W-10	75.00
CVA-2	17.00	HQA-5	8.00	LS-82	32.00	R-36	4.20	S-31	6.00	W-20	120.00
CVA-3	22.00	HQA-6	8.00	LS-83	70.00	R-37	4.50	S-32	6.00		
CVA-4	32.00	HQA-7	9.00	LS-84	30.00	R-38A	3.30	S-33	8.50		
CVA-5	45.00	HQA-8	9.00	LS-88	12.00	R-39	4.20	S-34	8.50		
CVL-1	10.00	HQA-9	10.00	LS-89A	100.00	R-40	6.00	S-35	13.00		
CVL-2	13.50	HQA-10	10.00	LS-90	15.00	R-41	9.50	S-36	13.00		
CVL-3	20.00	HQA-11	10.00	LS-91	15.00	R-42	10.50	S-37	16.00		
CVL-10	10.00	HQA-12	11.00	LS-92	25.00	R-43	12.00	S-38	16.00		
CYL-11	13.50	HQA-13	11.00	LS-93	40.00	R-44	14.50	S-39	15.00		
CYL-12	20.00	HQA-14	13.00	LS-94	15.00	R-45	21.00	S-40	15.00		
		HQA-15	14.00	LS-96	75.00	R-46	45.00	S-41	15.00		
		HQA-16	15.00	LS-98	120.00	R-47	12.00				
		HQA-17	16.00	LS-99	80.00						
		HQA-18	17.00	LS-102							



# LINEAR STANDARD AUDIO TRANSFORMERS

## LINEAR STANDARD AUDIO UNITS FEATURE:

**UNIFORM FREQUENCY RESPONSE** . . . at low frequencies, is effected through the use of HIPERM-ALLOY, a STABLE nickel iron alloy of very high initial permeability. Uniform high frequency response is the result of multiple section interleaved windings arranged in a semi-toroidal coil structure. This, plus special winding methods and insulations, assures a minimum of distributed capacity and leakage reactance.

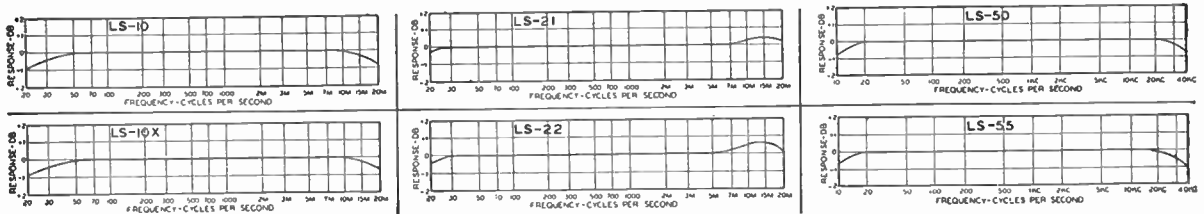
**UTC LINEAR STANDARD** transformers are the ONLY audio units with a **GUARANTEED** uniform response . . .  $\pm 1$  DB from 20 to 20,000 cycles.

**MINIMUM HUM PICKUP** . . . is accomplished through the use of a hum balanced, semi-toroidal, coil structure which affords maximum neutralization of external fields. In addition, all units employ high conductivity outer case for maximum shielding. For very low level applications, units whose code numbers end in X employ multiple alloy shielding, making possible a transformer with extremely low inductive pickup.

**NEGLECTIBLE WAVE FORM DISTORTION** . . . is a function of proper impedance matching, minimum phase shift, and low flux density. These elements have been given great attention in the design of Linear Standard units. It is interesting to note that an output transformer reasonably flat from 20 to 20,000 cycles may show serious distortion at 30 and 10,000 cycles. For this reason, UTC high level units have a frequency range better than guaranteed value, generally 10 cycles to 50,000 cycles (see page 6).

**MULTIPLE TAP WINDINGS** . . . make possible a wide combination of impedance terminations without impairing fidelity or efficiency. Precision winding methods result in winding accuracy of .1% . . . perfect balance of inductance and capacity . . . exact impedance reflection.

**DEPENDABILITY** . . . is a function of external and internal structure. Linear Standard units are housed in rugged die cast cases of precise dimension with reversible mounting to permit above chassis or subchassis wiring. The solid terminal posts on low absorption bakelite are arranged in a circular layout so that a round chassis hole will clear all terminals. Coils are vacuum baked and impregnated. Semi-hermetic sealing is accomplished through the use of a high adhesion compound poured through the large opening opposite the terminal board after controlled preheating of the unit for full compound penetration.



LS-1 CASE

Length 3 1/8"  
 Width 2 5/8"  
 Height 3 1/4"  
 Mounting 1 1/8" x 2 1/4"  
 Screws 6-32  
 Cutout 1 7/8" dia.  
 Unit Weight 3 lbs.

## LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	$\pm 1$ db from	Max. $\uparrow$ Level	Relative * hum	Unbal. DC in prim'y	Case No.
LS-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600 ohms	60,000 ohms in two sections	20-20,000	+10 DB	-74 DB	.5 MA	LS-1
LS-10X	As above	As above	50,000 ohms	20-20,000	+10 DB	-92 DB-Q	.5 MA	LS-1
LS-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	120,000 ohms overall, in two sections	20-20,000	+10 DB	-74 DB	.5 MA	LS-1
LS-12X	As above	As above	80,000 ohms overall, split	20-20,000	+10 DB	-92 DB-Q	.5 MA	LS-1
LS-14	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	20-20,000	+10 DB	-74 DB	.5 MA	LS-1
LS-14X	As above	As above	50,000 ohms	20-20,000	+10 DB	-92 DB-Q	.5 MA	LS-1
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	20-20,000	+10 DB	-74 DB	.5 MA	LS-1
LS-15X	As above	As above	As above	20-20,000	+10 DB	-92 DB-Q	.5 MA	LS-1
LS-18	High level multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	50,000 ohms overall, in two sections	20-20,000	+20 DB	-50 DB	.5 MA	LS-2
LS-26	Bridging line to single or push pull grids	5,000 ohms	60,000 ohms in two sections	15-20,000	+15 DB	-74 DB	0 MA	LS-1

## MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. † Level	Relative * hum	Unbal. DC in prim'y	Case No.
LS-30	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200, 250, 333, 500/600 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+15 DB	-74 DB	.5 MA	LS-1
LS-30X	As above	As above	As above	20-20,000	+15 DB	-92 DB-Q	.3 MA	LS-1
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+15 DB	-74 DB	.5 MA	LS-1
LS-31X	As above	As above	As above	20-20,000	+14 DB	-92 DB-Q	.3 MA	LS-1
LS-32	Mixing, low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 36, 60 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+15 DB	-74 DB	.5 MA	LS-1



## INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. † Level	Relative * hum	Unbal. DC in prim'y	Case No.
LS-19	Single plate to push pull grids like 2A3, 6L6, 300A. Split secondary	15,000 ohms	95,000 ohms; 1.25:1 each side	20-20,000	+12 DB	-50 DB	0 MA	LS-1
LS-20	Single plate to single grid	15,000 ohms	60,000 ohms; 2:1 turn ratio	20-20,000	+10 DB	-74 DB	0 MA	LS-1
LS-21	Single plate to push pull grids. Split pri. and sec.	15,000 ohms	135,000 ohms; 3:1 overall	20-20,000	+10 DB	-74 DB	0 MA	LS-1
LS-40	Single plate to push pull grids. Split secondary	15,000 ohms	135,000 ohms; 3:1 overall	30-20,000	+12 DB	-74 DB	8 MA	LS-1
LS-22	Push pull plates to push pull grids. Split primary and secondary	30,000 ohms plate to plate	80,000 ohms; turn ratio 1.6:1 overall	20-20,000	+18 DB	-50 DB	.25 MA	LS-2
LS-25	Push pull plates to push pull grids. Medium level. Split primary and sec.	30,000 ohms plate to plate	50,000 ohms; turn ratio 1.3:1 overall	20-20,000	-15 DB	-74 DB	1 MA	LS-1
LS-26	Bridging line to 1 or 2 grids	5000 ohms	60,000 in two sections	15-20,000	-15 DB	-74 DB	0 MA	LS-1



LS-2 CASE

Length .....	4 1/8"
Width .....	3 1/2"
Height .....	4 3/8"
Mounting .....	2 1/16" x 3 1/16"
Screws .....	8-32
Cutout .....	2 3/4" dia.
Unit Weight .....	7.5 lbs.

## PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Imp. ohms	± 1 db from	Max. † Level	Relative * hum	Unbal. DC in prim'y	Case No.
LS-27	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600 cycles	30-15,000	+15 DB	-74 DB	8 MA	LS-1
LS-50	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	20-20,000	+15 DB	-74 DB	0 MA	LS-1
LS-51	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	20-20,000	+16 DB	-74 DB	1 MA	LS-1
LS-38	Crystal microphone or pickup to multiple line, with internal equalizer	100,000 ohms	50, 125/150, 200, 250, 333, 500/600 for crystal	Equalized	+10 DB	-74 DB	0 MA	LS-1
LS-39	Photocell, high-μ triode, diode or overbiased detector to multiple line	100,000 ohms	50, 125/150, 200, 250, 333, 500/600	20-20,000	+10 DB	-74 DB	0 MA	LS-1
LS-150	Bridging from 50 to 500 ohm line to line	4,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	15-30,000	+15 DB	-74 DB	1 MA	LS-1
LS-151	Bridging from 50 to 500 ohm line to line	16,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	15-30,000	+18 DB	-74 DB	1 MA	LS-1

## OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

Type No.	Primary will match following typical tubes	Primary Impedance	Secondary Impedance	± .4 db. from	Max. Level	Case No.
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's, 6AS7, 6L6	5,000 ohms plate to plate and 3,000 ohms plate to plate	6000, 5000, 4000, 1800, 1500, 1000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	20 watts	LS-2
LS-66	Class B 203A, 838, 2B120, 805	9,000 ohms plate to plate*	5000, 4200, 4100, 3500, 3300, 2650, 2500, 2100, 1250, 600	25-20,000	260 watts	*
LS-67	Class B 203A, 838, 2B120, 805	9,000 and 6,900 ohms plate to plate	10000, 2500	25-20,000	260 watts	*
LS-691	Class B 849, 833, 250TH	10,400 ohms plate to plate	4500, 4000, 3500, 2750, 2000	25-20,000	1000 watts	LS-6
LS-692	Class B push pull parallel 833's	4,750 ohms plate to plate	2500, 2000, 1750, 1500, 1250	25-20,000	2500 watts	LS-6



LS-3 CASE

Length .....	5 1/8"
Width .....	5"
Height .....	4 1/8"
Mounting .....	4 3/16" x 5 1/2"
Screws .....	10-24
Cutout .....	3 3/4" dia.
Unit Weight .....	15 lbs.

## MODULATION REACTORS

Type No.	Application	Inductance	DC Current	DC Resistance	Insulation Test Voltage	Case No.
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	5000	*
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	7500	*
LS-104A	Modulation reactor	50 hy	1.3 amp	75 ohms	20000	LS-7
LS-106	Modulation reactor	50 hy	750 MA	120 ohms	10000	Spec.

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.

\* Comparison of hum balanced unit with shielding to normal uncase type.

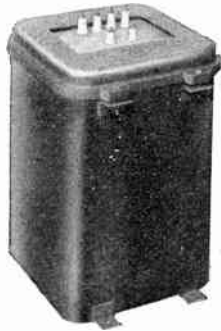
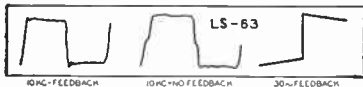
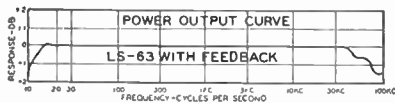
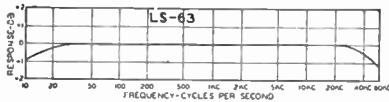
† 4MW as ODB reference.

‡ See page N-39 for dimensions.



# LS OUTPUT TRANSFORMERS THE FINEST

While the UTC Linear Standard line is generally designed for a flat response from 20 cycles to 20 Kc., a much wider response is required for output transformers. As is noted in the first curve below, typical UTC output transformers are down less than 1 DB at 10 cycles and less than 1 DB at 40 to 60 Kc. Because of this, a fine power output curve is possible. (Second curve.) The third figure below illustrates square waves obtained with the LS-63 transformer in a "Williamson" Amplifier Circuit. Of particular interest is the short rise time, which is far superior for UTC transformers than any standard make which we have measured.



LS-6 CASE

Length ..... 15¾"  
 Width ..... 13"  
 Height ..... 24"  
 Mounting Hole ..... ¾" dia.  
 Unit Weight ..... 350 lbs.

LS-7 CASE

Length ..... 20¾"  
 Mounting ..... 7¾" x 14¾"  
 Height ..... 18½"  
 Mounting ..... 11¾" x 19¾"  
 Mounting Hole ..... ¾" dia.  
 Unit Weight ..... 500 lbs.  
 Width ..... 17¾"

## HYBRID AND REPEAT COILS

Type No.	Application	Pri. and Sec. Impedances	± 1 db from	Max. Level	Hum Reduction	Max. Unbal. DC in Pri.	Case No.
LS-140	Line to line for isolating balanced and unbalanced circuits; balanced for maximum reduction cross talk (70 DB)	500/600 ohms split 500/600 ohms split	30-20,000	+10 DB	-92 DB Quadruple alloy shield	0 MA	LS-1
LS-141	Three sets of balanced windings for hybrid service, centertapped	500/600 ohms 500/600 ohms	30-15,000	+10 DB	-74 DB	0 MA	LS-1
LS-142	Line to line and to push pull grids for hybrid service	500/600 ohms 500/600 ohms 60,000 ohms	30-15,000	+10 DB	-74 DB	0 MA	LS-1
LS-143	High efficiency ring and talk repeat coil, for low frequency ringing	500/600 ohms 500/600 ohms	Efficient 15/12,000 cycles	+25 DB	-74 DB	5 MA	LS-2

## DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Refl. Sec. Impedance	± 1 db from	Max. Level	Max. Unbal. Dc in Pri.	Case No.
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200, 250, 333, 500/600 ohms	2,000 ohms; 1:2 overall turns ratio	20-20,000	+32 DB	5 MA	LS-2
LS-6	Driver, push pull 45's, 2A3's, 6A5G's, etc., to push pull 845 or 2110 grids	5,000 ohms plate to plate	2.25 primary impedance; turns ratio 1.5:1 overall	20-20,000	+32 DB	5 MA	LS-2
LS-7	Push pull 6C5 or similar plates to A prime 45's, 6F6's, 2A3's, 6L6's	30,000 ohms plate to plate	.45 primary impedance turn ratio 1.5:1 Pri. to Sec.	20-20,000	+25 DB	1 MA	LS-2
LS-47	Driver from push pull 2A3's, 6A5G's, or 300A's to class B 838's, 203A's, 805's, or ZB120's	5,000 ohms plate to plate	.1 pri. impedance turns ratio, Pri./½ Sec. 3:2:1	20-20,000	+32 DB	5 MA	LS-2
LS-48	Driver transformer push pull 845's to 204 or 849 grids in class B	12,000 ohms plate to plate	.038 pri. impedance turns ratio, Pri./½ Sec. 5:1:1	20-20,000	+37 DB	15 MA	LS-3
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838, 203A, 805, or ZB120 tubes	2,500 ohms plate to plate	Ratio Pri./½ Sec. 4:1 and 2.5:1	20-20,000	+37 DB	10 MA	LS-3

## OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following typical tubes	Primary Impedance	Secondary Impedance	± .2 db from	Max. Level	Case No.
LS-52	Push pull 245, 250, 6V6 or 245 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's, 6L6's, 6AS7G	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	20 watts	LS-2
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	20 watts	LS-2
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	40 watts	LS-3
LS-60A	Push pull 2A3's, 6A3's, 6B4G's fixed bias, cathode follower drive	4,600 ohms plate to plate	15, 10, 7.5, 5, 3.75, 2.5, 1.2	20-20,000	30 watts	LS-3
LS-62A	Same as above	As above	500, 125	20-20,000	30 watts	LS-3
LS-61	Push pull 6F6, class B 46's 6AS7G, 807-TR, 1614-TR	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-61L	Push pull 6L6's self bias	9,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	30 watts	LS-3
LS-61L3	Same as above	9,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	30 watts	LS-3
LS-61L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 4,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	55 watts	LS-3

## HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± .2 db from	Max. Level	Case No.
LS-33	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	20-20,000	15 watts	LS-2
LS-34	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	20-20,000	30 watts	LS-3

# LINEAR STANDARD POWER EQUIPMENT

## COMBINED PLATE AND FILAMENT TRANSFORMERS



Type No.	Typical Application	Pri. Volts 50/60 cycles	High Voltage	Filament Windings	Case No.
LS-180	For pre-amplifier service	110	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-6A	LS-1
LS-192	Power amplifier service	105, 115, 125	335-0-335 180 MA DC 60-0-60, 20 MA	5 V.-3A 6.3 V.C.T.-.75A 6.3 V.C.T.-5.25A	LS-3
LS-70	High power amplifier service	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-2A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3 V.C.T.-3A	LS-3
LS-72	For fixed or self bias 6L6's, 300A's	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-5A	LS-3
LS-74	For push pull parallel 6L6's, 2A3's, 6B4's	115	415-395-0-395-415 275 MA	5 V.-6A 6.3 V.C.T.-5A	LS-3

### PLATE TRANSFORMERS\*

Type No.	Application	Primary Voltage	50/60 cycles	High Voltage	Approximate DC Voltage	DC Current
LS-183	Class B 805 or push pull parallel 203A's, etc.	100, 110, 120, 220, 230, 240		1750-1500-0-1500- 1750	1500-1250	400 MA
LS-184	Class B 204A, 849, HF200, HF300, 250TH, HK354, 100TH, etc.	100, 110, 120, 220, 230, 240		3500-3000-2500-0- 2500-3000-3500	3000-2500-2100	500 MA
LS-185	For combined class B and class C stages as above	100, 110, 120, 220, 230, 240		3500-3000-2500-0- 2500-3000-3500	3000-2500-2100	1.2 amp.

### FILAMENT TRANSFORMERS

Type No.	Application	Pri. Volts 50/60 cycles	Secondary Voltage	Insulation Test Voltage	Case No.
LS-80	866 rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	10,000	LS-3
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	10,000	LS-3
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	2,500	LS-3
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	LS-1
LS-120	866 Bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5 V.C.T.-5A	12,000	LS-3
LS-121Y	872 Bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	*
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	*
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	*

### LINEAR STANDARD FILTER, SWINGING, AND AUDIO CHOKES

(Inductance values are at D.C. current shown)

Type No.	Application	Inductance	DC Current	DC Resistance	Insulation Test Voltage	Case No.
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	450 ohms 110 ohms	2000	LS-2
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	2000	LS-2
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	88 ohms 22 ohms	2500	LS-3
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.5 hy	200 MA 400 MA	120 ohms 30 ohms	3500	LS-3
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	1500	LS-1
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 70 MA	1000 ohms 250 ohms	1500	LS-2
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp	90 ohms 22.5 ohms	7500	*
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	100 ohms 25 ohms	5000	LS-3
LS-98	Swinging choke	8-40 hy	400 MA	125 ohms	5000	LS-3
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp 2 amp	50 ohms 12.5 ohms	10000	*
LS-105	Swinging choke	8-40 hy	1 amp	50 ohms	10000	*

\* See dimension chart, this page.

In choosing power components for broadcast and commercial equipment, the first factor to be considered is dependability. Linear standard power components are very conservatively designed for maximum reliability. Designs provide for low temperature rise, 40°, and high insulation safety factors. Only the finest of materials and workmanship are used throughout.

The low power components of the Linear Standard series are housed in the familiar rectangular LS case with top or bottom mounting facilities. High power components are housed in end castings which completely protect the winding, while directly exposing the laminations for maximum heat transfer.

All units have a deep grey finish to obtain the highest heat radiation coefficient. Large components (up to 250 KVA) are housed in oil tanks.



### DIMENSIONS

Type No.	L	W	H	Mtg.	Wt.
LS-66	9 3/4	4 3/4	6 3/4	3 7/8 x 9 1/8	37
LS-67	9 3/4	4 3/4	6 3/4	3 7/8 x 9 1/8	37
LS-73	9 1/2	4 3/4	6 3/4	3 7/8 x 8 7/8	34
LS-83	8 3/4	4 3/4	6 3/4	3 7/8 x 8 1/8	25
LS-89A	9 5/8	7	9	6 x 8 5/8	68
LS-96	10 1/4	4 3/4	6 3/4	3 7/8 x 9 5/8	40
LS-99	14 1/8	8 1/2	10 1/4	7 1/4 x 13 1/8	80
LS-102	9 3/4	4 3/4	6 3/4	3 7/8 x 9 1/8	37
LS-103	13 1/8	8 1/2	10 1/4	7 1/4 x 12 1/8	58
LS-105	13 1/8	8 1/2	10 1/4	7 1/4 x 12 1/8	58
LS-121Y	8 1/4	3 3/4	5 1/8	3 x 7-13/16	23
LS-181	9 3/4	4 3/4	6 3/4	3 7/8 x 9 1/8	37
LS-182	10 3/4	4 3/4	6 3/4	3 7/8 x 10 1/8	45
LS-183	15 1/2	10	13 1/4	8 1/2 x 14 1/2	70
LS-184	17 1/4	10	13 1/4	8 1/2 x 16 1/4	102
LS-185	23	10	13 1/4	8 1/2 x 22	230





# HIPERM ALLOY TRANSFORMERS

The UTC Hiperm alloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.

## LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Imp. (ohms)	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600	60,000 ohms in two sections	30-20,000	+ 10DB	.5 MA	H-1
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup						H-1
HA-101	Low impedance mike, pickup, or multiple line to P.P. grids	50, 125/150, 200, 250, 333, 500/600	120,000 ohms overall, split	30-20,000	+ 10DB	.5 MA	H-1
HA-101X	As above but with tri-alloy internal shield to effect very low hum pickup		80,000 ohms overall, split				H-1
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5, 5, 10, 15, 22, 30, 38, 60	60,000 ohms in two sections	30-20,000	+ 10DB	.5 MA	H-1
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125/150, 200, 250, 333, 500/600	50, 125/150, 200, 250, 333, 500/600	30-20,000	+ 10DB	.5 MA	H-1
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup						H-1
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 each primary	60,000 ohms overall, in two sections	30-20,000	+ 10DB	.5 MA	H-1

## INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-104	Single plate to P.P. grids like 2A3, 6L6 (split secondary)	15,000 ohms	95,000 ohms 1.25:1	30-20,000	+ 12 DB	0 MA	H-1
HA-105	Single plate to single grid (split secondary)	15,000 ohms	60,000 ohms 2:1 turn ratio	30-20,000	+ 12 DB	0	H-1
HA-106	Single plate to push pull grids (split secondary)	15,000 ohms	135,000 ohms 3:1 ratio overall	30-20,000	+ 12 DB	0	H-1
HA-107	Push pull plates to push pull grids (split primary and secondary)	30,000 ohms plate to plate	80,000 ohms 1.6:1 turn ratio overall	30-20,000	+ 20 DB	.25 MA	H-2
HA-137	Push pull plates to push pull grids (split Pri. and Sec.)	30,000 ohms plate to plate	68,000 ohms 1.5:1 turn ratio	30-20,000	+ 12 DB	0	H-1

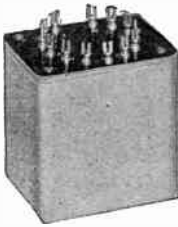


TYPE H-1 CASE

Length ..... 2 3/8"  
 Width ..... 1 3/8"  
 Height ..... 3 1/8"  
 Mounting ..... 1 3/8" x 1 3/8"  
 Screws ..... 6-32  
 Cutout ..... 1 3/8" dia.  
 Unit Weight ..... 2 lbs.

## PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Imp. ohms	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-20,000 measured with resistive source	+ 10 DB	0	H-1
HA-113	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-20,000	+ 12 DB	0 MA	H-1
HA-133	Single plate to multiple line (D.C. in Pri.)	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-20,000	+ 15 DB	8 MA	H-1
HA-114	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	30-20,000	+ 16 DB	1 MA	H-1
HA-134	Push pull 6B4's, 6L6, or 2A3's to line	5000/9400 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	30-20,000	+ 32 DB	5 MA	H-2
HA-135	Push pull 2A3's, etc. to voice coil	3000/5000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	30-20,000	+ 34 DB	5 MA	H-2



TYPE H-2 CASE

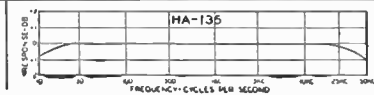
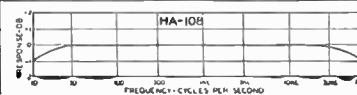
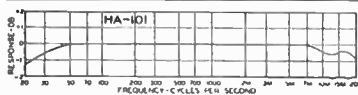
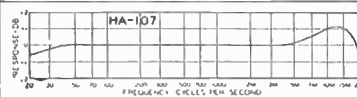
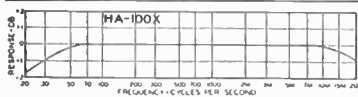
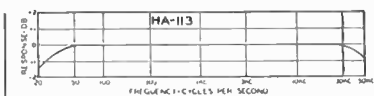
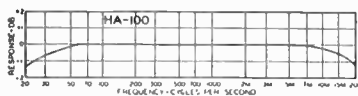
Length ..... 3 1/8"  
 Width ..... 2 1/8"  
 Height ..... 3 1/2"  
 Mounting ..... 2" x 2 3/4"  
 Screws ..... 8-32  
 Cutout ..... 2 1/8" dia.  
 Unit Weight ..... 5 lbs.

## POWER TRANSFORMERS AND CHOKES

Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No.
HP-122	Pre-amp. power supply using 6X4, 6X5 rectifier	115	220-0-220 15 MA	6.3 V.C.T.-.6A 6.3 V.C.T.-1.2A	H-1
HP-123	Pre-amp. or tuner power supply using 6X4, 6X5 rectifier	115	275-0-275 35 MA	6.3 V.C.T.-.6A 6.3 V.C.T.-2A	H-2

Type No.	Application	Inductance	DC Current	DC Resistance	Test Voltage	Case No.
HC-115	Parallel feed and filter choke	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	6000 ohms 1500 ohms	1500	H-1
HC-116	Parallel feed and filter choke	Series-600 hy Parallel-150 hy	8 MA 16 MA	3400 ohms 850 ohms	1500	H-2
HC-117	Parallel feed and filter choke	Series-200 hy Parallel-50-hy	15 MA 30 MA	3200 ohms 800 ohms	1500	H-1



# ULTRA COMPACT AUDIO UNITS



The UTC Ultra compact audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being  $\pm 2$  DB from 30 to 20,000 cycles.

All units except those carrying DC in Primary employ a true hum balancing coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level  $+7$  DB.

## LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	$\pm 2$ db from
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200/250, 333, 500/600 ohms	50,000 ohms	30-20,000
A-11	Low impedance mike, pickup, or line to 1 or 2 grids	50, 200, 500	50,000 ohms	50-20,000 multiple alloy shield for extremely low hum pickup
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200/250, 333, 500/600 ohms	80,000 ohms overall, in two sections	30-20,000
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	30-20,000
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200/250, 333, 500/600 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-21	Mixing, low impedance mike, pickup, or line to line	50, 200/250, 500/600	50, 200/250, 500/600	50-20,000 multiple alloy shield for extremely low hum pickup



## INTERSTAGE AUDIO TRANSFORMERS

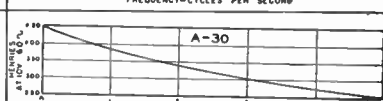
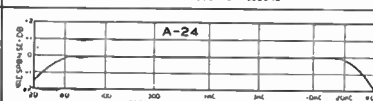
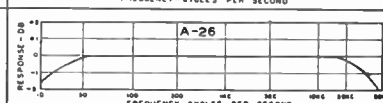
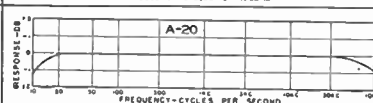
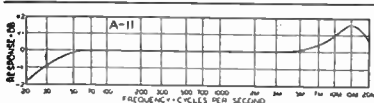
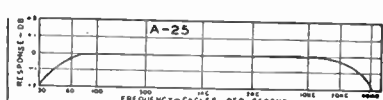
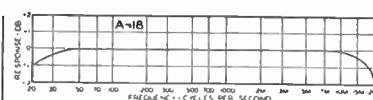
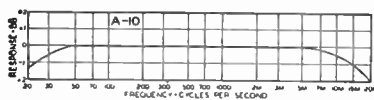
Type No.	Application	Primary Impedance	Secondary Impedance	$\pm 2$ db from
A-16	Single plate to single grid	15,000 ohms	60,000 ohms, 2:1 turn ratio	30-20,000
A-17	Single plate to single grid 8 MA unbalanced D.C.	As above	As above	50-20,000
A-18	Single plate to two grids. Split primary, can also be used for P.P. plates	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	30-20,000
A-19	Single plate to two grids 8 MA unbalanced D.C.	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	50-20,000

### TYPE A CASE

Length .....	1½"
Width .....	1½"
Height .....	2"
Mounting .....	1½" sq.
Screws .....	4-40
Cutout .....	1¾" dia.
Unit Weight .....	½ lb.

## PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	$\pm 2$ db from
A-24	Single plate to multiple line	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-25	Single plate to multiple line 8 MA unbalanced D.C.	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	50-20,000
A-26	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000 measured with non-inductive source
A-30	Audio choke, 250 henrys @ 5 MA 6000 ohms D.C., 65 henrys @ 10 MA 1500 ohms D.C. 450 henrys @ 0 MA			
A-32	Filter choke 60 henrys @ 15 MA 2000 ohms D.C., 15 henrys @ 30 MA 500 ohms D.C.			



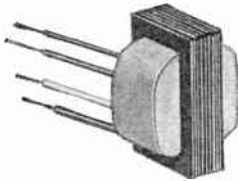


# SUBOUNCER UNITS

## FOR HEARING AIDS...VEST POCKET RADIOS...MIDGET DEVICES

UTC Sub-Ouncer units fulfill an essential requirement for miniaturized components having relatively high efficiency and wide frequency response. Through the use of special nickel iron core materials and winding methods, these miniature units have performance and dependability characteristics far superior to any other comparable items. They are ideal for hearing aids, miniature radios, and other types of miniature electronic equipment.

The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location. Units are vacuum impregnated and double (water proof) sealed. The curves below indicate the excellent frequency response available. Alternate curves are shown to indicate operating characteristics in various typical applications.

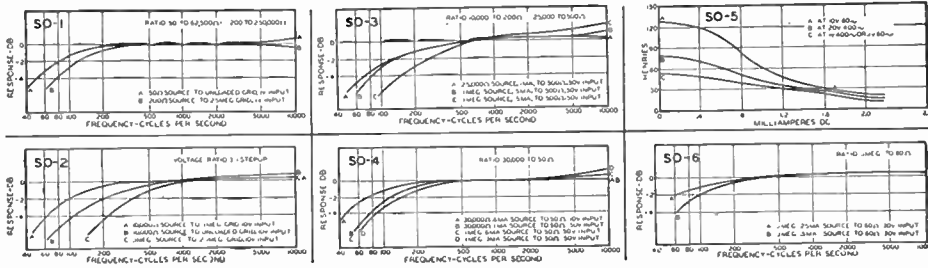


**SUBOUNCER UNIT**

Dimensions .....  $\frac{3}{16}$ " x  $\frac{5}{8}$ " x  $\frac{7}{8}$ "  
Weight ..... .03 lb.

Type	Application	Level	Pri. Imp.	D.C. in Pri.	Sec. Imp.	Pri. Res.	Sec. Res.
*SO-1	Input	+ 4 V.U.	200 50	0	250,000 62,500	16	2650
SO-2	Interstage/3:1	+ 4 V.U.	10,000	0	90,000	225	1850
*SO-3	Plate to Line	+ 20 V.U.	10,000 25,000	3 mil. 1.5 mil.	200 500	1300	30
SO-4	Output	+ 20 V.U.	30,000	1.0 mil.	50	1800	4.3
SO-5	Reactor 50 HY at 1 mil. D.C. 3000 ohms D.C. Res.						
SO-6	Output	+ 20 V.U.	100,000	.5 mil.	60	3250	3.8

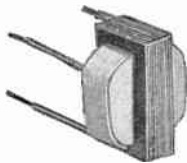
\*Impedance ratio is fixed, 1250:1 for SO-1, 1:50 for SO-3. Any impedance between the values shown may be employed.



# SUB-SUBOUNCER UNITS

## FOR HEARING AIDS AND ULTRA-MINIATURE EQUIPMENT

UTC Sub-SubOuncer units have exceptionally high efficiency and frequency range in their ultra-miniature size. This has been effected through the use of specially selected Hiperm-Alloy core material and special winding methods. The constructional details are identical to those of the Sub-Ouncer units described above. The curves below show actual characteristics under typical conditions of application.

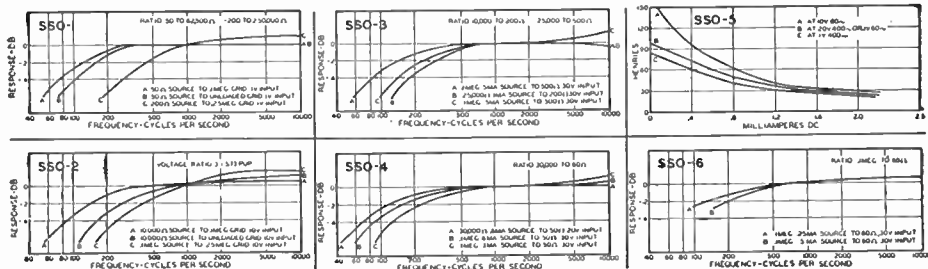


**SUB-SUBOUNCER UNIT**

Dimensions .....  $\frac{3}{16}$ " x  $\frac{3}{4}$ " x  $\frac{5}{8}$ "  
Weight ..... .02 lb.

Type	Application	Level	Pri. Imp.	D.C. in Pri.	Sec. Imp.	Pri. Res.	Sec. Res.
*SSO-1	Input	+ 4 V.U.	200 50	0	250,000 62,500	13.5	3700
SSO-2	Interstage/3:1	+ 4 V.U.	10,000	0	90,000	750	3250
*SSO-3	Plate to Line	+ 20 V.U.	10,000 25,000	3 mil. 1.5 mil.	200 500	2600	35
SSO-4	Output	+ 20 V.U.	30,000	1.0 mil.	50	2875	4.6
SSO-5	Reactor 50 HY at 1 mil. D.C. 4400 ohms D.C. Res.						
SSO-6	Output	+ 20 V.U.	100,000	.5 mil.	60	4700	3.3

\*Impedance ratio is fixed, 1250:1 for SSO-1, 1:50 for SSO-3. Any impedance between the values shown may be employed.



# OUNCER AUDIO UNITS

## STANDARD AND PLUG-IN TYPES



UTC OUNCER components represent the acme in compact quality transformers. These units, which weigh one ounce, are fully impregnated and sealed in a drawn aluminum housing  $\frac{7}{8}$ " diameter . . . mounting opposite terminal board.

Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform from 40 to 15,000 cycles, except for O-14, O-15, and units carrying DC which are intended for voice frequencies from 150 to 4,000 cycles. Maximum level 0 DB.

"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug-in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.

OUNCER Type No.	Application	Pri. Imp.	Sec. Imp.	PLUG-IN Type No.
O-1	Mike, pickup or line to 1 grid	50, 200/250, 500/600	50,000	P-1
O-2	Mike, pickup or line to 2 grids	50, 200/250, 500/600	50,000	P-2
O-3	Dynamic mike to 1 grid	7.5/30	50,000	P-3
O-4	Single plate to 1 grid	15,000	60,000	P-4
O-5	Single plate to 1 grid, D.C. in Pri.	15,000	60,000	P-5
O-6	Single plate to 2 grids	15,000	95,000	P-6
O-7	Single plate to 2 grids, D.C. in Pri.	15,000	95,000	P-7
O-8	Single plate to line	15,000	50, 200/250, 500/600	P-8
O-9	Single plate to line, D.C. in Pri.	15,000	50, 200/250, 500/600	P-9
O-10	Push pull plates to line	30,000 ohms plate to plate	50, 200/250, 500/600	P-10
O-11	Crystal mike or pick-up to line	50,000	50, 200/250, 500/600	P-11
O-12	Mixing and matching	50, 200/250	50, 200/250, 500/600	P-12
O-13	Reactor, 300 Hys.—no D.C.; 50 Hys.—3 MA. D.C., 6000 ohms			P-13
O-14	50:1 mike or line to 1 grid	200	$\frac{1}{2}$ megohm	P-14
O-15	10:1 single plate to 1 grid	15,000	1 megohm	P-15

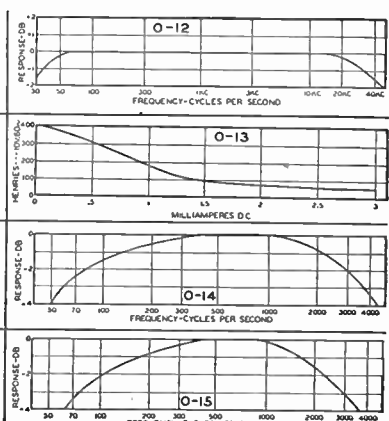
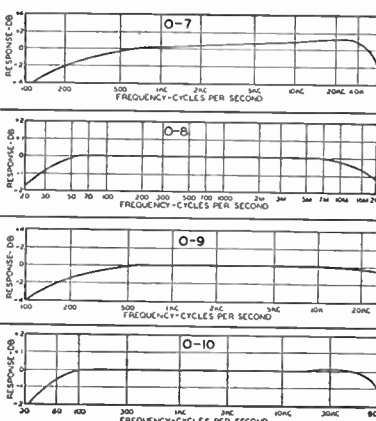
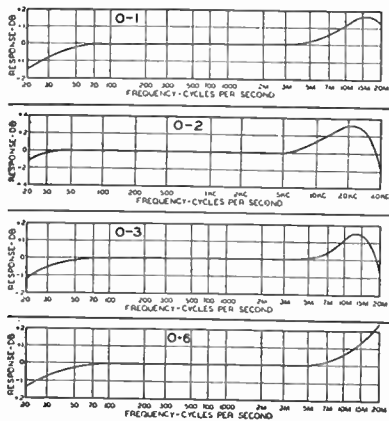


**OUNCER CASE**

**PLUG-IN CASE**

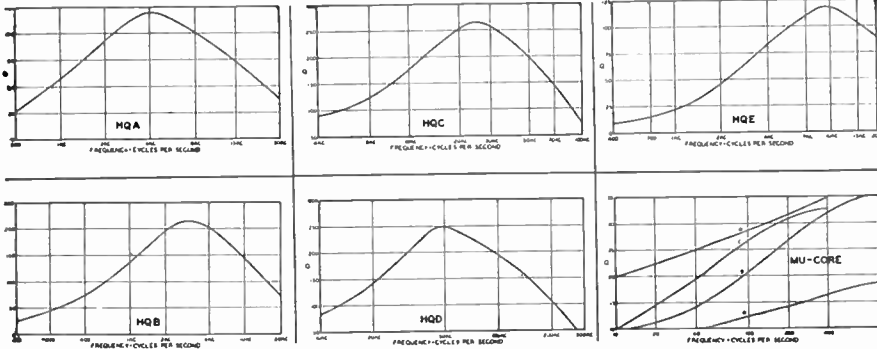
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 Ht. ....  $1\frac{1}{16}$ "  
 Mtg. ....  $\frac{1}{16}$ "  
 Scr. .... 2-56  
 Wt. .... 1 oz.

Dia. ....  $1\frac{1}{2}$ "  
 Ht. ....  $1\frac{11}{32}$ "  
 Skt. .... St. Oct.  
 Wt. .... 2 oz.





# HIGH Q TOROID INDUCTORS



HQA, HQC, HQD CASE

Diameter	.....	1 1/16"
Height	.....	1 3/16"
Mounting	.....	1 1/8"
Screws	.....	6-32
Cutout	.....	3/16" x 1 1/8"
Weight	.....	5 oz.



HQB CASE

Length	.....	2 5/8"
Width	.....	1 5/8"
Height	.....	2 5/8"
Mounting	.....	1 1/4" x 2 1/4"
Screws	.....	6-32
Cutout	.....	3/16" x 1 1/8"
Unit Weight	.....	14 oz.



HQE CASE

Length	.....	1 5/16"
Width	.....	1/2"
Height	.....	1 3/16"
Mounting	.....	1 3/16"
Screws	.....	6/32"
Cutout	.....	3/16" x 3/8"
Unit Weight	.....	1.5 oz.



UNCASED HIGH Q TOROIDS

There are many applications in the audio, carrier, and super-sonic fields requiring inductors of high Q and great stability. The HQ series of permalloy dust toroid units developed for these applications have remarkable characteristics.

HQA coils have maximum Q (100) at approximately 5,000 cycles. HQB coils have maximum Q (200) at approximately 4,000 cycles. HQC coils have maximum Q (200) at approximately 30 Kc. HQD coils have maximum Q (200) at approximately 60 Kc. The stability is excellent and types are available for all high Q applications from 300 cycles to 300 Kc.

Stability is excellent. For the HQA-7 coil illustrated inductance change is less than 1% for applied voltages from .1 to 25 volts. For the HQB-5 coil illustrated the inductance change is less than 1% for applied voltage from .1 to 50 volts. DC is permissible through the coil. Inductance is virtually independent of frequency, temperature, and vibration.

Hum pickup is extremely low due to the toroidal winding structure . . . 70 microvolts per gauss for the HQA, 140 microvolts per gauss for the HQB. The cased toroid structure permits close spacing of units, effecting a coupling attenuation of approximately 80 DB.

All HQ coils are hermetically sealed. Units are laboratory adjusted to 1% tolerance.

Uncased HQ Coils in any of the types listed are available from stock. Deduct \$1.50 from cased price.

Other Values of Inductance than those listed available on special order at price of next higher listed value.

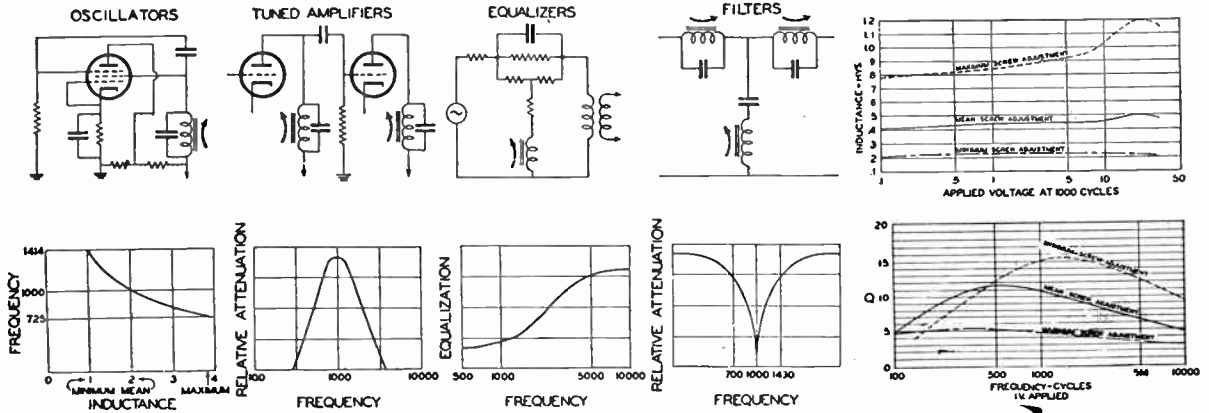
Mu-Core Coils employ special laminated core structures for good stability and low external field. The curves shown indicate approximate Q obtainable at any specific frequency by designing for that frequency.

Type No.	Inductance Value	*DC MA Max.
HQA-1	5 mhy.	400
HQA-2	12.5 mhy.	260
HQA-3	20 mhy.	200
HQA-4	30 mhy.	160
HQA-5	50 mhy.	130
HQA-6	80 mhy.	100
HQA-7	125 mhy.	85
HQA-8	200 mhy.	65
HQA-9	300 mhy.	50
HQA-10	.5 hy.	40
HQA-11	.75 hy.	35
HQA-12	1.25 hy.	26
HQA-13	2. hy.	20
HQA-14	3. hy.	16
HQA-15	5. hy.	13
HQA-16	7.5 hy.	10
HQA-17	10. hy.	9
HQA-18	15. hy.	8
HQB-1	10 mhy.	410
HQB-2	30 mhy.	240
HQB-3	70 mhy.	170
HQB-4	120 mhy.	120
HQB-5	.5 hy.	60
HQB-6	1. hy.	41
HQB-7	2. hy.	30
HQB-8	3.5 hy.	22
HQB-9	7.5 hy.	16
HQB-10	12. hy.	11
HQB-11	18. hy.	9
HQB-12	25. hy.	8
HQC-1	1 mhy.	
HQC-2	2.5 mhy.	
HQC-3	5 mhy.	
HQC-4	10 mhy.	
HQC-5	20 mhy.	
HQD-1	.4 mhy.	
HQD-2	1. mhy.	
HQD-3	2.5 mhy.	
HQD-4	5 mhy.	
HQD-5	15 mhy.	
HQE-1	5 mhy.	
HQE-2	10 mhy.	
HQE-3	50 mhy.	
HQE-4	100 mhy.	
HQE-5	200 mhy.	

\*This value of D.C. will drop the coil inductance 5%. Values of D.C. below this will show proportionately (linear) less inductance drop. For example HQA-8 will drop 1/2% in L with 6.5MA.



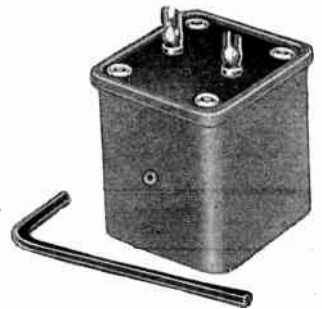
# UTC VARIABLE INDUCTORS



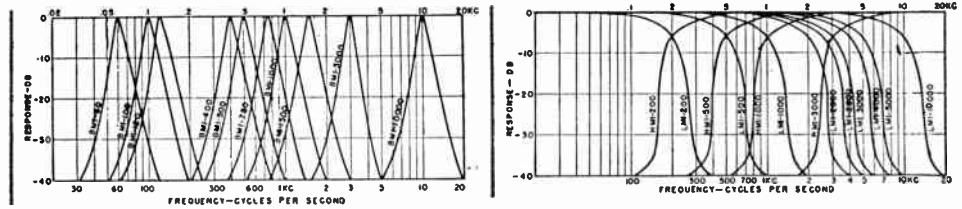
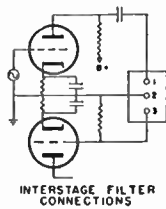
Type	Mean Hys.	Type	Mean Hys.
VI-C1	.0085	VI-C12	1.3
VI-C2	.013	VI-C13	2.2
VI-C3	.021	VI-C14	3.4
VI-C4	.034	VI-C15	5.4
VI-C5	.053	VI-C16	8.5
VI-C6	.084	VI-C17	13.
VI-C7	.13	VI-C18	21.
VI-C8	.21	VI-C19	33.
VI-C9	.34	VI-C20	52.
VI-C10	.54	VI-C21	83.
VI-C11	.85	VI-C22	130.

UTC type VIC variable inductors offer a revolutionary approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of +90%, -50% from mean value is obtainable. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical VIC unit.

The VIC inductor is housed in a rugged die cast case  $1\frac{1}{32}$ " long,  $1\frac{1}{4}$ " wide and  $1\frac{1}{16}$ " high with mounting centers on terminal board side  $1\frac{1}{16}$ " by  $\frac{29}{32}$ ". Weight is 5½ oz.



# UTC INTERSTAGE AND LINE FILTERS



**STOCK FREQUENCIES**  
(Number after letters is frequency)

BMI-60	LMI-200
BMI-100	LMI-500
BMI-120	LMI-1000
BMI-400	LMI-2000
BMI-500	LMI-3000
BMI-750	LMI-5000
BMI-1000	LMI-10000
BMI-1500	BML-400
BMI-3000	BML-1000
BMI-10000	HML-200
HMI-200	HML-500
HMI-500	LML-1000
HMI-1000	LML-2500
HMI-3000	LML-4000
	LML-12000

UTC standardized filters have been designed to take care of many present day filter requirements through stock units. The interstage type filters have a nominal impedance of 10,000 ohms, and lend themselves to effecting gain simultaneously with their frequency discrimination.

BMI units (Band Pass) have 2:1 gain. They are sharply peaked, having approximately 2 DB attenuation at plus or minus 3% from center frequency and attenuation of 40 DB per octave as shown.

HMI units (High Pass) have a loss of less than 6 DB at cutoff frequency.

LMI units (Low Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at 1.5 cutoff frequency.

BML (Band Pass), HML (High Pass), and LML (Low Pass) filters are similar to the interstage filters, in all characteristics, except that they are intended for an input and output impedance of 500/600 ohms.

All of the standard filters are housed in hermetically sealed cases, shielded to reduce hum pickup to 150 MV per gauss at 60 cycles.

In addition to the stock filters listed, any of the six types are available as special units for any frequency from 200 to 10,000 cycles. Order by type followed by frequency, as LMI-2500, designating low pass interstage filter—2500 cycles cutoff frequency. These special units are priced at \$35.00 net.



**FILTER CASE M**

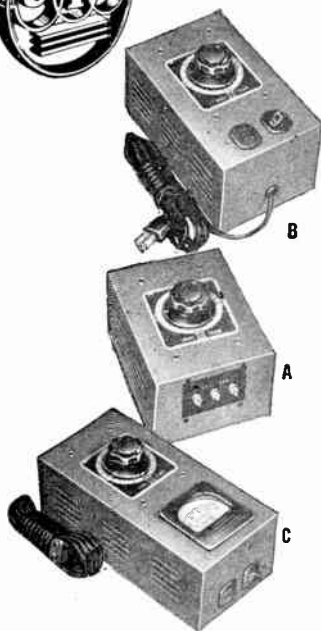
Base	.....	$1\frac{3}{16}$ " x $1\frac{1}{16}$ "
Mtg.	.....	$\frac{3}{4}$ " x $1\frac{1}{4}$ "
Mtg. Screws	.....	6-32
Cutout	.....	$\frac{7}{8}$ " dia.
Height, BMI, LMI, BML	.....	1½"
Height, HMI, HML, LML	.....	2½"
Weight	.....	6 oz. and 9 oz.



## UTC VARITRAN CONTROL UNITS

For controlling: Rectifier output . . . motors . . . heaters . . . lights . . . line voltage

The UTC Varitran is a simple autotransformer whose turns are arranged on one layer with the insulation removed so that every exposed turn may be used as a tap of the winding. A special non-fusing contact can be moved to any position on the winding, permitting the exact voltage desired to be obtained. The regulation and efficiency are excellent and no distortion of wave form occurs. The output voltage is independent of load. In addition to its many laboratory uses, the Varitran is widely employed for controlling electric ovens, fans, soldering irons, furnaces and heaters, for photographic and enlarging lighting control, for life tests of lamps and for dimming illumination.



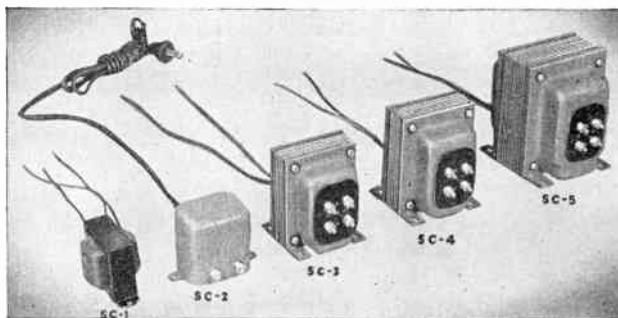
### VARITRAN RATINGS

Standard Varitrans are designed for 115 or 230 volt service. The respective output voltages are 0-130 and 0-260 volts. The Varitran autotransformer current and wattage rating is based at 115 volts (115V. models). As the voltage is reduced, the wattage output is reduced correspondingly. The maximum current can be taken at any point from 0 to 20 volts and from 95 to 130 volts. Between 20 and 95 volts the current capacity tapers off from the two ends to approximately 60% of the rated maximum current at the 65 volt point. The mounting facilities are at both top and bottom of each unit to assure ease of mounting on panel, chassis or for laboratory bench service.

Type	Input Voltage	Output Voltage	Watts	Max. Amps.	Figure	Approx. Dimensions	Weight
V-0	115 volts	0-130	230	2	A	4¼ x 6½ x 4½	10
V-0-B	230 volts	0-260	230	1	A	4¼ x 6½ x 4½	11
V-1	115 volts	0-130	570	5	B	4¾ x 8 x 3¾	12
V-1-M	115 volts	0-130	570	5	C	4¾ x 9¾ x 3¾	14
V-2	115 volts	0-130	570	5	A	4¾ x 7½ x 3¾	13
V-2-B	230 volts	0-260	570	2.5	A	4¾ x 7½ x 3¾	16
V-3	115 volts	0-130	850	7.5	A	4¾ x 7½ x 3¾	16
V-3-B	230 volts	0-260	850	3.75	A	5½ x 7½ x 5½	20
V-4	115 volts	0-130	1250	11	A	6¼ x 10¾ x 5	34

## UTC SIGNALLING AND CONTROL TRANSFORMERS

TYPE	SECONDARY VOLTS	WATTS	OVERALL DIMENSIONS	WEIGHT LBS.
SC-1	6.1	20	1¾x3¼x2	1½
SC-2	6.1	20	2½x3¼x2¼	1½
SC-3	4, 8, 12, 16, 20, 24	50	3 x3¾x3½	4
SC-4	4, 8, 12, 16, 20, 24	100	3¼x4½x4	5½
SC-5	4, 8, 12, 16, 20, 24	250	4 x5 x4¾	10½



## UTC MICROPHONE CABLE TRANSFORMERS

UTC cable transformers are designed to be inserted in the cable circuit, and are ruggedly constructed to withstand mechanical abuse. The cable connections (supplied less cable) are made through spring strain relief to terminal boards inside the end caps. 1½" diameter . . . 2½" long . . . ½ lb.

**Type MC-1**—primary tapped 30/50 and 200/250 ohms, secondary to grid, standard fidelity.

**Type MC-2**—primary tapped 30/50 and 200/250 ohms, secondary to grid, high fidelity.

**UTC Telephone type MIKE/HIGH IMPEDANCE ADAPTOR** is designed to match low impedance sources to an amplifier having high impedance input. Will match any source from 50 to 600 ohms, effecting a 15:1 step up ratio (225:1 impedance ratio). The plug on MA-1 goes into jack on amplifier . . . the plug from mike goes into jack on MA-1. Flat 40-10,000 cycles. Rugged die casting ¾x1½x2¼.

**Type MA-1**—primary 50 to 500 ohms . . . 15:1 ratio . . . jack input . . . plug output.

**UTC Amplifier type mike/high impedance adaptor** is identical to MA-1 in electrical characteristics. The high impedance side employs a connector similar to Amphenol 75-MC1F. This single conductor connector screws unit on to corresponding male plug connector usually found on amplifiers. The low impedance side employs a connector similar to Amphenol 91-MC3M . . . the usual 3 contact recessed male connector to which standard quality microphone plugs will mate.

**Type MB-1**—Primary 50 to 500 ohms . . . 15:1 ratio.



UTC MICROPHONE  
CABLE TRANSFORMERS



UTC Telephone type MIKE/HIGH IMPEDANCE  
ADAPTOR



UTC AMPLIFIER TYPE MIKE/HIGH  
IMPEDANCE ADAPTOR

# HERMETICALLY SEALED COMPONENTS



For over fifteen years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to latest military specifications, which are now catalogued as UTC stock items.

Terminals on items H-20 through H-24 are neoprene-ceramic assemblies. All other units employ glass bead headers. Items H-1 through H-11 can, however, be supplied with neoprene-ceramic terminals where required. To so order, specify the type number followed by NC (H-1 NC, etc.).

The frequency response ratings are based on military requirements. Actually, most of the units that do not carry DC are appreciably better in response than the range shown.

The level ratings are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible.

The impedance ratings are listed in standard manner. Obviously, a transformer with a 15,000 ohm primary impedance can operate from a tube representing a source impedance of 7700 ohms, etc. In addition, transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings. . . higher source impedance will reduce frequency range and level rating.

## MINIATURE AUDIO UNITS . . . RCOF CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	DC in Pri., MA	Response $\pm$ 2db. (Cyc.)	Max. level dbm
H-1	Mike, pickup, line to grid	TF1A10YY	50,200 CT, 500 CT*	50,000	0	50-10,000	+ 5
H-2	Mike to grid	TF1A11YY	82	135,000	.50	250-8,000	+21
H-3	Single plate to single grid	TF1A15YY	15,000	60,000	0	50-10,000	+ 6
H-4	Single plate to single grid, DC in Pri.	TF1A15YY	15,000	60,000	4	200-10,000	+14
H-5	Single plate to P.P. grids	TF1A15YY	15,000	95,000 CT	0	50-10,000	+ 5
H-6	Single plate to P.P. grids, DC in Pri.	TF1A15YY	15,000	95,000 split	4	200-10,000	+11
H-7	Single or P.P. plates to line	TF1A13YY	20,000 CT	150/600	4	200-10,000	+21
H-8	Mixing and matching	TF1A16YY	150/600	600 CT	0	50-10,000	+ 8
H-9	82/41:1 input to grid	TF1A10YY	150/600	1 meg.	0	200-3,000 (4db.)	+10
H-10	10:1 single plate to single grid	TF1A15YY	10,000	1 meg.	0	200-3,000 (4db.)	+10
H-11	Reactor	TF1A20YY	300 Henries-0 DC, 50 Henries-3 Ma. DC, 6,000 Ohms.				



RCOF CASE

Length ..... 1 25/64  
 Width ..... 61/64  
 Height ..... 1 13/32  
 Mounting ..... 1 1/8  
 Screws ..... 4-40 FIL  
 Cutout ..... 7/8  
 Unit Weight ..... 1.5 oz.

## COMPACT AUDIO UNITS . . . RC-50 CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	DC in Pri., MA	Response $\pm$ 2db. (Cyc.)	Max. level dbm
H-20	Single plate to 2 grids, can also be used for P.P. plates	TF1A15YY	15,000 split	80,000 split	0	30-20,000	+12
H-21	Single plate to P.P. grids, DC in Pri.	TF1A15YY	15,000	80,000 split	8	100-20,000	+23
H-22	Single plate to multiple line	TF1A13YY	15,000	50/200, 125/500**	8	50-20,000	+23
H-23	P.P. plates to multiple line	TF1A13YY	30,000 split	50/200, 125/500**	0	30-20,000	+19
H-24	Reactor	TF1A20YY	450 Hys.-0 DC, 250 Hys.-5 Ma. DC, 6000 ohms . . . 65 Hys.-10 Ma. DC, 1500 ohms.				



RC-50 CASE

Length ..... 1 5/8  
 Width ..... 1 5/8  
 Height ..... 2 1/4  
 Mounting ..... 1 5/16  
 Screws ..... #6-32  
 Cutout ..... 1 1/2  
 Unit Weight ..... 8 oz

## SUBMINIATURE AUDIO UNITS . . . SM CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	DC in Pri., MA	Response $\pm$ 2db. (Cyc.)	Max. level dbm
H-30	Input to grid	TF1A10YY	50***	62,500	0	150-10,000	+13
H-31	Single plate to single grid, 3:1	TF1A15YY	10,000	90,000	0	300-10,000	+13
H-32	Single plate to line	TF1A13YY	10,000****	200	3	300-10,000	+13
H-33	Single plate to low impedance	TF1A13YY	30,000	50	1	300-10,000	+15
H-34	Single plate to low impedance	TF1A13YY	100,000	60	.5	300-10,000	+ 6
H-35	Reactor	TF1A20YY	100 Henries-0 DC, 50 Henries-1 Ma. DC, 4,400 ohms.				



SM CASE

Length ..... 11/16  
 Width ..... 1/2  
 Height ..... 29/32  
 Screw ..... 4-40 FIL  
 Unit Weight ..... 80 oz.

\* 200 ohm termination can be used for 150 ohms or 250 ohms, 500 ohm termination can be used for 600 ohms

\*\* 200 ohm termination can be used for 150 ohms or 250 ohms, 125/500 ohm termination can be used for 150/600 ohms.

\*\*\* can be used with higher source impedances, with corresponding reduction in frequency range With 200 ohm source, secondary impedance becomes 250,000 ohms . . . loaded response is -4 db. at 300 cycles.

\*\*\*\* can be used for 500 ohm load . . . 25,000 ohm primary impedance . . . 1.5 Ma. DC.





# COMMERCIAL GRADE COMPONENTS

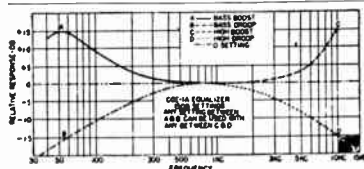
The commercial grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service operation in industrial and commercial grade communication equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coil structures. Type numbers are identical with the PA units except for the prefix "CG."

CG-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear.  $\pm 1\frac{1}{2}$  DB from 40 to 10,000 cycles (no unbalanced D.C.), except CVL and CVM units . . . 40 to 6000 cycles. Parallel feed low level interstage units with 50,000 ohms and .25 mfd. 200 ohm windings on input transformers are balanced and may be used for 150 to 250 ohm circuits.



## INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	Case No.
CG-131	1 plate to 1 grid	15,000	135,000 3:1 ratio	RC-50
CG-132	1 plate to 2 grids	15,000	135,000 centertapped 3:1 ratio overall	RC-62
CG-133	2 plates to 2 grids	30,000 P to P	80,000 overall 1.6:1 ratio overall	RC-75
CG-134	Line to 1 grid hum-bucking	50, 200, 500	80,000	RC-50
CG-135	Line to 2 grids hum-bucking	50, 200, 500	120,000 overall	RC-50
CG-235	Line to 1 or 2 grids, hum-bucking; multiple alloy shielded for low hum pickup	50, 200, 500 ohms	80,000 overall	RC-75
CG-136	Single plate and low impedance mike or line to 1 or 2 grids hum-bucking	15,000, 50, 200	80,000 overall	RC-62
CG-233	PP 6C5, 12AU7, similar triodes to AB 45's, 2A3's, 6L6's, etc.	30,000 P to P	25,000 overall .9:1 ratio overall	RC-87
CG-333	PP 6C5, 12AU7, similar triodes to fixed bias 6L6's	30,000 P to P	5,000 overall .4:1 ratio overall	RC-87
CG-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000 P to P	1,250 overall .5:1 ratio overall	RC-100
CG-137	Mixing	50, 200, 500	50, 200, 500	RC-50
CG-140	Triode plate to line	15,000	50, 200, 500	RC-50
CG-141	PP triode plates to line	30,000 P to P	50, 200, 500	RC-50



### NEW UNIVERSAL INTERSTAGE EQUALIZER—CGE-1A

The UTC CGE-1A is the ideal device for any application where frequency response control is desired. Incorporating the latest developments in design and manufacture, this new unit provides the ultimate in control and flexibility. This equalizer is not a simple R-C tone control, but employs resonant circuits in a unique arrangement providing equalization characteristics unobtainable by conventional circuits. Designed to work from a low or medium impedance source (0 to 20,000 ohms) to a high impedance (500,000 ohms or open grid), the CGE-1A affords continuously variable equalization over a 30 DB range at either end of the spectrum, while introducing only 18 DB total insertion loss. (See curve above). Complete independence of high frequency and low frequency controls permits a wide variety of settings without affecting the over-all volume level. Because of its low insertion loss, this unit may be incorporated directly in many amplifiers. If existent gain is low, a single medium-mu triode stage will provide both proper gain and source impedance. (See circuit on centerfold, page C.) The mechanical construction permits mounting with case on panel directly behind controls, or with case separated from controls and panel. An etched, calibrated panel is provided.

CGE-1A Panel Dim. 2 $\frac{3}{8}$ " x 3 $\frac{1}{2}$ ". Wt. 2 Lbs.

### DYNAMIC NOISE SUPPRESSION INDUCTOR

Incorporates two accurate High Q coils [.8 hy. and 2.4 hy.] for use in dynamic noise suppression circuits. Excellent circuit accompanies unit.

Type CG-50 RC-62 Case

## COMMERCIAL GRADE CASE

Case No.	Base Dim. (Sq.)	Mounting Dim. (Sq.)	Height	Cutout Dia.	Unit Weight (Lbs.)
RC-50	1 $\frac{1}{2}$ "	1-5/16	2 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	$\frac{1}{2}$
RC-62	1-13/16	1 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1
RC-75	2-3/16	1-13/16	2 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{1}{2}$
RC-87	2-9/16	2-3/32	3 $\frac{1}{4}$ "	2"	2 $\frac{1}{2}$
RC-100	3"	2 $\frac{3}{8}$ "	3 $\frac{3}{4}$ "	2 $\frac{3}{8}$ "	3 $\frac{1}{2}$
RC-112	3-7/16	2-11/16	4 $\frac{1}{4}$ "	2 $\frac{3}{8}$ "	5
RC-125	3 $\frac{3}{4}$ "	3"	4 $\frac{1}{2}$ "	3"	6 $\frac{1}{2}$
RC-150	4 $\frac{1}{2}$ "	3-9/16	5 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "	11
RC-152	5 $\frac{1}{4}$ "	4 $\frac{1}{8}$ "	5 $\frac{1}{2}$ "	4"	15 $\frac{1}{2}$
RC-175	5 $\frac{3}{4}$ "	4 $\frac{7}{8}$ "	7 $\frac{1}{4}$ "	4"	22

## OUTPUT TRANSFORMERS

Secondary Impedances: 500, 200, 16, 8, 5, 3, 1.5 ohms

Type No.	Imped. P.P. Ohms, Overall	Typical Tubes	Max. Watts	Case No.
CG-15	8,000	45, 6F6 triode, 6V6	20	RC-100
CG-16	3,000/5,000	2A3, 6A3, 6B4, 6AS7G, 6L6	20	RC-100
CG-19	6,000/10,000	6N7, 6F6, 6V6	20	RC-100
CG-710	14,000/20,000	6K6, 7B5	20	RC-100
CG-2L6	9,000	6L6's, AB1	30	RC-125
CG-4L6	3,800/4,500	2-6L6's, AB2 or 4-6L6's AB1	55	RC-150

## CG VARIMATCH OUTPUTS FOR P. A.

Universal units designed to match any tubes within the rated output power, to line or voice coil. Output impedance 500, 200, 50, 16, 8, 5, 3, 1.5 ohms. Primary impedance 3000, 5000, 6000, 7000, 8000, 10,000, 14,000 ohms.

Type No.	Audio Watts	Typical Tubes	Case No.
CVP-1	12	45, 2A3, 6F6, 25L6, 6V6, 6B4	RC-100
CVP-2	30	45, 2A3, 6L6, 6V6	RC-125
CVP-3	60	50's, 300A's, 6L6's, 801, 807, 1614	RC-150
CVP-4	125	800's, 801's, 807's, 4-6L6's, 845's, 4-1614's	RC-152
CVP-5	300	211, 242A's, 203A's, 838's, 4-845's, 2B-120's	RC-175

## CG VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained, as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Where speakers are to be connected in groups to one transformer, it is preferable that parallel connection be used to eliminate the possibility of multiple resonance. If two speakers of different impedances are connected in parallel, the lower impedance speaker will develop greater power. If connected in series, the higher impedance speaker will develop greater power.

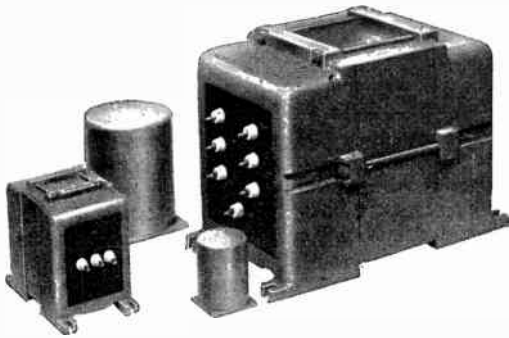
Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.
CVL-1	15	500 ohms	.2 to 75 ohms	RC-87
CVL-2	40	500 ohms	.2 to 75 ohms	RC-125
CVL-3	75	500 ohms	.2 to 75 ohms	RC-150

## CG VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformer will match one to ten 500 ohm lines or CVL windings to the 500 ohm output of an audio amplifier. The CVL-10 to 12 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50 ohms.

Type No.	Audio Watts	Case No.
CVL-10	15	RC-87
CVL-11	30	RC-125
CVL-12	60	RC-150

# COMMERCIAL GRADE COMPONENTS



## CG VARIMATCH MODULATION UNITS

Will match any modulator tubes to any RF load. The ever increasing number of vacuum tubes available for audio and RF applications has increased the difficulty of obtaining transformers suitable for matching to the various correct tube loads. If a standard transformer having a limited impedance range is purchased and used for a specific purpose as the "nearest thing" available, comparatively high distortion is inevitable. While a 20% mismatch caused by such an occurrence does not represent a serious loss in power, it greatly reduces the undistorted power available from a class B modulator because optimum plate load is not reflected to the tubes. The UTC Varimatch transformer eliminates this difficulty through the use of a combination of tapped windings affording an extremely wide range in impedance matching. Designs provide that for any load impedance employed, full class C plate current can be carried by secondary winding.

Primary impedances from 500 to 20,000 ohms  
Secondary impedances from 30,000 to 300 ohms

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case No.
CVM-0	12	25	2A3, 6B5	RC-100
CVM-1	30	60	6V6, 2A3, 6L6, 210	RC-125
CVM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	RC-150
CVM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	RC-152
CVM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	RC-175
CVM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	7x12x9H 60 lbs.

## CG VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.
CG-51AX	All single tubes like: 6C5, 6C4, 12AU7, 45, 2A3	2A3, 45, 6L6	RC-87
CG-53AX	P. P. tube like: 45, 2A3, 6L6, 6B4	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	RC-112
CG-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	RC-112
CG-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	RC-150
CG-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	RC-150

## VARIPOWER AUTO-FORMERS

Type No.	Watts Output	Case No.
CVA-1	150	RC-112
CVA-2	250	RC-125
CVA-3	500	RC-150
CVA-4	1000	RC-152
CVA-5	2000	RC-175

Designed for line voltage control, filament control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the tube socket to within 2 1/2% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

## POWER AND BIAS TRANSFORMERS

Type No.	High Voltage	Primary 115 volts 50/60 cycles				Case No.	
		DC MA.	Fil. 1	Fil. 2	Fil. 3		
CG-422	435-365-0-365-435 125-0-125	125	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	RC-150
CG-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152
CG-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3A	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152
CG-431	500-400-0-400-500 80-0-80	500 100	5V-6A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	RC-175
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6% - 250 MA						RC-125
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6% - 250 MA						RC-152

UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. The Special units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current of the class C stage for any of the impedances available and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases

## CG PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power, secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts. Secondary voltage is simultaneously halved.

Type No.	High Voltage	DC Voltage	DC MA	Case No.
CG-300	625-515-0-515-625	500/400	200	RC-150
CG-301	580-530-300-0-300-530-580	475/425/250	420	RC-152
CG-302	950-750-0-750-950	760/610	360	RC-175
CG-303	1500-1235-400-0-400-1235-1500	1250/1000 300	260* 175	RC-175

\* 300MA, if used without load on low voltage winding.

## TYPE EC CASE UNITS

Type No.	High Voltage	DC Voltage	DC MA	L	W	H	Wt. Lbs.
CG-304	1500-1235-0-1235-1500	1250/1000	800	15	8 1/2	10 3/8	100
CG-305	2400-1750-0-1750-2400	2000/1500	300	10 1/2	4 3/4	6 7/8	50
CG-306	2400-1750-0-1750-2400	2000/1500	500	15	8 1/2	10 3/8	100
CG-307	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	300	14 1/2	8 1/2	10 3/8	90
CG-308	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	500	16 1/2	8 1/2	10 3/8	125
CG-309	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	1000	21	10	13 1/4	185
CG-310	4600-4050-3500-0-3500-4050-4600	4000/3500 3000	600	19	10	13 1/4	150
CG-311	1500-1235-0-1235-1500	1250/1000	500	10 1/2	4 3/4	6 7/8	50
CG-312	1800-1500-0-1500-1800	1500/1250	400	10 1/2	4 3/4	6 7/8	50

## FILTER CHOKES INDUCTANCE SHOWN IS AT RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-40	10	200	110	1750	RC-112
CG-41	4-20	200	110	1750	RC-112
CG-44	30	100	400	1750	RC-100
CG-45	250	15	5000	1750	RC-87
CG-48C	75	50	2200	1750	RC-87
CG-100	12	150	110	2500	RC-125
CG-102	12	250	100	3000	RC-150
CG-104	10	350	90	5000	RC-152
CG-108	10	500	52	7000	RC-175
CG-15	10	1000	40	9000	1 1/2 x 4 3/4 x 6 1/2 H, 60 lb.

## SWINGING INPUT CHOKES INDUCTANCE SHOWN IS FROM 100% TO 10% OF RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-101	5-25	150	110	2500	RC-125
CG-103	5-25	250	100	3000	RC-150
CG-105	5-25	350	90	5000	RC-152
CG-109	5-25	500	52	7000	RC-175
CG-16	5-25	1000	40	9000	1 1/2 x 4 3/4 x 6 1/2 H, 60 lb

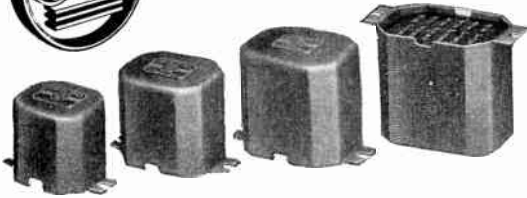
## FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half. \* Two Windings.

Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.
CG-33	6.3	4	500	2000	RC-75
CG-34	2 1/2	10	2500	6000	RC-112
CG-120	2 1/2	10	5000	11000	RC-125
CG-121	5	25	5000	11000	RC-150
CG-122	7.5/6.3	10	1500	4000	RC-125
CG-124	10	10	1500	4000	RC-150
CG-125	14/12/11	10	1500	4000	RC-150
CG-126	*14/11/10 14/11/10	10 10	1500 10	4000	RC-152

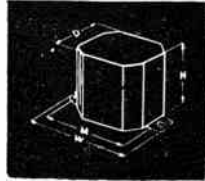


# SPECIAL SERIES AUDIO TRANSFORMERS



## CASE SIZES

Type No.	H	W	D	M	Wt. Lbs.
G-1	1 7/8	2-13/16	1 3/4	2 3/8	1
G-2	2-5/16	3 3/8	1-15/16	2 7/8	1 1/2
G-3	2 1/2	3 3/4	2-5/32	3 1/4	2
G-4	2-15/16	4 1/8	2-5/16	3 3/8	3



## CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case
S-1	1 plate* to 1 grid	3 1/2:1	G-2
S-2	1 plate* to 2 grids	4:1	G-2
S-3	1 plate* to 1 or 2 grids compact type	2:1	G-1
S-4	1 plate* to 2 grids wide range response	1:1	G-3
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2

\* Will match tubes like 6J5, 6C4, 12AU7, etc. Can be used with high mu triodes with loss in low frequencies.

## UNIVERSAL DRIVER TRANSFORMERS

(See Modulator chart for tube types)

Type No.	Application	Case
S-8	Single driver plate to pushpull grids	G-3
S-9	Pushpull driver plates to grids of class B tubes up to 400 watts output	G-4
S-10	Pushpull 56, 6C6 triode, 6C5, or similar plates to 45's, 2A3's or 6L6's, self or fixed bias	G-3

## MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case
S-11	Single 6J5, 6C4, 12AU7 or similar tube to line	15,000	200/500	G-2
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4

## UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

(Secondary impedances: 500, 15, 8, 2 ohms)

Type No. Max. Watts	Primary Impedance	Typical Tubes	Class	Case
<b>Single Tubes:</b>				
	2500 ohms	2A3, 6A3, 6A5, 6B4, 6L6, 6Y6, 25L6, 35L6	A	G-2
S-14 10 W.	4000 ohms 7000 ohms	45, 6V6, 12A6 42, 47, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A A	
	10,000 ohms	37, 38, 41, 1G5, 3C5, 6A4, 6N7	A	
<b>P. P. Tubes:</b>				
	4000 ohms	6Y6, 25L6	AB	G-2
S-15 12 W.	5000 ohms 10,000 ohms	45, 2A3, 6A3, 6A5, 6B4, 6AS7 1H4, 6AC5G, 6B5, 19, 6A6, 6N6, 6N7, 6Y7	AB AB AB B	
S-16 30-W.	3000 ohms 6000 ohms	45, 2A3, 6A3, 6A5, 6B4, 25L6 2A5, 6F6 triodes, 6AS7, 46, 6A6, 6N7	AB AB B	G-4
	9000/10000 ohms	45, 2A5, 6AC5, 6B5, 6F6, 6L6, 6V6, 807-triode	AB	
S-17 55 W.	3800 ohms 4500/5000 ohms	6L6's 4-6L6's 46, 1608, 809	AB2 AB1 B	G-5

## UNIVERSAL MODULATION TRANSFORMERS

Secondary carries class C current  
Any modulator tubes to any RF load. (See chart)

Type No.	Audio Power	Case
S-18	12 watts	G-3
S-19	30 watts	G-4
S-20	55 watts	G-5
S-21	110 watts	G-7
S-22	250 watts	G-9

UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. The Special units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current of the class C stage for any of the impedances available and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated-compound filled.

## TYPICAL MODULATOR COMBINATIONS

S-18-12 WATTS MAX.

DRIVER TUBES: In the combinations shown below, typical suitable driver tubes are: 6C5, 6E6, 6N7, 6J5, 6C4, 12AU7, 6P5, 6J7-TR, 6S17-TR.

DRIVER Transf.	Sec. Term.	P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
S-2	G-G	6E6	1.6	14,000	250	27
S-8	G-G	19, 1J6G	2.1	10,000	135	0
S-8	G-G	49	3.5	12,000	180	0
S-2	G-G	25L6	4	4,000	110	7.5
S-8	G'-G'	6Z7G	4.2	12,000	180	0
S-2	G-G	6Y6G	7	4,000	135	13.5
S-8	G-G	6Y7G	8	14,000	250	0
S-8	G'-G'	6AC5G	8	10,000	250	0
S-8	G'-G'	6A6, 6N6, 6N7	10	10,000	300	0
S-2	G-G	2A3, 6A3, 6A5G, 6B4G	10	5,000	325	750 ohms
S-8	G-G	45	10	5,000	275	770 ohms
S-2	G-G	6AS7G	10	5,000	250	1,250 ohms

S-1	F-G	Pri. Load
		43, 45, 71A, 25A6, 25A7
		46, 6V6
		42, 46, 47, 49, 2A5, 6F6, 6B5
		10, 41, 32, 6G6, 6K6
		38, 12A7
		4,000 ohms
		6,000 ohms
		7,000 ohms
		10,000 ohms
		14,000 ohms

S-19-30 WATTS MAX.

(6J5, 6C4, 12AU7, etc. may be substituted for 6C5 tubes)

Tube or Tubes	DRIVER Transf.	Sec. Terms.	MODULATOR STAGE P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
6C5	S-10	G-G	6V6	13	8,000	300	20
6C5	S-10	G-G	2A3, 6A3, 45, 6A5G, 6B4G	15	3,000	325	68
6C5	S-10	G-G	2A5, 6F6 Pentode AB	10	10,000	375	340 ohms
2A5	S-8	G-G	2A5, 6F6, triode AB	18	6,000	350	38
89	S-8	G'-G'	6A6, 6N6, 6N7	19	5,000	300	0
45	S-8	G-G	10, 1602	25	8,000	425	50
45	S-8	G'-G'	46	25	6,000	425	0
45	S-8	G'-G'	841	28	7,000	425	5
6C5	S-10	G-G	6L6 self bias	30	9,000	400	23

S-20-55 WATTS MAX.

P.P. Tubes	DRIVER Transf.	Sec. Terms.	P.P. Tubes	Watts O'p't	MODULATOR STAGE P.P. Load	Plate Volts	Plate Tr'sf.	Bias Volts	Bias Tr'sf.
2A3	S-9	1-1	801	45	10000	600	S-45	75	S-51
2A3	S-9	3-3	1608	50	5000	425	S-44	15	S-51
2A3	S-9	1-1	7-20	50	8000	600	S-45	30	S-51
Single 45	S-8	G'-G'	4-46, 59	56	3000	425	S-44	0	
6C5	S-10	G-G	6L6, AB2	60	3800	400	S-39	25	S-51
6C5	S-10	G-G	4-6L6	60	4500	400	S-40	23	
2A3	S-9	3-3	809	60	5000	500	S-41	0	

# SPECIAL SERIES POWER EQUIPMENT



UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for ICAS intermittent use. For commercial application, GG or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Stand by service should not be obtained by interrupting high voltage center tap.

## S-21—115 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	P.P. Tubes	Watts Output	MODULATOR P.P. Load	STAGE Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
2-2	TZ-20	70	12000	800	S-46	0	
1-1	T-20	70	12000	800	S-46	40	S-51
*	845	75	4600	1000	S-47	175	S-52
1-1	807	80	6600	600	S-45	30	S-51
1-1	800, RK-30	100	12000	1000	S-47	55	S-51
3-3	809	100	8400	750	S-45	5	S-51
2-2	825	100	6600	850	S-46	30	S-51
2-2	TZ-40	100	6000	750	S-45	0	
2-2	T-756	100	7000	850	S-46	30	S-51
1-1	50-T	100	8000	1000	S-47	90	S-51
2-2	RK-18	100	12000	1000	S-47	50	S-51
1-1	HK-354	100	15000	1000	S-47	60	S-51
*	845	105	8800	1250	S-47	225	S-52
3-3	RK-31	110	14000	1000	S-47	0	
1-1	4-6L6	110	2000	400	S-44	25	S-51
2-2	35-T	115	11000	1000	S-47	30	S-51

\* Reverse S-9 transformer using terminals 1-1 for plates and P.P. for grids.

## S-22—250 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	P.P. Tubes	Watts Output	MODULATOR P.P. Load	STAGE Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
3-3	RK-31	140	17000	1250	S-47	0	
*	50 T	250	20000	2000	S-50	180	S-52
*	50 T	160	17000	1500	S-49	140	S-52
2-2	TZ-40	175	6800	1000	S-47	0	
1-1	T-55	175	6900	1000	S-47	40	S-51
1-1	T-55	225	9400	1250	S-47	50	S-51
2-2	HF-100	250	12000	1500	S-49	52	S-51
2-2	100 TH	250	7200	1250	S-47	0	
5	100 TL	230	7200	1250	S-47	112	S-52
2-2	ZB-120	150	4800	750	S-45	0	
2-2	ZB-120	245	9000	1250	S-47	0	
*	HK-154	225	11400	1250	S-47	210	S-52
1-1	203 A	250	9000	1250	S-47	45	S-51
3-3	203 Z	200	6900	1000	S-47	0	
1-1	211	200	6900	1000	S-47	77	S-51
1-1	211	250	9000	1250	S-47	100	S-51
1-1	HK-354	220	15000	1500	S-49	100	S-51
2-2	808	190	12700	1250	S-47	15	S-51
2-2	830 B	175	7600	1000	S-47	35	S-51
2-2	838	250	9000	1250	S-47	0	

\* Reverse S-9, using 2-2 for plates and P-P for grids.

5 Reverse S-9, using 1-1 for plates and P-P for grids.

## FILAMENT TRANSFORMERS

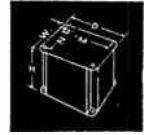
Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.
S-53	2.5 VCT	10 A.	1500 V.	G-3
S-54	5 VCT	4 A.	2500 V.	G-3
S-55	6.3 VCT	3 A.	1500 V.	G-3
S-56	7.5 VCT	3 A.	1500 V.	G-3
S-57	2.5 VCT	10 A.	10,000 V.	G-5
S-58	2.5 VCT	20 A.	10,000 V.	G-5
S-59	5 to 5.25 VCT	13 A.	5000 V.	G-5
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7
S-61	7.5 VCT tapped 6.3 VCT	10 A.	3000 V.	G-5
S-62	10 VCT	10 A.	3000 V.	G-5
S-63	14 VCT tapped 12 Vct and 11 VCT	10 A.	5000 V.	G-7

Type No.	Fil. 1	Fil. 2	Fil. 3	Insulation	Case No.
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3000 V.	G-5
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3000 V.	G-5
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3000 V.	G-5
S-67	5 VCT-6A	6.3 VCT-5A		3000 V.	G-5
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3000 V.	G-5
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3000 V.	G-5
S-70	6.3 VCT-5A	6.3 VCT-5A		3000 V.	G-5
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10000 V.	G-7
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5000 V.	G-5

## CASE SIZES

Type No.	H	W	D	M	N	Wt. Lbs.
G-5	3 3/4	3 1/8	4 1/2	3 3/8	2-7/16	4 1/2
G-7	4 5/8	4 5/8	5 1/2	4-27/32	3-25/32	8
G-8	4 5/8	5 3/8	5 3/8	4-25/32	4 3/4	12
G-9	5 3/8	5 3/8	6 3/8	6-3/32	4-19/32	21
G-10	5 3/8	6 1/8	6 3/8	5-15/16	5-13/32	24
G-11	5 3/8	6 1/2	7 3/8	6-21/32	5-29/32	31
G-12	10 1/4	7 3/8	9 1/4	8 1/2	6 5/8	52



## COMBINED PLATE AND FILAMENT UNITS

Primary 115 V.—50/60 Cycles

Type No.	Voltage	D.C. Voltages*	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.
S-39	490-400-0-400-490 175 Ma.	400/310	5 V.-3A	2.5 V.C.T.-6A	6.3 V.C.T. 4A	G-7
S-40	525-425-0-425-525 250 Ma.	400/310	5 V.-3A	6.3 V.C.T.-3A	6.3 V.C.T. 3A	G-7
S-41	600-0-600 200 Ma.	475	5 V.-3A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 2A	G-7
S-42	600-525-0-525-600 300 Ma.	480/400	5 V.-6A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 3A	G-8
S-43	525-0-525 450 Ma. 40-0-40, 200 Ma.	400	5 V.-3A 5 V.-6A	6.3 V.-3A -2A	6.3 V.C.T. 5A	G-9

\* Based on two section filter, choke input.

## PLATE TRANSFORMERS—BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	DC Voltages*	DC Current	Case No.
S-44	575-525-0-525-575	470/430	500 Ma.	G-9
S-45	900-750-0-750-900	750/620	200 Ma.	G-8
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9
S-74	1175-500-0-500-1175 Duplex rectifier	1000 400	+150 Ma. ±150 Ma.	G-10
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-12
S-51	Will supply any bias voltage from 15 to 100 volts DC within approximately 6% of desired value.		200 Ma.	G-5
S-52	Will supply any bias voltage from 75 to 400 volts DC within approximately 6% of desired value.		200 Ma.	G-7

\* Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.

† 200 Ma. if used alone

‡ 300 Ma. if used alone

## FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Insulation	Case No.
S-23	Audio	450 Hy.	5 Ma.	5000 ohms	1500 V.	G-2
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	400 ohms	1500 V.	G-2
S-25	Filter	30 Hy.	30 Ma.	800 ohms	1500 V.	G-2
S-26	Filter	15 Hy.	60 Ma.	250 ohms	1500 V.	G-2
S-27	Filter	30 Hy.	75 Ma.	350 ohms	1500 V.	G-4
S-28	Filter	20 Hy.	100 Ma.	350 ohms	1500 V.	G-4
S-29	Filter	10 Hy.	175 Ma.	90 ohms	1500 V.	G-4
S-30	Swinging	5 25 Hy.	175 Ma.	90 ohms	1500 V.	G-4
S-31	Filter	20 Hy.	225 Ma.	100 ohms	2700 V.	G-5
S-32	Swinging	5 25 Hy.	225 Ma.	100 ohms	2700 V.	G-5
S-33	Filter	20 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-34	Swinging	5 25 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-35	Filter	20 Hy.	400 Ma.	60 ohms	5000 V.	G-8
S-36	Swinging	5 25 H.	400 Ma.	60 ohms	5000 V.	G-8
S-37	Filter	20 Hy.	550 Ma.	60 ohms	6000 V.	G-8
S-38	Swinging	5 25 Hy.	550 Ma.	60 ohms	6000 V.	G-8

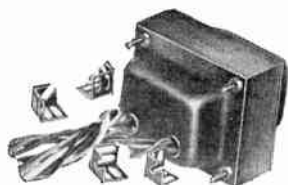


# REPLACEMENT TYPE COMPONENTS

(PREVIOUS POWER TRANSFORMERS TYPE R-1 THRU R-13 AND R-54 WILL BE AVAILABLE UNTIL 1951)

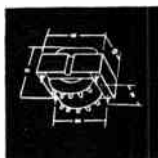
The UTC replacement type transformers represent the culmination of years of development in this field. All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.

The UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore. A minimum number of transformers have been developed to cover any requirement in the replacement field. Pri. 117V. 50/60 cycles.



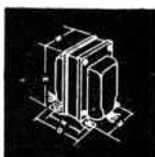
## DOUBLE SHELL TYPE

The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.



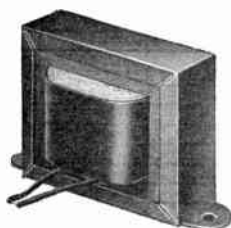
## SINGLE SHELL TYPE

UTC flush type transformers are husky units designed for low temperature rise and good regulation. The rugged solder terminals permit ease of circuit change for the experimenter.



## VERTICAL SHELL TYPE

UTC vertical power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel.



## CHANNEL FRAME TYPE

Channel frame chokes and audios are conservatively designed. Standard black enamel mounting channels are employed. Coils are tropic-sealed by vacuum-pressure method.

## DOUBLE SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rect. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-101	275-0-275	50	5V-2A.	6.3V CT-2.7A	3	2½	2¾	2½	2-1/16	2½
R-102	350-0-350	70	5V-3A.	6.3V CT-3A.	3	2½	3¾	2½	2-1/16	3½
R-103	350-0-350	90	5V-3A.	6.3V CT-3.5A.	3¾	2¾	3¾	2-13/16	2¼	4½
R-104	350-0-350	120	5V-3A.	6.3V CT-5A.	3¾	3¼	3¾	3¼	2½	5½
R-105	385-0-385	160	5V-3A.	6.3V CT-5A.	3¾	3¼	3¾	3¼	2½	7

## SINGLE SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rect. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-106	300-0-300	50	5V-2A.	6.3V CT-2.7A	3	2½	3	2½	2-1/16	2½
R-107	350-0-350	70	5V-3A.	6.3V CT-3A.	3	2½	3¾	2½	2-1/16	3½
R-108	350-0-350	120	5V-3A.	6.3V CT-5A.	3¾	3¼	3¾	3¼	2½	5½
R-109	400-0-400	200	5V-3A.	6.3V CT-6A.	4½	3¾	4	3¾	3	8

## VERTICAL SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rect. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lb.
R-110	300-0-300	50	5V-2A.	6.3V CT-2.7A	2½	2½	3¼	2	1¾	2½
R-111	350-0-350	70	5V-3A.	6.3V CT-3A.	2½	3¼	3¼	2	2¾	3½
R-112	350-0-350	120	5V-3A.	6.3V CT-5A.	3¼	3¾	4	2½	2½	5½
R-113	400-0-400	200	5V-3A.	6.3V CT-6A.	3¾	4¼	4¾	3	3¾	8

## CHANNEL FRAME FILTER CHOKES

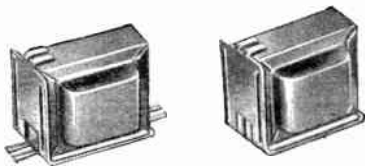
Inductance Shown is at Rated D.C.M.A.—Insulation Test: 1750 Volts

Type No.	Induct. Hys.	Current	Resistance Ohms	Dimensions, Inc.				Lbs.
				W	D	H	M	
R-55	6	40MA	300	2½	1¾	1¾	2	½
R-14	8	40MA	250	2¾	1¾	1-11/16	2¾	¾
R-15	12	30MA	450	2¾	1¾	1-11/16	2¾	¾
R-16	15	30MA	630	2¾	1¾	1-11/16	2¾	¾
R-17	20	40MA	850	3-5/16	1¾	2	2-13/16	1
R-18	8	80MA	250	3-5/16	1¾	2	2-13/16	1
R-19	14	100MA	450	3¾	1¾	2-5/16	3¾	1½
R-20	5	200MA	90	4¾	2	2¾	3-9/16	2½
R-21	3/15	200MA	90	4¾	2	2¾	3-9/16	2½
R-22	120	5MA	4000	3-5/16	1¾	2	2-13/16	1

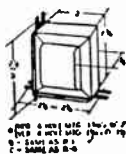
## FILAMENT TRANSFORMERS

CHANNEL FRAME TYPE  
Pri. 115 V. 50/60 Cycles—1500 V. Breakdown

Type No.	Secondary	Dimensions, Inches				Wt. Lbs.
		W	D	H	M	
FT-1	2.5 V.C.T.-3A	2¾	1¾	1-11/16	2¾	¾
FT-2	6.3 V.C.T.-1.2A	2¾	1¾	1-11/16	2¾	¾
FT-3	2.5 V.C.T.-6A	3-5/16	1¾	2	2-13/16	1
FT-4	6.3 V.C.T.-2.5A	3-5/16	1¾	2	2-13/16	1
FT-5	2.5 V.C.T.-10A	3¾	1¾	2-5/16	3¼	1½
FT-6	5 V.C.T.-3A	3¾	1¾	2-5/16	3¼	1½
FT-7	7.5 V.C.T.-3A	3¾	1¾	2-5/16	3¼	1½
FT-8	6.3 V.C.T.-6A	4¾	2¼	2¾	3-9/16	2½
FT-9	2.5V CT-10A. 10000V. Test	4¾	2¼	2¾	3-9/16	2½
FT-10	24V CT-2A. or 12V-4A.	4¾	2¼	2¾	3-9/16	2½



Varitap Duplicate audio units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the UTC horizontal or vertical bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and sealed with a special compound to assure complete protection against adverse climatic conditions.



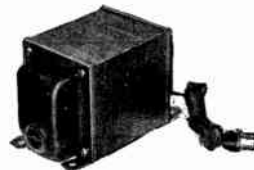
## ISOLATION TRANSFORMERS

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding. 1500 volt breakdown test. Six foot cord and female receptacle.

Primary 110-120 volts, 50/60 cycles—Secondary 110-120 volts



Type No.	Rating	Wgt. Lbs.
R-72	40 watts	4
R-73	100 watts	6
R-74	250 watts	12
R-75	600 watts	20
R-76	1200 watts	30
R-77	2500 watts (no-cord)	70



## LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly. The nine tap switch provides for line voltages of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output models.

All units are designed for 50/60-cycle service and come complete with 6 foot input cord and plug and outlet receptacle.



Type No.	Primary Voltages	Sec. Volts	Watts	Wt. Lbs.
R-78	60, 70, 80, 90, 100, 110, 120, 130, 140	115	150	6
R-79	60, 70, 80, 90, 100, 110, 120, 130, 140	115	300	9
R-80	60, 70, 80, 90, 100, 110, 120, 130, 140	115	600	13
R-81	60, 70, 80, 90, 100, 110, 120, 130, 140	115	1200	21
R-83	160, 170, 180, 190, 200, 210, 220, 230, 240	230	150	6
R-84	160, 170, 180, 190, 200, 210, 220, 230, 240	230	300	9
R-85	160, 170, 180, 190, 200, 210, 220, 230, 240	230	600	13
R-86	160, 170, 180, 190, 200, 210, 220, 230, 240	230	1200	21

## SHIELDED UNIVERSAL MOUNTING AUDIO TRANSFORMERS AND FILTER CHOKES

Type No.	Application	Description	Fig.	Wt. Lbs.
R-23	1 plate* to 1 grid	3½:1 ratio	A	1
R-24	1 plate* to 2 grids	2:1 ratio	A	1
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes, 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1¼
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46	A	1¼
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1¼
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2½
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1¼
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7
R-31	Filter choke	10 Hys— 80 MA—250 ohms	A	2½
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2¼

\* Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

## CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	Dimen., Ins.					Wt. Lbs.
			W	D	H	M		
R-33	1 plate* to 1 grid	4:1 ratio	2½	1¾	1-11/16	2¾	¾	
R-34	1 plate* to 2 grids	2:1 ratio	2¾	1¾	1-11/16	2¾	¾	
R-35	Mike to 1 grid	17:1 ratio Pri. C.T.	2¾	1¾	1-11/16	2¾	¾	
R-90	Intercomm. speaker to grid	4 ohm to 40,000 ohm grid	2½	1¾	1¾	2¾	½	
R-53	Plate & mike to grid	3:1 and 17:1 ratio	2¾	1¾	1-11/16	2¾	¾	
R-56	1 plate to 2 grids	2:1 ratio	3-5/16	1¾	2	2-13/16	1	
R-57	1 plate to 2 grids	2½:1 ratio	4¼	2	2¾	3-9/16	2½	
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2¾	1¾	1-11/16	2¾	¾	
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2¾	1¾	1-11/16	2¾	¾	
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2½	1¾	1¾	2¾	½	
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil, .1 to 30 ohms	2½	1¾	1¾	2¾	½	
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil, .1 to 30 ohms	2¾	1¾	1-11/16	2¾	¾	
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil, .1 to 30 ohms	3-5/16	1¾	2	2-13/16	1	
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2¾	1¾	1-11/16	2¾	¾	
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4¼	2¼	2¾	3-9/16	2½	

\* Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

## STEP DOWN AUTO-TRANSFORMERS

With 6 foot cord and female receptacle 220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.
R-41	85 watt capacity	4
R-42	125 watt capacity	5
R-43	175 watt capacity	5½
R-44	250 watt capacity	6½
R-45	500 watt capacity	12
R-46	1200 watt capacity	18
R-64	2500 watts, no cord	30



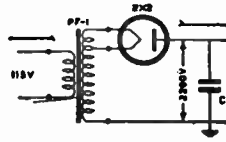
## EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115. Similar in appearance to above but without meter.

Type No.	Rating	Wgt. Lbs.
R-47	85 watts	4½
R-48	150 watts	5½

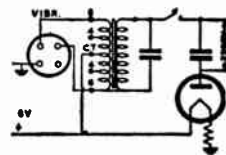
## PHOTO FLASH TRANSFORMERS

Can be used for either standard (Anglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer.



PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3 case 2½ x 2¼ x 2¼ inches high. Weight 2 Lbs.

PF-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. Compound sealed in G-3 case. Weight 2 Lbs.



PF-3 Trigger Transformer 15 KV peak. ¾ O.D. x 3" long. Weight 2 Oz.

PF-4 Dual Pri. for either 4V battery or 115V 50/60 cycles. Secondary for power supply delivering 900 volts DC to condenser up to 150 Mfd. G-3 case, 2 Lb.

## TELEVISION TRANSFORMERS

These components are quality designs, vacuum impregnated and fully compound sealed in heavy steel cases affording a high degree of shielding.

Type No.	Application	Case	Wt. Lbs.
R-91	Horizontal oscillator (15750 cycles)	RC-50	1
R-92	Vertical oscillator (60 cycles)	RC-50	1
R-93	Vertical output, tapped for different tubes	RC-100	4
R-94	Horizontal output (special core), tapped for adjustment	RC-100	4
R-95	2800 vac (4000V-2MA DC) 2.5V-1.8A., 6.3V-6A tapped 2.5V-2.1A. 7000 V test	RC-125	5

# CREST TRANSFORMER CORP.

1830 W. North Ave., Chicago 22, Ill.  
**INDUSTRIAL and COMMERCIAL—MILITARY**  
*(Hermetically sealed to MIL-T-27 and AN-E-19 Specification)*



## AUDIO Transformers

Stock No.	Driver Tubes	Output Tubes	Class	Ratio Pri. to 1/2 Sec.	Pri. D.C.	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
								H.	W.	D.		
AD-1	1-30, 49, 6C5 1-1J6G	19, 2-30, 49	B	2.4:1	8	B	2"	2	2 3/8	1 1/8	0.6	\$2.60
AD-2	1-33, 41, 42, 46, 59, 2A5, 6F6	P.P. 46, 59 6L6, 6F6	AB2	2.2:1	32	K	2x1 1/2"	3 3/8	2 5/8	2 3/4	2.4	4.40
AD-5	P.P. 45, 2A3, 6F6, 6L6	35T, 203A, 800, 806, T20, T55,	B	3.2:1 2:1	40	K	2x2 1/4"	3 3/8	2 5/8	2 3/4	2.4	6.50
AD-6	P.P. 45, 6C5, 6F6, Tri. 59, 2A3, 4-2A3, 6L6	59, 805, 100TH, HY57, RK18, TZ40, P.P. 6L6,	B A	5:1 4:1 3.2:1	60	K	2x2 1/4"	3 3/8	2 5/8	2 3/4	2.4	7.00

## Driver

## Input or Microphone Mike to Grid

Stock No.	Application	Ohms Impedance		Turns Ratio	Pri. M.A.	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
		Pri.	Sec.					H.	W.	D.		
AI-1	S.B. Mic. to Single or P.P. Grids	100	400000/C.T.	1:64	F	2	2	2 3/8	1 3/8	0.6	\$3.50	
AI-2	Voice Coil to Grid	3.2 CT	38,000	1:109	F	1 3/4	2	1 3/8	0.6	2.25		
AI-4	Low. Imp. Ribbon Mike to Grid	150-250 CT	53,000	1:14	F	2	2	2 3/8	1 1/8	1.0	2.60	

## Interstage

Stock No.	Ohms Pri.	Impedance Sec.	Turns Ratio	Pri. M.A.	D.C. M.A.	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
								H.	W.	D.		
AC-1	10000	90000	Sgl. 3:1	10	A	2	2	1 3/8	2 3/8	1 3/8	0.4	\$2.25
AC-3	10000	125000 CT	P.P. 3.5:1	10	A	2 1/8	2	3/4	1 3/4	1 1/4	1.2	3.00
AC-4	10000 CT	90000 CT	P.P. 3:1	10	A	2 1/8	2	3/4	1 3/4	1 1/4	1.2	3.25

## Modulation

Stock No.	Typical Tube	Impedance		Max. Pri. M.A.	D.C. M.A.	Class	Mtg. Watts	Mtg. Fig.	Dimensions			Wt. Lbs.	List Price
		Pri.	Sec.						H.	W.	D.		
AM-3	P.P. 6V6, 6F6, 1-53, 6A6, 6K6, 7C5, 6N7, 14C5	10000 CT	7500 5500 3500	60	60	A	12	F	2 5/8	2 5/8	2	1.4	\$3.80
AM-4	P.P. 6L6, 45, 50, 2A3, 6A3, 6F6, 6V6	6000 CT 3000 CT	10000 7500 5000	100	100	AB	25	K	3 1/8	2 5/8	3	2.6	6.50
AM-5	P.P. 6L6, 46, HY56, 807	6600 CT	12000 8000 4000	150	150	AB	40	L	4 1/4	3 3/8	4 7/8	6.3	11.50

## Output

Stock No.	Typical Tube	Class	Ohms Impedance		Pri. M.A.	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
			Pri.	Sec.					H.	W.	D.		
AO-1	Sgl. 48, 2A3, 6A3, 6B4, 6V6, 25AC5, 25B6, 25N6	A	2000	3.2	60	5	A	2	1 3/8	2 3/8	1 3/8	0.4	\$1.95
AO-2	P.P. 50L6, 25B5, 25AC5, 25L6, 6V6, 6W6, 6V6	AB	4000	3.2	50	4	A	2	1 3/8	2 3/8	1 3/8	0.3	1.70
AO-4	Sgl. 89, 95, 6F6, 6D5, 6B5, 12A6	A	7000	3-6	30	3	A	2	1 3/8	2 3/8	1 3/8	0.4	1.70
AO-7	Sgl. 1C5G, 1Q5G, 3A4, 1S5, 1S4, 3S4, 3Q5	A	8000	3.2	20	5	A	2	1 3/8	2 3/8	1 3/8	0.4	1.70
AO-9	P.P. 43, 6F6, 59B, 25A6, 6V6, 7C5, 71A	AB	10000	3.2	45	10	A	2 1/8	2	3/4	1 3/4	1.0	2.85
AO-10	P.P. 6F6, 6D5, 6AC5, 6K6, 6B5, 6AD7, 6N6, 7B5, 12A6, 18	AB	14000	3-6	42	10	A	2 1/8	2	3/4	1 3/4	1.0	3.00
AO-11	P.P. 1B8, 1E7, 1F4, 1T5, 6G6, 1299, 1602 Sgl. 6V7, 55, 85	A	25000	3.2	12	5	A	2	1 3/8	2 3/8	1 3/8	0.4	2.15
AO-13*	P.P. Par 4-6L6, P.P. 2-6L6, 45, 6A3	AB1	3300	4/8/15 250/500	155	60	K	2 1/2 x 2 1/8	3 3/8	3 1/4	3 1/8	5.2	10.50
AO-16*	P.P. 6L6, 6F6, 6AL6	AB2	5500	4/8/15 250/500	90	40	K	2 1/2 x 2 1/8	3 3/8	3 1/4	3 1/8	4.4	9.00
AO-19	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj.	30	4	C	2	1 3/8	2 3/8	1 3/8	0.4	2.40
AO-20	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj.	35	8	C	2 3/8	1 3/8	2 1/8	1 1/2	0.6	2.70
AO-21	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj.	40	12	D	2 3/8	2 3/8	2 3/8	1 3/4	1.0	3.80
AO-22	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj.	50	18	D	2 1/8	2 3/8	3 1/8	2	1.3	4.30



FIGURE J



FIGURE F

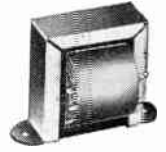


FIGURE D



FIGURE A

## CRESTRANS "MODERN" SERIES

Stock No.	Plate Winding		Filament Windings		Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price	
	AC Volts	DC MA	No. 1	No. 2			H.	W.	D.			
PF-50	240-0-240	45	5.0V-2.0A	6.3V-2.0A	K	2	x1 3/8	3 3/8	2 3/8	2 3/8	2.2	\$6.00
PF-51	250-0-250	60	5.0V-2.0A	6.3V-2.5A	K	2	x1 3/4	3 3/8	2 3/8	2 3/8	2.3	6.65
PF-52	265-0-265	75	5.0V-2.0A	6.3V-2.5A	K	2	x2 1/8	3 3/8	2 3/8	3 1/4	3.3	7.45
PF-53	280-0-280	90	5.0V-2.0A	6.3V-3.0A	K	2 1/4	x2 1/2	3 3/8	3	3 3/8	4.2	8.15
PF-54	300-0-300	120	5.0V-2.0A	6.3V-4.5A	K	2 1/2	x2 1/2	4	3 1/4	3 3/4	5.2	9.65
<b>P-MOUNTING HORIZONTAL FULLY ENCLOSED</b>												
PF-55	240-0-240	45	5.0V-2.0A	6.3V-2.0A	P	2	x2 1/2	2 3/4	2 1/2	3	2.2	6.00
PF-56	250-0-250	60	5.0V-2.0A	6.3V-2.5A	P	2	x2 1/2	2 3/8	2 1/2	3	2.3	6.65
PF-57	265-0-265	75	5.0V-2.0A	6.3V-2.5A	P	2	x2 1/2	3 1/4	2 1/2	3	3.3	7.45
PF-58	280-0-280	90	5.0V-3.0A	6.3V-3.0A	P	2 1/4	x2 1/2	3 1/2	2 3/8	3 3/8	4.2	8.15
PF-59	300-0-300	120	5.0V-3.0A	6.3V-4.5A	P	2 1/2	x3 1/8	3 3/4	3 1/8	3 3/4	5.2	9.65



TYPICAL HERMETICALLY SEALED TYPES

\*HAVE 10% FEEDBACK WINDING

**CHOKES**

Stock No.	Inductance at Rated DC Henries	Current Rating M.A.	D.C. Res. Ohms	Volts Insul.	Mtg. Fig.	Mtg. Dimensions			Wt. Lbs.	List Price
						H.	W.	D.		
CF-1	25	15	950	1600	A	1 3/8	2 3/8	1 3/8	0.3	\$1.60
CF-2	13.5	35	850	1600	A	2	3 1/4	1 3/8	1.0	2.30
CF-3	6.5	40	530	1600	A	1 3/8	2 3/8	1 3/8	0.5	1.90
CF-4	7.0	69	200	1600	A	2	3 1/4	1 3/8	1.0	2.40
CF-5	16	75	400	1600	A	2 1/4	3 1 1/2	2	1.5	2.80
CF-7	7.5	80	250	1600	A	2	3 1/4	1 3/8	1.3	2.50
CF-9	5.8	100	160	1600	A	2 1/4	3 1 1/2	2	1.5	2.80
CF-12	3.4	130	100	2000	A	2	3 1/4	1 3/8	1.0	2.40
CF-13	10	150	231	1600	K	3 1/2	3	3 1/8	2.4	5.00
CF-15	4.2	215	80	3000	K	3 1/2	3	3 1/8	2.4	6.00
CF-16	7.3	250	121	3000	K	4 1/2	3 3/8	3 1/8	6.2	7.50
CF-19	4.8	450	60	5000	L	4 3/8	3	5 1/8	12.3	15.25

**Filter**

**Swinging**

**FILAMENT Transformers**

Stock No.	Inductance Henries	D.C. M.A. Range	D.C. Res. Ohms	Volts Insul.	Mounting Fig.	Dimensions			Wt. Lbs.	List Price
						H.	W.	D.		
CS-1	20-5	15-150	215	3000	K	3 3/8	2 7/8	2 1/8	2.8	\$4.80
CS-5	20-5	50-500	70	5000	L	5 3/8	4 1/2	4 3/4	13.0	19.00

Stock No.	Pri. Volts	Sec. Volts	Amps	Volts Insul.	Mtg. Fig.	Dimensions			Wt. Lbs.	List Price
						H.	W.	D.		
FL-1	117	2.5 c.t.	5.25	1800	B	2 3/8	2 7/8	1 3/4	1.2	\$3.25
FL-3	117	2.5 c.t.	10	7500	R	3 3/8	2 1 1/8	2 1/4	2.4	5.10
FL-5	117	5.0 c.t.	5	1800	B	2 3/8	4	2 1/8	2.2	4.50
FL-7	117	5.0 c.t.	12	10000	R	4 1/8	3 7/8	3	7.0	10.50
FL-8	117	6.3 c.t.	1.5	1800	B	2	2 3/8	1 5/8	0.6	2.40
FL-9	117	6.3 c.t.	3	1800	B	2 3/8	2 7/8	2	1.3	3.25
FL-13	117	7.5 c.t.	5	2500	R	3	2 1/2	2 1/4	2.5	4.25
FL-14	117	7.5 c.t.	8	1800	R	3 3/8	2 1 3/8	2 3/8	4.0	6.00
FL-16	117	10.0 c.t.	5	3000	R	3 3/8	2 1 3/8	2 1/2	4.4	6.00
FL-17	117	10.0 c.t.	8	3000	R	3 3/4	3 1/8	2 3/4	4.5	6.85
FL-19	117	12.6 c.t.	2	1800	B	2 7/8	3 1/8	2	1.5	4.50

**POWER Transformers Primary 117V 20 Cycles**

Stock No.	H.V. A.C. Load Volts	Secondary M.A.	Fil. No. 1	Fil. No. 2	Filament Windings	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
								H.	W.	D.		
PF-1	325-325	40	5V-2A	6.3V-2A	C.T.	K	2 x 1 1/8	3 3/8	2 3/8	2 1/2	2.4	\$6.00
PF-2	325-325	50	5V-2A	6.3V-3A	C.T.	K	2 x 1 1/8	3 3/8	2 3/8	3	2.7	6.25
PF-3	350-350	70	5V-3A	6.3V-3A	C.T.	K	2 1/2 x 2	3 3/8	3 1/4	3 1/4	4.5	8.00
PF-4	350-350	90	5V-3A	6.3V-4A	C.T.	K	2 1/2 x 2 1/8	3 3/8	3 1/4	3 3/8	5.2	8.60
PF-5	350-350	120	5V-3A	6.3V-5A	C.T.	K	2 1/2 x 2 1/8	3 3/8	3 1/4	3 1 1/8	5.6	9.25
PF-6	400-400	200	5V-4A	6.3V-6A	C.T.	K	3 x 2 1/8	4 3/8	3 3/8	3 1 1/8	8.0	12.80
PF-7	430-430	325	5V-6A	6.3V-8A	C.T.	K	3 x 4 1/8	4 3/8	3 3/8	5 1 1/8	15.0	18.00

**TELEVISION Transformers**

Stock No.	Type	Electrical Equivalent	Mtg. Fig.	Dimensions			Wt. Lbs.	List Price
				H.	W.	D.		
TVB-1	Vertical Blocking Oscillator	R.C.A. 208T2 Potted	G	1 3/4	2 3/8	1 1/2	0.4	\$2.95
THB-1	Horizontal Blocking Oscillator	R.C.A. 208T1 Potted	G	1 3/4	2 3/8	1 1/2	0.5	3.60

**Vertical Outputs**

Stock No.	Turns Ratio	Pri. Ind.	Primary Res. Approx.	Secondary Res. Approx.	Type	Wt. Lbs.	List Price
TVO-1	10-1	60 H—13 Ma. DC	590 Ohms	6.9 Ohms	E	2.3	\$5.40
TVO-2	10-1	47 H—10 Ma. DC	520 Ohms	6.9 Ohms	E	2.2	4.40
TVO-3	11.4-1	45 H—18 Ma. DC	1200 Ohms	11 Ohms	A	1.2	3.30

**T-V Power Transformers**

Stock No.	Primary	Plates	Fil. #1	Fil. #2	Fil. #3	Fil. #4	Type	Weight	List Price	
TPF-1	117V 60 Cy	362-362V .295 Amp	12.6 V CT 5.0 Amp	5.0 V 6.0 A	5.0 V 2.0 A	—	P	16 lbs.	\$24.50	
TPF-2	117V 60 Cy	360-360V .250 Amp	6.3 V 8.0 A	6.3 V 0.6 A	5.0 V 3.0 A	5.0 V 2.0 A	P	12.3 lbs.	18.90	
TPF-3	117V 60 Cy	365-365V .260 Amp	5.0 V 6.0 A	6.3 V 1.5 A	6.3 V 9.0 A	—	P	12 lbs.	18.50	
TPF-4	117V 60 Cy	380-380V .230 Amp	160-160V .140 Amp	6.3 V 9.5 A	5.0 V 3.0 A	5.0 V 2.0 A	25 V 0.6 A	K	13 lbs.	26.25
TPF-5	117V 60 Cy	375-375V .210 Amp	6.3 V 8.0 A	6.3 V 2.5 A	5.0 V 5.0 A	—	K	10 lbs.	16.60	
TPF-6	117V 60 Cy	415-415V .230 Amp	5.0 V 6.0 A	6.3 V 3.5 A	6.3 V 10.0 A	—	K	13.4 lbs.	21.50	
TPF-7	117V 60 Cy	385-385 V .180 Amp	5.0 V 3.0 A	6.3 V 1.2 A	6.3 V 7.5 A	5.0 V 2.0 A	K	11 lbs.	16.60	
TPF-8	117V 60 Cy	400-400V .205 Amp	6.3 V 6.4 A	5.0 V 3.0 A	6.3 V 3.1 A	6.3 V 1.2 A	P	12.3 lbs.	18.40	

**LINE REGULATORS STEP UP OR STEP DOWN 50-60 CYCLE ISOLATION TRANSFORMERS 50-60 CYCLE AUTOFORMERS STEP UP OR STEP DOWN 50-60 CYCLE**

Stock No.	Input Volts	Output Volts	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions			Wt. Lbs.	List Price
						H.	W.	D.		
PI-3	220-250	110-125	100	J	2 3/4 x 2 1/8	4 1/4	3 3/8	3 1 1/8	6.3	\$15.50
PI-4	220-250	110-125	150	J	2 3/4 x 3 1/8	4 1/4	3 3/8	4 7/8	6.0	17.00
PI-5	220-250	110-125	250	J	3 x 4 1/8	4 3/8	3 3/8	5 7/8	14.0	25.50
PI-11	110-125	110-125	250	J	3 x 4 1/8	4 3/8	3 3/8	5 7/8	14.0	25.50
PI-12	110-125	110-125	500	J	5 3/4 x 3 1/8	6 1/4	5 3/4	4 3/8	28.0	35.00
PA-4	220-250	110-125	150	J	2 3/4 x 2 1/8	4 1/4	3 3/8	3 7/8	4.5	10.50
PA-5	220-250	110-125	250	J	2 3/4 x 3 1/8	4 1/4	3 3/8	4 7/8	7.4	12.25
PA-6	220-250	110-125	500	J	3 x 3 3/8	4 3/8	3 3/8	4 1 1/8	9.0	19.50
CT-1	90-140	117	350	Crestrol	—	5 3/4	5	4 1/2	4.4	\$28.50
CT-2	90-140	117	660	Crestrol	—	5 3/4	6	5 1/2	6.4	48.75

**CRESTROL SERIES LINE VOLTAGE REGULATORS**



FIGURE G

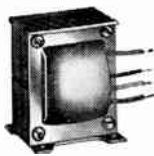


FIGURE E



FIGURE PS



FIGURE CT-1



FIGURE K

WRITE FOR LATEST CATALOG SHOWING COMPLETE LINE — CREST TRANSFORMER CORP., CHICAGO 22, ILLINOIS



S  
N  
C

## QUALITY TRANSFORMERS

Give  
OUTSTANDING  
PERFORMANCE!

Style AL Mtg.

Style CL Mtg.

Style BL Mtg.

Style DL Mtg.

Style ET Mtg.

Style FL Mtg.

Skillful Engineering, latest production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

### AUDIO TRANSFORMERS—THE "ONE" SERIES

#### AUDIO INPUT

Type Number	Application	Impedance		Pri. Mils (O.C.)	Max. Turns Ratio	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions				Net Wt.	List Price
		Primary	Secondary			50	200	1M	5M	10M		A	B	C	O		
1P121	P.M. Speaker to Grid	4	100,000	0	1:158	-4.0	-1.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.50
1P124	S.B. Mic. to Sgl. or P.P. Grids	100	400,000 C.T.	50	1:63	-6.0	-6.0	0	-2.0	-6.0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.70
1P125	Low Z to Sgl. or P.P. Grids	50	100,000 C.T.	0	1:45		-3.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.40
1P128	Sgl. or O.B. Mic. or Line to Sgl. or P.P. Grids	200*/50	100,000 C.T.	50	1:45	-2.0	-0.3	0	-0.7	-2.0	OL	2-5/8	2-3/16	2-1/8	2-13/16	1.3	5.40
1P136	Line to Sgl. or P.P. Grids	500*/125	100,000 C.T.	0	1:28	-3.0	-0.4	0	-0.4	-1.5	OL	2-5/8	2-3/16	2-1/8	2-13/16	1.4	5.40
1P145	Sgl. or P.P. Plates to Line	20,000 C.T.	500*/125	8	12.6:1	-3.5	-1.0	0	0	0	OL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.45
1P152	Sgl. or P.P. Plates to Line	20,000 C.T.	200*/50	8	20:1	-4.0	-1.0	0	0	0	OL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.45
1P161	Line to Line	500	500*/125	0	2:1	-0.4	-0.1	0	-0.4	-1.0	OL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.80

\*Indicates Balanced Center Tap

#### AUDIO INTERSTAGE

Type Number	Application	Primary Impedance	Secondary Impedance	Pri. Mils (O.C.)	Max. Turns Ratio	50	200	1M	5M	10M	Mtg. Style	A	B	C	O	Net Wt.	List Price
1P323	Sgl. Plate to Sgl. Grid	10,000	90,000	8	1:3	-5.0	-1.5	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.25
1P331	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-6.0	-2.0	0	0	-1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.80
1P339	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-3.0	-0.5	0	+0.1	+0.5	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.90
1P342	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-2.5	-0.5	0	0	0	OL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.85
1P346	P.P. Plates to P.P. Grids	20,000 C.T.	45,000 C.T.	10	1:1.5	-1.0	-0.2	0	0	0	OL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.20
1P351	Universal	Universal		8	1:3	-2.0	-0.4	0	0	0	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.15
3P363	Sgl. Type 30 to 19, 1J5 or P.P. 30 Class B	10,000	7,000 C.T.	8	2.4:1	-0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.80

#### TELEVISION REPLACEMENT (VERTICAL BLOCKING OSCILLATOR)

Type Number	Primary Inductance	Leakage Inductance	Turns Ratio	Mounting Style	Mounting	Dimensions				Net Wt.	List Price
						H	W	D	Ctrs.		
1P412	1.15 Hy. ±20%	.008 Hy. ±25-15%	1:42	Comp. Filled Case	Flange Studs	1-7/8	2-5/16	1-1/2	1-15/16	.5	3.60
1P416	1.15 Hy. ±20%	.008 Hy. ±25-15%	1:42	Comp. Filled Case	Flange Studs	1-5/8	1-3/16	1-3/16	1-13/16	.4	3.35

### CHOKES AND REACTORS—THE "TWO" SERIES

#### AUDIO REACTORS

Type Number	O.C. Mils		Inductance			Insul. Test Voltage	O.C. Res.	Mtg. Style	Dimensions				Net Weight	List Price
	Nom.	Max.	0-O.C.	50% Nom. O.C.	Nom. O.C.				Max. O.C.	A	B	C		
2P123	5-0.5	15	550	—	300-500	80	2000	AL	1-7/8	2-1/4	1-5/8	2-13/16	.9	3.50
2P124	5-0.5	15	550	—	300-500	80	2000	CL	1-7/8	2-1/4	1-3/4	2-13/16	.9	3.90
2P126	35-15	45	65	—	25-35	20	2000	AL	1-7/8	2-1/4	1-5/8	2-13/16	.9	2.75
2P127	35-15	45	65	—	25-35	20	2000	CL	1-7/8	2-1/4	1-3/4	2-13/16	.9	3.25

#### FILTER AND SWINGING CHOKES

Type Number	Primary	Secondary	3rd	4th	5th	6th	Insul. Test Voltage	O.C. Res.	Mtg. Style	A	B	C	O	E	Net Wt.	List Price
2P132	40	50	22	13	8	6	2000	450	AL	1-5/16	1-5/8	1-1/8	2		.3	1.80
2P135	65	80	18	11	8	7	2000	300	AL	1-9/16	1-7/8	1-3/8	2-3/8		.5	2.15
2P138	85	100	30	16	8	7	2000	350	AL	1-7/8	2-1/4	1-7/8	2-13/16		1.2	2.80
2P141	110	135	20	10.5	8	7	2000	260	BL	2-5/8	2-3/16	1-7/8	2-13/16		1.5	3.70
2P142	110	135	20	10.5	8	7	2000	200	OL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	3.90
2P144	150	180	26	13	8	5.5	2000	190	BL	3	2-1/2	2-1/8	2-13/16		2.1	3.70
2P145	150	180	26	13	8	5.5	2000	190	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.2	6.50
2P147	200	250	16	10	8	6.5	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	2.2	6.50
2P148	200-20	—	—	—	3-15	—	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	6.50
2P151	300	350	18	11	8	7	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	11.80
2P152	300-30	—	—	—	3-15	—	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	11.80
2P155	500	600	16	10	8	5.5	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	31.20
2P156	500-50	—	—	—	3-15	—	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	31.20

### DRIVER TRANSFORMERS—THE "THREE" SERIES

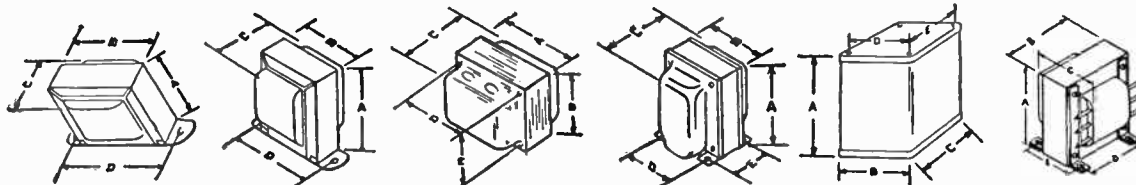
Type Number	Primary Impedance	Watts	Ratio, Pri. to 1/2 Sec. or Sec. Z	Pri. O.C. Mils	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions					Net Wt.	List Price
					50	200	1M	5M	10M		A	B	C	O	E		
3P323	6,000 C.T. to 10,000 C.T.	25	6, 5.5, 5:1	60	-0.5	0	0	0	-0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.30
3P328	3,000 C.T. to 5,000 C.T.	25	6, 5.5, 5:1	60	-0.4	0	0	0	-0.1	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.30
3P334	6,000 C.T. to 10,000 C.T.	25	4.5, 4, 3.5:1	60	-1.0	-0.3	0	+0.1	+0.6	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.15
3P338	3,000 C.T. to 5,000 C.T.	25	4.5, 4, 3.5:1	60	-1.7	-0.5	0	0	0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.35
3P342	6,000 C.T. to 10,000 C.T.	25	3, 2, 1:1	60	-0.7	-0.1	0	+0.1	+0.4	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.75
3P347	3,000 C.T. to 5,000 C.T.	25	3, 2, 1:1	60	-0.8	0	0	0	-0.2	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.60
3P353	6,000 C.T. to 10,000 C.T.	25	500 Ohms	60	-1.1	-0.3	0	+0.3	0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.40
3P358	3,000 C.T. to 5,000 C.T.	25	500 Ohms	60	-0.9	-0.1	0	-0.4	-1.0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	11.80
3P363	10,000	*5	2.4:1	10	-0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.80	

See Page N-57 for Dimensional Illustrations.

**SNC** QUALITY TRANSFORMERS Give OUTSTANDING PERFORMANCE!

Style AL Mtg. Style CL Mtg. Style EL Mtg.  
Style DL Mtg. Style ET Mtg. Style FL Mtg.

**DIMENSIONAL ILLUSTRATIONS**



**OUTPUT TRANSFORMERS—THE "SIX" SERIES**  
SPECIFIC DUTY REPLACEMENT TYPES—TUBE TO VOICE COIL

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
						A	B	C	D		
6P300	Single 2,000 Plate	50	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.80
6P306	Single 4,000 Plates	35	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.80
6P312	Single or P.P. 7,500 Plates	35	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.40
6P316	Single or P.P. 10,000 Plates	35	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.40
6P319	Push-Pull 15,000 Plates	35	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45
6P321	Push-Pull 20,000 Plates	30	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45
6P325	Push-Pull 25,000 Plates	20	3-6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.45

**UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL—TUBE TO LINE—LINE TO VOICE COIL**

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
						A	B	C	D		
6P165	Sgl. or P.P. 4M to 14M Plates	40	1.1 to 14	4	ATL	1-5/16	1-5/8	1-3/8	2	.3	2.80
6P166	Sgl. or P.P. 4M to 14M Plates	50	1.1 to 14	8	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.80
6P167	Sgl. or P.P. 3M to 10M Plates	55	1.2 to 13	15	BTL	1-7/8	1-9/16	1-3/4	2	.5	3.50
6P169	Sgl. 1500 to 7M Plate	50	.8 to 19	10	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.80
6P172	P.P. 3500 to 12M Plates	60	1.3 to 14	20	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.10
6P701	Single 2500 to 7500 Plate	45	165 to 1500	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	4.45
6P710	P.P. 7500 to 15M Plates	45	250 to 1000	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.05
6P714	Sgl. or P.P. 2500 to 12M Plates	45	150 to 2400	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.30
6P717	125 to 500 Line	0	1 to 32	35	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.48
6P722	500 to 3M Line in 500-Ohm Steps	0	1.3 to 48	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	5.10

**AMPLIFIER AND EQUIPMENT TYPES—TUBE TO LINE AND VOICE COIL**

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Secondary Imp.—Ohms	Watts	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions					Net Wt.	List Price
					50	200	1M	5M	10M		A	B	C	D	E		
					6P726	P.P. 3300 or 3800 Plates	90	4-8-16-250-500	60		-0.3	0	0	+0.1	+0.5		
6P731	P.P. 4500 or 6800 Plates	90	4-8-16-250-500	60	-0.3	0	0	+0.2	0	GL	3-3/4	3-1/16	3-3/8	2-1/2	2-3/16	4.4	10.70
6P736	P.P. 5000 Plates	70	4-8-16-250-500	25	-0.9	-0.2	0	+0.2	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	7.20	
6P740	P.P. 4300 Plates	70	4-8-16-250-500	25	-0.9	-0.3	0	+0.3	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	7.20	
6P743	P.P. 6600 Plates	70	4-8-16-250-500	25	-0.7	-0.1	0	+0.1	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	7.20	
6P746	P.P. 8000 Plates	70	4-8-16-250-500	25	-0.7	-0.1	0	+0.1	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	7.20	
6P749	P.P. 10,000 Plates	60	4-8-16-250-500	25	-0.4	-0.1	0	+0.2	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	7.55	
6P752	Sgl. 2500	60	4-8-16-250-500	10	-3.0	-0.4	0	+0.3	+0.5	DL	2-1/4	1-7/8	2-1/8	2-3/8	1.0	5.70	

**TELEVISION REPLACEMENT (VERTICAL DEFLECTION)**

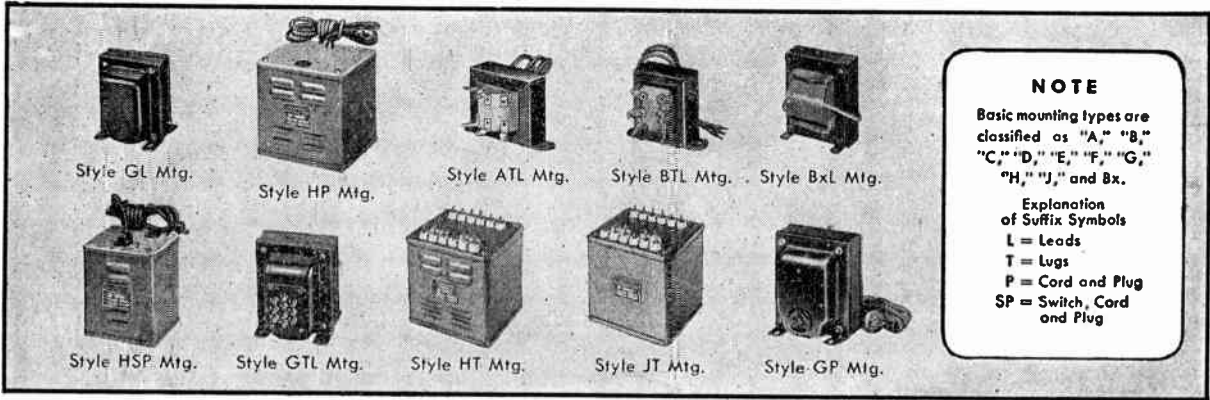
Type Number	Ratio Pri. to Sec.	Primary Imp.—Ohms	Leakage Inductance	Mounting Style	Dimensions					Net Wt.	List Price
					A	B	C	D	E		
6P688	10:1	19,000 Min.	0.33 Hy. Max.	B x L	3-3/16	2-3/4	2-9/16	1-19/32	2	2.2	6.70

**MODULATION TRANSFORMERS—THE "FIVE" SERIES**

SNC universal modulation transformers are specifically designed to provide maximum application possibilities per type. All units are provided with two identical secondary windings, permitting series or parallel operation. Changes in the ratio can be readily accomplished, when desired, without removing the unit from the chassis. Most units available in either air cooled or compound filled cases.

**UNIVERSAL TYPES**

Type Number	Watts	Primary Current Mils	Secondary Characteristics				Primary Impedance Ohms	Mtg. Style	Dimensions					Net Weight	List Price
			Series Sec.		Parallel Sec.				A	B	C	D	E		
			Impedance	Mils	Impedance	Mils									
5P341	15	60		50		100	3M to 8M	DL	2-5/8	2-3/16	2-3/8	2-13/16		1.5	9.00
5P346	50	80	2M to 18M	75	500 to 4500	150	3M to 15M	GTL	3-7/8	3-1/8	3-3/8	2-1/2	2-3/16	4	14.10
5P352	100	120	2M to 18M	100	500 to 4500	200	3M to 15M	GTL	4-5/8	3-3/4	3-7/8	3	2-13/16	9.7	22.50
5P354	200	200	2M to 18M	150	500 to 4500	300	3M to 15M	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	24	51.60
5P355								JT							
5P357	300	250	2M to 10M	250	500 to 4500	500	3M to 15M	HT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33	62.40
5P358								JT							
5P363	500	300	2M to 18M	300	500 to 4500	600	3M to 15M	HT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	51	128.00
5P364								JT							



**NOTE**  
 Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.  
 Explanation of Suffix Symbols  
 L = Leads  
 T = Lugs  
 P = Cord and Plug  
 SP = Switch, Cord and Plug

**POWER TRANSFORMERS—THE "EIGHT" SERIES**

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings  
**REPLACEMENT TYPES (6.3 Volt Heater Winding)**

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. O.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions					Net WL	List Price
							A	B	C	O	E		
8P040	117	265-0-265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2-1/2	3-3/4	2-1/2	2	2.3	5.40
8P055	117	300-0-300	55	5V. @ 2A.	6.3V. @ 2.5A.	FL	3	2-1/2	3-1/8	2-1/2	2	2.8	5.45
8P070	117	325-0-325	70	5V. @ 2A.	6.3V. @ 3A.	FL	3	2-1/2	3-1/2	2-1/2	2	3.2	6.90

**HEAVY DUTY REPLACEMENT AND NEW EQUIPMENT TYPES (6.3 Volt Heater Winding)**

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. O.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions					Net WL	List Price
							A	B	C	O	E		
8P180	117	265-0-265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2-1/2	3-1/4	2-1/2	2	3.2	7.40
8P180G						GL	3-1/16	2-7/32	3-1/8	2	2-3/16		
8P183	117	300-0-300	50	5V. @ 2A.	6.3V. @ 2A.	FL	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.5	7.80
8P183G						GL	3-7/16	2-27/32	3-1/4	2-1/4	2-1/8		
8P186	117	325-0-325	60	5V. @ 2A.	6.3V. @ 3A.	FL	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	8.20
8P186G						GL	3-7/16	2-27/32	3-1/2	2-1/4	2-3/8		
8P189	117	350-0-350	70	5V. @ 3A.	6.3V. @ 3.5A.	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	9.00
8P189G						GL	3-13/16	3-5/32	3-5/8	2-1/2	2-7/16		
8P192	117	350-0-350	90	5V. @ 3A.	6.3V. @ 4A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.7	9.90
8P192G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P194	117	375-0-375	110	5V. @ 3A.	6.3V. @ 4A.	FL	3-3/4	3-1/8	4-1/8	3-1/8	2-1/2	6.0	11.10
8P194G						GL	3-13/16	3-5/32	4	2-1/2	2-13/16		
8P196	117	350-0-350	150	5V. @ 3A.	6.3V. @ 4.8A.	FL	4-1/8	3-7/16	4-3/8	3-7/16	3-3/4	7.7	11.70
8P196G						GL	4-3/16	3-15/32	4-3/8	2-3/4	3-5/16		
8P199	117	400-0-400	70	5V. @ 3A.	6.3V. @ 3.5A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	10.50
8P199G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P202	117	450-0-450	200	5V. @ 3A.	6.3V. @ 5A.	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	15.00
8P202G						GL	4-9/16	3-25/32	4-3/8	3	3-11/16		
8P205	117	450-0-450	325	5V. @ 6A.	6.3V. @ 8A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.3	40.80
8P208	117	550-0-550	275	5V. @ 6A.	6.3V. @ 6A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.3	40.80

**REPLACEMENT TYPES (2.5 Volt Heater Winding)**

8P287	117	350-0-350	70	5V. @ 3A.	2.5V. @ 6A.	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	9.00
8P293	117	350-0-350	90	5V. @ 3A.	2.5V. @ 8A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.6	9.80
8P295	117	350-0-350	150	5V. @ 3A.	2.5V. @ 12A.	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.8	11.70

**REPLACEMENT TYPES (Two 2.5 Volt Heater Windings)**

8P487	117	350-0-350	70	5V. @ 3A.	No. 1 = 2.5V. @ 3.5A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	10.00
8P487G					No. 2 = 2.5V. @ 8A.	GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P494	117	375-0-375	110	5V. @ 3A.	No. 1 = 2.5V. @ 3.5A.	FL	3-3/4	3-1/8	4-1/4	3-1/8	2-1/2	6.2	11.00
8P494G					No. 2 = 2.5V. @ 10A.	GL	3-13/16	3-5/32	4-1/8	2-1/2	2-13/16		

**GENERAL PURPOSE TYPES WITH CONVENIENT LUG TERMINALS (6.3 Volt Heater Winding)**

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. O.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions					Net Wt.	List Price
							A	B	C	O	E		
8P382	117	300-0-300	50	5V. @ 2A.	6.3V. @ 2A.	ET	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.2	7.10
8P385						ET	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4		
8P388						ET	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2		

**BIAS TYPES**

8P510	117	40-0-40	25	5V. @ 2A.		CL	1-7/8	2-1/4	1-3/4	2-13/16	1-11/16	1.0	4.50
8P511	117	0-90-180-200-250	50	5V. @ 2A.		GL	3-1/16	2-7/32	2-5/8	2		2.0	6.55

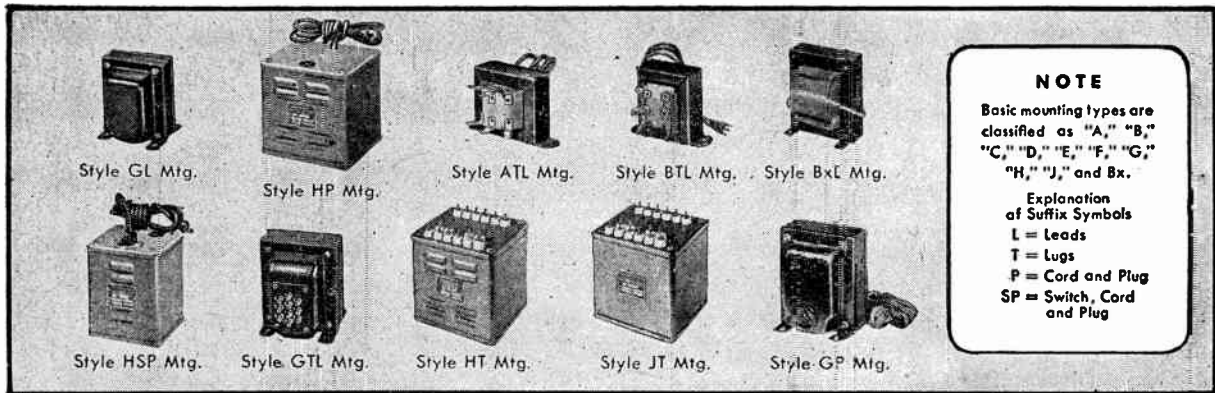
**VIBRATOR TYPES**

8P610	6	225-0-225	40			AL	2-3/16	2-5/8	2	3-1/8		1.3	5.10
8P611	6	320-0-320	40			GL	3-1/16	2-7/32	2-1/2	2	1-9/16	2.1	6.10
8P612	6	390-0-390	60			GL	3-7/16	2-27/32	3-5/16	2-1/4	2-3/16	3.7	6.90

**TELEVISION REPLACEMENT TYPES**

9P883	117	375-0-375	210	5V. @ 3A.	No. 1-5V. @ 2A. No. 2-6.3V. @ 5.5A.	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	17.75
9P885	117	235-0-235	90	5V. @ 2A.	6.3V. @ 5.5A.	FL	3-3/8	2-13/16	4	2-13/16	2-1/4	5.1	10.20
9P887	117	365-0-365	300	5V. @ 6A.	No. 1-12.6V. @ 5A. No. 2-5V. @ 2A.	FL	4-23/32	3-27/32	6-3/4	4-1/16	3-3/16	16.0	30.60

See Page N-57 for Dimensional Illustrations.



**NOTE**  
 Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and "K."  
 Explanation of Suffix Symbols  
 L = Leads  
 T = Lugs  
 P = Cord and Plug  
 SP = Switch, Cord and Plug

**PLATE TRANSFORMERS—THE "SEVEN" SERIES**

All SNC plate transformers have dual secondary ratings. Most units available in either air cooled or compound filled cases. All units contain electrostatic shields between primary and high voltage windings.

Type Number	Primary Voltage	Pri. V.A.	Secondary R.M.S. Voltage	O.C. Voltage From Filter*	O.C. Current	Mtg. Style	Dimensions					Net Wt.	List Price
							A	B	C	D	E		
7P530	115-230	220	920-0-920 or 740-0-740	750 or 600	200MA	GL	4-3/4	3-3/4	5-1/8	3	4-1/16	12	18.00
7P535	115-230	320	930-0-930 or 750-0-750	750 or 600	300MA	HT JT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22	42.00
7P536												30	48.00
7P542	115-230	530	1470-0-1470 or 1220-0-1220	1250 or 1000	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33	58.40
7P543												41	55.20
7P551	115-230	750	2050-0-2050 or 1740-0-1740	1750 or 1500	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	43	54.00
7P552												51	66.00
7P557	115-230	1060	2880-0-2880 or 2350-0-2350	2500 or 2000	300MA	HT JT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	53	74.40
7P558												69	88.40
7P563	115-230	1760	2900-0-2900 or 2370-0-2370	2500 or 2000	500MA	HT JT	10-3/4	9	7-1/4	7	5-13/16	96	188.00
7P564												126	159.00

\*All units may be operated with simultaneous loads—provided the total O.C. current of the two loads does not exceed the rating listed.

**FILAMENT TRANSFORMERS—THE "FOUR" SERIES**

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designated. All have 117 V. 50/60 cycle primary.

Type Number	Applications			Test Voltage	Mtg. Style	Dimensions					Net Wt.	List Price
	Parallel Secondaries	Series Secondaries	Independent Identical Secondaries			A	B	C	D	E		
4P222	2.5V. C.T. @ 5 A.	5 V. C.T. @ 2.5 A.	Two of 2.5V. C.T. @ 2.5 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	3.55
4P226*	2.5V. C.T. @ 10 A.			7500	BL	3	2-1/2	2-3/8	3-1/8		2.0	5.50
4P227	2.5V. C.T. @ 10 A.	5 V. C.T. @ 5 A.	Two of 2.5V. C.T. @ 5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	4.80
4P234	2.5V. C.T. @ 15 A.	5 V. C.T. @ 7.5 A.	Two of 2.5V. C.T. @ 7.5 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	5.70
4P239	5 V. C.T. @ 6.5A.	10 V. C.T. @ 3.25A.	Two of 5 V. C.T. @ 3.25A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	5.10
4P242*	5 V. C.T. @ 20 A.			10000	BxL	4-1/8	3-7/16	2-3/4	2-3/4	2-1/8	4.6	10.20
4P243	5 V. C.T. @ 20 A.	10 V. C.T. @ 10 A.	Two of 5 V. C.T. @ 10 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.3	9.00
4P244*	6.3V. C.T. @ 0.6A.			2000	BL	1-7/8	1-9/16	1-1/2	2		.8	3.50
4P245*	6.3V. C.T. @ 1.2A.			2000	BL	1-7/8	1-9/16	1-5/8	2		.7	3.80
4P246	6.3V. C.T. @ 2 A.	12.6V. C.T. @ 1 A.	Two of 6.3V. C.T. @ 1 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	4.20
4P251	6.3V. C.T. @ 6 A.	12.6V. C.T. @ 3 A.	Two of 6.3V. C.T. @ 3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8	2-1/8	2.0	4.85
4P256	6.3V. C.T. @ 10 A.	12.6V. C.T. @ 5 A.	Two of 6.3V. C.T. @ 5 A.	2000	BxL	3-3/8	2-13/16	2-1/2	2-1/4		2.9	6.30
4P260	7.5V. C.T. @ 3 A.	15 V. C.T. @ 1.5 A.	Two of 7.5V. C.T. @ 1.5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	5.10
4P267	7.5V. C.T. @ 4.5A.	15 V. C.T. @ 2.3 A.	Two of 7.5V. C.T. @ 2.3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.0	6.30
4P272	11 V. C.T. @ 10 A.	22 V. C.T. @ 5 A.	Two of 11 V. C.T. @ 5 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.1	9.00

\*Single secondary units

**VOLTAGE CHANGER AND ISOLATION—THE "NINE" SERIES**

All Units Have Primary Cord and Secondary Plug and Are For 50/60 Cycle Operation

**VOLTAGE CHANGER (ISOLATION)**

Type Number	Primary Voltage	Secondary Voltage	Capacity in V. A.	Mtg. Style	Dimensions					Net Wt.	List Price
					A	B	C	D	E		
9P707	220-250	110-125	75	GP	3-13/16	3-5/32	3-1/8	2-1/2	1-15/16	3.9	9.30
9P713	220-250	110-125	150	GP	4-9/16	3-25/32	3-7/8	3	2-13/16	8.0	13.00
9P718	220-250	110-125	350	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	38.00

**ISOLATION TYPES**

9P721	110-250	110-250	150	GP	4-9/16	3-25/32	4-5/8	3	3-9/16	12.1	18.00
9P725	110-250	110-250	250	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	29.40
9P728	110-250	110-250	500	HP	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	34.8	41.40

**VOLTAGE ADJUSTMENT TYPES WITH TAP CHANGE SWITCH**

9P732	95-130 in 5V. Steps	115	150	HSP	4-7/8	3-7/8	3-7/8	3-1/8	3-1/8	4.7	25.00
9P737	95-130 in 5V. Steps	115	250	HSP	5-3/8	4-3/8	4-1/4	3-5/8	3-1/2	8.0	33.00
9P739	80-130 in 5V. Steps	115	500	HSP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	49.20

All list prices given are subject to regular trade discounts and may be changed without notice.

**S N C MANUFACTURING CO., INC., OSHKOSH, WISCONSIN**

See Page N-57 for Dimensional Illustrations.



# PEERLESS

## ELECTRICAL PRODUCTS

DIVISION



161 Sixth Avenue  
New York 13, N.Y.

9356 Santa Monica Blvd.  
Beverly Hills, Calif.



The Peerless standard commercial line includes power, filament, plate, input, interstage, bridging, output, impedance matching transformers, reactors, and power chokes. Power transformers rated for maximum heat rise of 55°C. Output transformers deliver full rated power  $\pm 3$  db 30-10,000 cps.

Unsurpassed 20-20 line audio transformers include input, interstage, bridging, output and impedance matching. Frequency response is flat within 1 db. 20-20,000 cps, with good transmission up to 50 KC. Output transformers deliver rated power  $\pm 3$  db. 20-20,000 cps.

- ★ Suffix letter on Type Number indicates case style.
- † Low flux-density core for pre-amplifiers.
- ‡ All Primaries are 117 v 60 cycles. All transformers in R group are supplied with electro-static shield.
- Secondary impedance is total of two separate windings.
- ▲ Maximum operating level, 6 mw reference.
- All low-impedance secondary windings of high-level output transformers may be worked into loads within 20% of the rated impedance.
- ★ For RMA standardized 70 volt line.

### COMBINATION PLATE AND FILAMENT TRANSFORMERS ‡

Type Number*	High Voltage AC Volts	Secondary DC MA.	Filament Current, Amperes		Dimensions, Inches			Weight Lbs.	List Price
			5 V.	6.3 V. C.T.	Height	Depth	Width		
R-080-A†	275-0-275	20	2.	3.	3 1/8	2 7/8	2 1/8	2 1/4	\$9.00
R-320-A	325-0-325	70	3.	3.	3 1/2	3 5/8	2 7/8	4	9.40
R-400-A	350-0-350	90	3.	4.	4 1/8	3 5/8	3 3/4	6 1/4	10.40
R-480-A	350-0-350	120	3.	5.	4	3 1/2	3 1/4	6 3/4	11.80
R-480-Q	350-0-350	120	3.	5.	5	4 3/8	4 1/8	8	21.00
R-482-A	350-0-350	120	3.	3. - 3.	4	3 1/2	3 1/4	4	12.50
R-560-A	400-0-400	200	3.	6.	5	4 7/8	4 3/8	11 3/4	16.90
R-800-A	400-0-400	300	4.	4. - 5.	5	6 1/4	4 3/8	16 1/2	24.00

### SMOOTHING CHOKES

Type Number*	Current D.C. MA.	Inductance Henrys	Resistance Ohms	Test Volts R.M.S.	Dimensions, Inches			Weight Lbs.	List Price
					Height	Depth	Width		
C-305-X	90	10	285	1500	2 1/8	3 1/4	2 1/4	1 1/2	\$3.20
C-315-X	225	3	80	1500	2 3/8	2 3/4	2 1/2	1 3/4	3.65
C-325-A	120	10	240	1500	3 1/8	2 7/8	2 1/8	2 1/4	5.50
C-390-A	200	10	150	1500	3 3/8	3 1/2	3 3/8	5 1/2	7.60
C-455-A	250	10	110	2500	4 1/8	3 3/4	3 3/4	6 1/2	10.70

### PLATE TRANSFORMERS

Type Number*	Secondary AC Volts	DC Volts Choke Input	DC MA. Choke ICAS	Input CCS	Primary Choke 50-60 Cycle	Dimensions, Inches			Weight Lbs.	List Price
						Height	Depth	Width		
P-330-K	1175-880-0-880-1175	750-1000	425	300	117	7	8 1/2	5 3/4	27	\$47.50

### FILAMENT TRANSFORMERS

Type Number*	Secondary Current, Amperes			Test Volts R.M.C.	Primary Volts 50-60 Cycle	Dimensions, Inches			Weight Lbs.	List Price
	2.5 V. C.T.	6.3 V. C.T.	10 V. C.T.			Height	Depth	Width		
F-012-X	1.			2000	117	1 5/8	2 7/8	1 5/8	1/2	\$2.80
F-072-X	3.6			2000	117	2 3/8	3 3/8	2 1/4	1 1/2	4.60
F-096-X	10.			7500	117	2 5/8	4 1/4	2 1/2	2 3/8	5.95
F-139-E	8.			2000	117	3 1/2	3 3/8	2 7/8	3 1/2	8.00
F-140-E			5.	2000	117	3 1/2	3 3/8	2 7/8	3 1/2	8.00

### REPLACEMENT OUTPUT TRANSFORMERS

Type Number*	Application	Impedance, Ohms		Max. Pri. M. DC	Audio Watts	Dimensions, Inches			Weight Lbs.	List Price
		Primary	Secondary			Height	Depth	Width		
X-412-X	1-6FG, 6V6, 41, 6K6, 6G6, 6A4, 25A6, etc.	10,000-7000 5000-3500	6 to .2	40	5	1 1/8	2 3/4	1 1/2	1/8	\$3.40
X-424-X	1 or 2-41, 42, 6K6, 6V6, etc.	10,000-7000 5000-3500 C.T.	6 to 1.04	40	7	1 5/8	2 7/8	1 5/8	1/2	3.50
X-428-X	Universal for 2 tubes	14,000-10,000 7000-5000-4000 C.T.	16 to .13	50	10	2	3 1/2	2	1	4.25
X-432-X	2-6FG, 6V6, 6K6, 42, 2A5, 45, 71, 50, 6L6	10,000 8000 C.T.	10-6 4-2 1/2	50	15	2 3/8	3 3/8	2 1/4	1 1/2	4.90



# PEERLESS

## ELECTRICAL PRODUCTS



DIVISION

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### 20-20 OUTPUT TRANSFORMERS

20-20 Type Number	Descriptive Data	Impedance, Ohms		Max. Level ▲	Primary DC MA.		Dimensions, Inches			Weight Lbs.	List Price
		Primary	Secondary		Max.	Unbal.	Height	Depth	Width		
S-220-Q	Primary may be used single ended or in Push-Pull—two secondaries with balanced capacitance to ground—parallel feed recommended. 60 db magnetic shield.	12,500 3125 or 15,000 3750	500, 250 125, 62½ or 600, 300 150, 75	+15 db 6 mw ref.	15 Per Winding Push-Pull Only	0	4½	3⅞	3⅞	2½	\$45.00
S-230-Q ■	Secondary may be operated with one end grounded.	6600 C.T.	16, 8, 4, 2	20 watts +35 db	70	7	4½	3⅝	3½	6	26.00
S-240-Q ■	Same as S-230-Q.	5000 C.T.	16, 8, 4, 2	20 watts	90	9	4½	3⅝	3½	6	26.00
S-242-Q ★	Secondary should be operated balanced to ground.	5000 C.T.	500, 250 125, 62½	20 watts +35 db	90	9	4½	3⅝	3½	6	26.50
S-245-Q ■	Same as S-230-Q.	3000 C.T.	16, 8, 4, 2	20 watts	110	11	4½	3⅝	3½	6	26.00
S-265-Q ■	Two center-tapped primaries may be used in series or parallel. Secondary may be operated with one end grounded.	10,000 C.T. 2500 C.T.	16, 8, 4, 2	40 watts 38 db	110	11	5	4⅞	4⅞	10	45.00
S-270-Q ★	Same as S-265-Q except secondary should be operated balanced to ground.	10,000 C.T. 2500 C.T.	500, 250 125, 62½	40 watts +38 db	110 220	11 22	5	4⅞	4⅞	10	45.00
S-275-S ■	For operation from triodes. Load impedances may be varied over range of 3 to 1. May be operated at 100 watts in restricted freq. range 25-16,000 cps.	4000 C.T. to 12,000 C.T.	16, 8, 4, 2 to 48, 24, 12, 6	80 watts +41 db See Data	120	12	6	6	5⅝	24	80.00

### 20-20 INPUT TRANSFORMERS

20-20 Type Number	Descriptive Data	Impedance, Ohms		Max. Level ▲	Primary DC MA.		Dimensions, Inches			Weight Lbs.	List Price
		Primary	Secondary ●		Max.	Unbal.	Height	Depth	Width		
K-221-Q	Secondary used single ended or Push-Pull—has two winding with balanced capacitance to ground. Static shield between primary and secondary. 90 db magnetic shield.	500, 250 30 or 600, 300 36	70,000 or 84,000	-20 db	0	—	3½	2⅝	2½	1⅝	\$36.50
K-221-D	Same data as K-221-Q except has only 30 db electro-magnetic shielding.	500, 250 30 or 600, 300 36	70,000 or 84,000	-20 db	0	—	2⅝	1¾	1¾	1¾	30.00
K-251-Q	Same as K-221-Q except has 30 db electro-magnetic shielding.	500, 250 125, 62½ or 600, 300 150, 75	40,000 or 48,000	+15 db	0	—	4½	3⅞	3⅞	2⅝	45.00
K-281-Q	For Push-Pull only—two secondaries with balanced capacitance to ground.	500, 250 125, 56, 14 or 600, 265 150, 67, 17	30,000 or 36,000	+30 db	0	—	4⅝	3⅝	3½	5½	52.50

### 20-20 INTERSTAGE TRANSFORMERS

20-20 Type Number	Descriptive Data	Impedance, Ohms		Max. Level ▲	Primary DC MA.		Dimensions, Inches			Weight Lbs.	List Price
		Primary	Secondary		Max.	Unbal.	Height	Depth	Width		
G-212-Q	Both primary and secondary may be used single-ended or in Push-Pull—has two secondary windings with balanced capacitance to ground—static shield between primary and secondary—parallel feed recommended. 90 db magnetic shield.	10,000 2500	40,000 10,000	-20 db	5 Per Winding Push-Pull Only	0	3½	2⅝	2½	1⅝	\$36.50
G-252-Q	Same as G-212-Q except has 30 db electro-magnetic shield.	10,000 2500	40,000 10,000	+15 db	10	1.0	4½	3⅞	3⅞	2⅝	45.00

### 20-20 MATCHING TRANSFORMERS

20-20 Type Number	Descriptive Data	Impedance, Ohms		Max. Level ▲	Primary DC MA.		Dimensions, Inches			Weight Lbs.	List Price
		Primary	Secondary ■		Max.	Unbal.	Height	Depth	Width		
E-243-Q ★	Line to speaker. Primary impedances designed to conform with RMA 70v line. Insertion loss less than ¼ db. Flanged mounting plate furnished.	1000 C.T. 750, 500 C.T. 250, 125	16, 12, 8, 4, 2	+35 db (20 watts)	5, 6⅝ 10, 20	—	6	4⅝	3⅝	3½	\$27.00

### 20-20 TRIODE AMPLIFIER KIT

No. 10722

Kit to build Peerless A-100-A, 15 Watt, Triode Amplifier: Consists of one each; R-480-Q, S-240-Q, X-432-X, L-370-D, 10581 Terminal Board, 10723 Chassis, 10726 Chassis Bottom. (1) 10725 Wiring Diagram and two 10724 Part, schematic (1 cemented on 10726 plate). Condensers, resistors, sockets, etc., not included. Procure from your parts supplier.

Specifications of completed amplifier: Power: Rated, 15 watts—at 5% harmonics (100 and 5000 cps.), 18 watts—at 8% 1M (40-2000 cps.), 17 watts. Frequency Response: Within 1

db, 20-20,000 cps. Note: Phono input equalized for variable reluctance pickup. Gain, 1000 cps.: Radio input 84 db—Phono input 107 db. Impedances: Input, 500,000 ohms each—Output, 16 ohms (can be connected for 8, 4, or 2 ohms). Tubes: 2-6J7, 1-6J5, 2-6SN7, 2-6A5G, 1-5V4C. Controls: 1-gain, 1-low frequency boost (continuously variable), 1-high frequency droop (4 step pi type), 1-channel selector, 1-A.C. switch. Chassis: 14" x 10" x 3" high (8" overall). Shipping Weight: 32 pounds.

List  
Price  
\$78.00



# PEERLESS

## ELECTRICAL PRODUCTS



DIVISION  
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### STANDARD OUTPUT TRANSFORMERS

Type Number*	Application	Freq. Range ±1 db	Impedance, Ohms Primary	Secondary	Pri. Max.	DC Unbal.	MA. Watts	Audio Watts	Dimensions, Inches Height Depth Width	Weight Lbs.	List Price
S-448-Q ▲	Single or push-pull plates to line. 30 db hum bucking.	20 20,000	20,000 C.T. 12,500 C.T. 5000 3125	500 C.T. 200 C.T. 333-250 125-50	15	2	+	10 db	3 1/2 2 3/8 2 1/2	1 1/2	\$24.75
S-464-X	Single or push-pull plates to line.	100 5000	18,000 C.T.	500-200 50	10	2	5	1 1/2	2 3/8 1 1/2	1/2	4.15
S-508-A	P.-P. plates to VC.	30-15,000	8000 C.T.	16-12-8-4	45	5	10	2 1/8 2 1/8 2 1/4	1 3/4	9.25	
S-516-A	P.-P. plates to VC.	30-15,000	6600 C.T.	16-12-8-4	70	7	20	3 1/8 3 2 1/8	2 1/2	11.75	
S-524-A	P.-P. plates to VC or line.	30-15,000	6600 C.T. 5000 C.T.	500 C.T. 125 16-12-8-4	70	7	20	3 1/2 3 1/4 2 3/8	3	13.75	
S-530-A	P.-P. plates to speaker or line.	30-15,000	5000 C.T. 3000 C.T.	500 C.T. 125 16-12-8-4	90	9	20	3 1/2 3 1/4 2 3/8	3	13.75	
S-532-A	P.-P. plates to VC.	30-15,000	5000 C.T. 3000 C.T.	16-12-8-4	90	9	20	3 1/8 3 2 1/8	2 1/2	13.00	
S-552-A ★	P.-P. plates to speaker or line.	30-15,000	3800 C.T. 3200 C.T.	330, 82 1/2 16-12-8-4-2	250	25	60	4 3/4 4 5/8 3 3/8	9	29.00	

### STANDARD IMPEDANCE MATCHING TRANSFORMERS

Type Number*	Application	Impedance, Ohms Primary	Secondary	Radio Watts	Freq. Range	Dimensions, Inches Height Depth Width	Weight Lbs.	List Price
E-372-Q ▲	Mic. or Line to Line—Static Shield Btwn. Pri. & Sec. 60 db. Mag. Shield.	500 C.T. 333-250 200 C.T. 125-50	500 C.T. 333-250 200 C.T. 125-50	+10 db	20-20,000	3 1/2 2 3/8 2 1/2	1 1/2	\$27.00
E-374-X ★	Line to Speaker—RMA Standardized line for Sound Distribution. Insertion Loss 0.6 db—1/4 watt tap for lines of 500 or less ohms.	10,000 C.T. 7,500 5000 C.T. 2500-1250	16-12-8-4-2	4	30-15,000	2 3/8 3 3/4 2 1/4	1 3/4	10.50
E-377-X	Line to Speaker.	500	16-8	5	40-10,000	2 3 1/2 2	1	4.75
E-386-E ★	Line to Speaker—RMA Standardized line for Sound Distribution. Insertion Loss 0.6 db Max.	1600 C.T. 1200 800 C.T. 400-200	16-12-8-4-2	24	30-15,000	3 3/8 3 3 1/4	4 1/4	18.50
E-392-E ★	Same Data as E-386-E.	625 C.8.-470 312 C.T. 156-78	16-12-8-4-2	64	30-15,000	4 3/4 4 7/8 3 3/8	9	28.00

### STANDARD INPUT TRANSFORMERS

Type Number*	Application	Impedance, Ohms Primary	Secondary	Freq. Range ±1 db	Dimensions, Inches Height Depth Width	Weight Lbs.	List Price
K-049-D ▲	Line, Mixer or Microphone to Singl Grid. Maximum Level = Odd. 30 db Magnetic Shielding.	500 C.T.-330-250 200 C.T.-125-50	60,000	20-20,000	2 3/8 1 3/4 1 3/4	1	\$17.50
K-049-Q	Same as K-049-D except has 90 db Magnetic Shielding.	500 C.T.-333-250 200 C.T.-125-50	60,000	20-20,000	3 1/2 2 3/8 2 1/2	1 1/2	25.50
K-054-Q ▲	Line, Mixer, or Microphone to 2 Grids Max. Level = +10 db Hum-bucking.	500 C.T.-333-250 200 C.T.-125-50	70,000	20-20,000	3 1/2 2 3/8 2 1/2	1 1/2	25.50
K-063-A ▲	Line to Push-Pull Grids Max. Level = 34 db.	500 C.T.-125	12,500	30-15,000	3 1/8 3 2 1/8	2 1/2	12.00

### STANDARD INTERSTAGE TRANSFORMERS

Type Number*	Application	Freq. Range ±1 db	Impedance, Ohms Primary	Secondary	Turns Ratio	Dimensions, Inches Height Depth Width	Weight Lbs.	List Price
G-306-X	Single Plate to 1 or 2 Grids.	100 5000	10,000	96,000 C.T.	1:3.1	1 1/2 2 3/8 1 1/2	1/2	\$ 4.00
G-318-D ▲	Single Plate to Single Grid. Maximum Level = 0 db, 30 db. Magnetic Shielding.	20-20,000	10,000	60,000		2 3/8 1 3/4 1 3/4	1	16.00

### STANDARD EQUALIZING REACTORS

Type Number*	Application	Res. Ohms	Ind. Henrys	Normal	DC MA. Max.	Dimensions, Inches Height Depth Width	Weight Lbs.	List Price
L-360-D	Tone Control (Cathode Circuit).	220	23	0	0	2 3/8 1 1/2 Round	1/2	\$ 4.80
L-370-D	Low Pass Filter	725	4	0	10	1 3/4 1 1/2 Round	3/8	10.00



# TRANSFORMERS

SPECIAL PURPOSE AND OPERATION OF  
WAR SURPLUS EQUIPMENTS

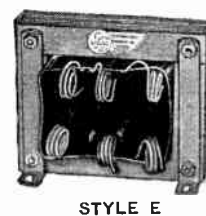
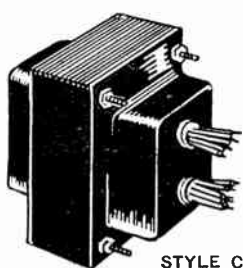
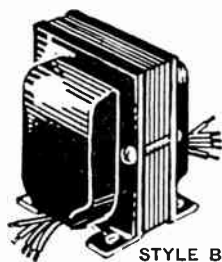
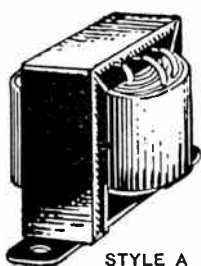
## MULTI-USE FILAMENT TRANSFORMERS

For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles.

All windings center tapped except those marked\*

Type No.	Use #1	Use #2	Use #3	Volt Insul.	Style Mtg.	Mtg. Dimensions			Ship. Wt.	Net Price
						H.	W.	D.		
F5049	Two Sec. of 2.5 V. @ 2.5 A	5 V. @ 2.5 A	2.5 V. @ 5 A	2000	D	2 $\frac{5}{16}$ "	2"	1 $\frac{7}{8}$ "	3	\$3.00
F5050	Two Sec. of 2.5 V. @ 5 A	5 V. @ 2.5 A	2.5 V. @ 10 A	10000	E	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	3	5.16
F5051	Two Sec. of 2.5 V. @ 5 A	5 V. @ 5 A	2.5 V. @ 10 A	2000	E	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ "	2 $\frac{3}{8}$ "	3	3.90
F5052	Two Sec. of 2.5 V. @ 7.5 A	5 V. @ 7.5 A	2.5 V. @ 15 A	2000	D	3 $\frac{1}{16}$ "	2 $\frac{17}{32}$ "	2 $\frac{1}{2}$ "	5	4.20
F5053	Two Sec. of 5 V. @ 3.25 A	10 V. @ 3.25 A	5 V. @ 6.5 A	2000	D	3 $\frac{1}{16}$ "	2 $\frac{17}{32}$ "	2 $\frac{1}{2}$ "	5	4.05
F5054	Two Sec. of 5 V. @ 10 A	10 V. @ 10 A	5 V. @ 20 A	10000	E	4 $\frac{3}{16}$ "	3 $\frac{7}{16}$ "	3 $\frac{7}{16}$ "	7	6.45
F5055	Two Sec. of 5 V. @ 10 A	10 V. @ 10 A	5 V. @ 20 A	2000	E	4 $\frac{3}{16}$ "	3 $\frac{1}{8}$ "	3 $\frac{3}{8}$ "	7	6.00
F5056			6.3 V. @ .6 A	2000	D	1 $\frac{5}{8}$ "	1 $\frac{3}{8}$ "	1 $\frac{1}{2}$ "	2	3.00
F5057			6.3 V. @ 1.2 A	2000	D	1 $\frac{7}{8}$ "	1 $\frac{5}{8}$ "	1 $\frac{11}{16}$ "	2	3.30
F5007			6.3 V. @ 3 A	2000	D	2 $\frac{5}{16}$ "	2"	1 $\frac{7}{8}$ "	3	3.90
F5058	Two Sec. of 6.3 V. @ 1 A	12.6 V. @ 1 A	6.3 V. @ 2 A	2000	D	2 $\frac{5}{16}$ "	2"	1 $\frac{7}{8}$ "	3	3.60
**F5006	Two Sec. of 6.3 V. @ 3 A	12.6 V. @ 3 A	6.3 V. @ 6 A	2000	D	3 $\frac{1}{16}$ "	2 $\frac{17}{32}$ "	2 $\frac{1}{2}$ "	5	4.50
**F5004	Two Sec. of 6.3 V. @ 6.5 A	12.6 V. @ 6.5 A	6.3 V. @ 13 A	2000	E	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ "	6	5.82
F5059	Two Sec. of 7.5 V. @ 1.5 A	15 V. @ 1.5 A	7.5 V. @ 3 A	2000	D	2 $\frac{3}{4}$ "	2 $\frac{5}{16}$ "	2 $\frac{3}{16}$ "	3	4.05
F5060	Two Sec. of 7.5 V. @ 2.3 A	15 V. @ 2.3 A	7.5 V. @ 4.6 A	2000	D	3 $\frac{1}{16}$ "	2 $\frac{17}{32}$ "	2 $\frac{1}{2}$ "	5	4.65
F5061	Two Sec. of 11 V. @ 5 A	22 V. @ 5 A	11 V. @ 10 A	2000	E	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{4}$ "	7	6.00
**F5005*	Two Sec. of 12 V. @ 4 A	24 V. @ 4 A	12 V. @ 8 A	2000	E	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ "	6	5.67
**F5069*	One Sec. of 24 V. @ 3 A	War Surplus Equipment		2000	E	3 $\frac{1}{8}$ "	3 $\frac{3}{4}$ "	2 $\frac{5}{8}$ "	2 $\frac{1}{2}$	4.80
**F5075*	One Sec. of 24 V. @ 1 A	War Surplus Equipment		2000	D	2 $\frac{3}{4}$ "	3 $\frac{1}{4}$ "	2"	1 $\frac{1}{4}$	3.90

\*\*Types F5004, F5005, F5006, F5069, and F5075 designed for operation of 12 and 24 volt War Surplus Equipment.



## SPECIALS TO YOUR ORDER

- Special transformers can be manufactured to your order in the styles illustrated above on a job-lot basis. Small industrial users need not purchase so-called "stock" transformers and compromise their designs. Our prices are reasonable and delivery is good. Your inquiries on "specials" are solicited—give us complete information and we will quote on your requirements.



**AUTO-TRANSFORMERS • ISOLATED PRIMARY TRANSFORMERS • METERED TRANSFORMERS**



**Adjust-A-Volt**  
VARIABLE TRANSFORMER



No. 4



No. 3



No. 2



No. 1



No. 5



No. 6



No. 7



No. 8

**AUTO-TRANSFORMER MODELS**

Type	Code Word	Input Voltage	Output Voltage	Amperes Max.	Maximum Rating (V.A.)	Figure	Shipping Weight (one Unit)	Net Prices	Type
300BU	TREED	115	0-135	3.0	400	1	6 lbs.	\$ 12.50	300BU
500BU	FIVED	115	0-135	7.5	1000	1	11 lbs.	19.00	500BU
500B	FEDEN	115	0-135	7.5	1000	2	12 lbs.	23.00	500B
1500B	TOODE	115	0-135	15.0	2000	3	23 lbs.	46.00	1500B
3000B	THIRT	115	0-135	30.0	4000	2	27 lbs.	55.00	3000B
5000B	SIXEN	115	0-135	50.0	6100	3	80 lbs.	118.00	5000B
CA-5	CADDY	115	0-280	3.5	430	4	30 lbs.	27.50	CA-5
CA-10	CAMMY	115	0-280	7.5	860	4	40 lbs.	52.50	CA-10
520BU	BRANY	230	0-270	3.0	810	1	11 lbs.	20.00	520BU
520B	CRANY	230	0-270	3.0	810	2	12 lbs.	26.00	520B
1520B	DANNY	230	0-270	9.0	2400	3	27 lbs.	46.00	1520B
3020B	RANNY	230	0-270	18.0	4850	2	27 lbs.	55.00	3020B
5020B	TANNY	230	0-270	28.0	7500	3	80 lbs.	126.00	5020B
NA-5	NADDY	230	0-140	7.5	860	4	27 lbs.	28.50	NA-5
NA-10	NAMMY	230	0-140	15.0	1500	4	40 lbs.	55.50	NA-10

**Electro-Statically Shielded**

Television-Servicing

Servicing—Radio & Laboratory

**ISOLATION TRANSFORMER MODELS**

LR-5	LARKE	115	70-140	5.0	500	5	27 lbs.	\$ 29.50	LR-5
LR-10	LAMBE	115	70-140	10.0	1000	5	40 lbs.	57.50	LR-10
LR-22	LOOSE	230	70-140	5.0	500	5	27 lbs.	31.50	LR-22
LR-24	LOOKE	230	70-140	10.0	1000	5	40 lbs.	61.50	LR-24

**METERED AUTO-TRANSFORMER MODELS**

PAL-7	PADDE	115	0-135	7.5	1000	6	15 lbs.	\$ 40.50	PAL-7
1500-BD	LATTE	115	0-135	15.0	2000	8	35 lbs.	64.00	1500-BD
CAL-5	MALLE	115	0-280	3.5	430	7	32 lbs.	38.50	CAL-5
CAL-10	NALLE	115	0-280	7.5	860	7	42 lbs.	64.50	CAL-10
MAL-7	QUALM	230	0-270	3.0	810	6	15 lbs.	49.50	MAL-7
1520-BD	RALEN	230	0-270	9.0	2400	8	35 lbs.	64.00	1520-BD
NAL-5	TALLE	230	0-140	7.5	860	7	27 lbs.	40.50	NAL-5
NAL-10	SALLE	230	0-140	15.0	1500	7	40 lbs.	67.50	NAL-10

**Electro-Statically Shielded**

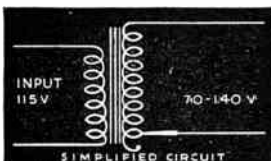
Television-Servicing

Servicing—Radios & Laboratory

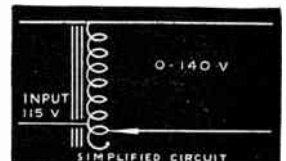
**METERED ISOLATION TRANSFORMER MODELS**

LRL-5	BARKE	115	0-140	5.0	500	7	29 lbs.	\$ 41.50	LRL-5
LRL-10	BAMBE	115	0-140	10.0	1000	7	42 lbs.	69.50	LRL-10
LRL-22	BOOSE	230	0-140	5.0	500	7	29 lbs.	43.50	LRL-22
LRL-24	BOOKE	230	0-140	10.0	1000	7	42 lbs.	73.50	LRL-24

**ISOLATION TRANSFORMER**



**AUTO-TRANSFORMER**



**ADJUST-A-VOLT FEATURES:**

- Smooth Continuous Control
- No Waveform Distortion
- High Efficiency
- Rugged Construction
- Excellent Regulation
- Conservatively Rated
- 50/60 Cycle Operation
- Standard Mountings

The Adjust-A-Volt combines the ease of control of the Rheostat with the high efficiency of the transformer and provides smooth, continuous control of voltage for the control of AC lines, Power, Heat, Light and Speed.

Other models available. Ask for complete catalog.

MANUFACTURED UNDER U. S. PATENT 2,009,013 AND OTHER PATENTS PENDING



# TRANSFORMERS

STEP

DOWN

STEP

UP

## ISOLATION AND LINE CORRECTION



FIG. 1



FIG. 2

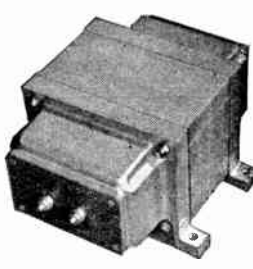


FIG. 3



FIG. 4

### STEP-DOWN AUTOTRANSFORMERS

Input 220-240 V. 60 cy. Output 115 V. Pri. Cord and Plug Sec. Receptacle

Cat. No.	Code	Mount Fig. No.	Cap. in Watts	Input, Volts	Output, Volts	Cycles	Dimensions in Inches			Net Wt. in Lbs.	Net Price	Cat. No.
							H.	W.	D.			
SB-0075	STEBA	1	75	200/240	115	50/60	3 1/8"	2 5/8"	3 3/4"	3 3/8	\$ 5.40	SB-0075
SB-0150	STECA	1	150	200/240	115	50/60	3 7/8"	3 1/4"	3 5/8"	4 1/8	7.35	SB-0150
SB-0250	STEDA	1	250	200/240*	115	50/60	4 3/8"	3 7/8"	4 3/8"	8 3/8	9.60	SB-0250
SB-0500	STEFA	1	500	200/240*	115	50/60	4 3/8"	3 7/8"	6 1/8"	12 3/8	15.60	SB-0500
SB-1000	STEGA	3	1000	200/240*	115	50/60	4 7/8"	7 1/4"	9"	22 3/8	28.50	SB-1000
SB-2000	STELA	3	2000	200/240*	115	50/60	5 1/4"	8 5/8"	11 1/4"	40 1/4	47.40	SB-2000

\* These models have primary taps of 200-220-240 Volts. Simply remove cover plate (see Figure 2) and connect to required taps.

### TELEVISION LINE CORRECTION STEP-UP AUTOTRANSFORMERS

Models SU 100/105 Volt. Input. Models RU 200/210 Volt Input

All SU Models Boost Input 10 Volts. All RU Models Boost Input 20 Volts

SU-0100	SUBAT	1	100	100/110	110/120	50/60	3 1/8"	2 5/8"	2 7/8"	2 3/4	\$ 5.15	SU-0100
SU-0250	SUCAT	1	250	100/110	110/120	50/60	3 1/8"	2 5/8"	3 3/4"	3 3/8	7.35	SU-0250
SU-0500	SUDAT	1	500	100/110	110/120	50/60	3 7/8"	3 1/4"	3 1/4"	4 1/8	8.85	SU-0500
SU-1000	SUFAT	1	1000	100/110	110/120	50/60	4 5/8"	3 7/8"	4 3/8"	8 3/8	17.65	SU-1000
SU-2000	SUGAT	1	2000	100/110	110/120	50/60	4 5/8"	3 7/8"	5 5/8"	14 3/8	35.40	SU-2000
RU-0100	SREBA	1	100	200/210	220/230	50/60	3 1/8"	2 5/8"	2 7/8"	2 1/2	5.15	RU-0100
RU-0250	SRECA	1	250	200/210	220/230	50/60	3 1/8"	2 5/8"	3 3/4"	3 3/8	7.35	RU-0250
RU-0500	SREDA	1	500	200/210	220/230	50/60	3 7/8"	3 1/4"	3 1/4"	4 1/8	8.85	RU-0500
RU-1000	SREFA	1	1000	200/210	220/230	50/60	4 5/8"	3 7/8"	4 3/8"	8 3/8	17.65	RU-1000
RU-2000	SREGA	1	2000	200/210	220/230	50/60	4 5/8"	3 7/8"	5 5/8"	14 3/8	35.40	RU-2000

### RADIO — ISOLATION TRANSFORMERS — TELEVISION

All Models 115 V. Input. 115 V. Output. Electrostatically Shielded.

SI-050	SICAR	1	50	115	115	50/60	3 1/2"	2 7/8"	3"	4 1/2	\$ 6.00	SI-050
SI-100	SICER	1	100	115	115	50/60	3 3/4"	3 5/8"	3 5/8"	7 1/4	11.70	SI-100
SI-250	SICOR	1	250	115	115	50/60	4 3/8"	3 3/8"	5 1/8"	14 1/2	21.00	SI-250

### TELEVISION LINE VOLTAGE ADJUSTORS, METERED

8 Position Rotary Switch Corrects Low or High Line to 115 V. from 85-95-105-115-125-135 V-AUTOTRANSFORMER

LC-150	LABAD	4	150	85-135	115	50/60	6 1/2"	4 3/8"	5"	7 3/4	\$17.40	LC-150
LC-350	LAFAD	4	350	85-135	115	50/60	6 1/2"	4 3/8"	5"	10 3/4	21.00	LC-350
LC-500	LAJAD	4	500	85-135	115	50/60	6 1/2"	4 3/8"	5"	11 3/8	25.50	LC-500

STACO Transformers are compact and modern in design. Only the highest quality silicon lamination steel is used which assures cool operating transformers. Each coil is layer wound with the best quality enameled wires, each layer is insulated with heavy insulating material, each coil is varnished impregnated and high temperature baked. High Voltage Breakdown Test is performed on each coil and transformer in accordance with existing RMA Specs. This combination of high quality materials plus the finest workmanship is assurance of better and lasting performance at highest operating efficiency, yet costs no more than average.

Finishes: Mount type #1, Black baked enamel, Mount type #2, Black baked enamel, Mount type #3, Natural Buffed Aluminum, Mount type #4, Black Wrinkle baked enamel.



# Halldorson TELEVISION COMPONENTS

## HORIZONTAL BLOCKING-OSCILLATOR TRANSFORMERS

Item Number	Application	Dimensions			Mtg. Type	Weight Lbs.	List Price
		H	W	D			
B6600	Equivalent to R.C.A. 208T3	1 1/2	2 1/2	1 1/2	D4	1/2	\$2.75
B6601	Equivalent to R.C.A. 208T1	1 3/4	2 5/16	1 1/2	N4	1/2	3.40

## VERTICAL BLOCKING-OSCILLATOR TRANSFORMERS

B6700	Turns Ratio 1:4.2	1 3/8	2 3/8	1 1/4	D4	1/2	\$2.50
B6701	Equivalent to R.C.A. 208T9—Turns Ratio 1:4.2	1 1/4	1 1/8	1 1/8	N5	1/2	3.25
B6702	Similar to B6701 except Mtg. Type—Turns Ratio 1:4.2	1 1/8	2 1/8	7/8	K4	1/2	2.50
B6703	Equivalent to R.C.A. 208T2—Turns Ratio 1:4.2	1 3/4	2 5/16	1 1/2	N4	1/2	3.20

## VERTICAL OUTPUT TRANSFORMERS

Z1800	Equivalent to R.C.A. 204T2—T/R 10:1	3	2 1/2	2 9/16	J	2 3/4	\$6.00
Z1801	Equivalent to R.C.A. 204T9—T/R 10:1	3	2 1/2	2 1/4	J	2 1/2	5.35
Z1802	Equivalent to Motorola 25C790151—T/R 10:1	2 1/4	3 9/16	1 11/16	C4	2	4.00
Z1803	General Application—T/R 10:1	2	3 3/4	1 3/4	B4	1	4.00
Z1804	Equivalent to R.C.A. 222T1—T/R 11.4:1 Autoformer	2	3 1/4	1 3/8	B4	2	4.00
Z1805	Equivalent to R.C.A. 74950—T/R 44:1	3	2 1/2	2 1/2	J	2 1/2	6.20

## DEFLECTION YOKES

Item Number	Application	Horizontal MH.	Vertical MH.	Mtg. Type	Weight Lbs.	List Price
DF601	70° Cosine Deflection, Ferrite Core	8.5	50	Q1	1	10.75
DF602	70° Cosine Deflection, Ferrite Core	13.5	50	Q1	1	10.75
DF603	70° Cosine Deflection, Ferrite Core	30.0	3.5	Q1	1	10.75

## FOCUS COILS

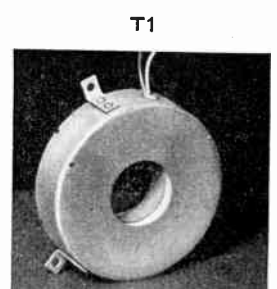
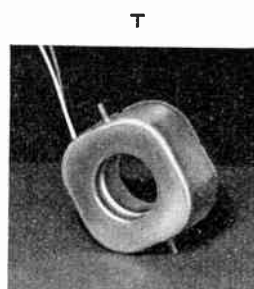
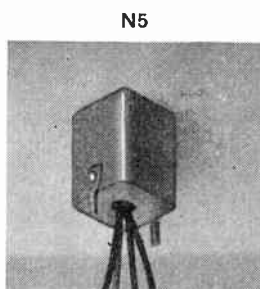
Item Number	Application	Resistance	Mtg. Type	Weight Lbs.	List Price
EM701	Equivalent to R.C.A. 202D2	470 Ohms	T1	3 1/4	10.75

## AUDIO OUTPUT TRANSFORMERS

Item Number	Primary	Secondary	Primary Ma.	Audio Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
Z1100	1500	2-4-6	55	5	1 3/8	2 3/8	1 1/4	D4	1/2	\$2.65
Z1102	2000	3 to 6	50	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.75
Z1103	2000 with 10 Ohm Tap	3 to 6	50	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.20
Z1107	4500	3 to 6	35	5	1 3/8	2 3/8	1 3/8	D4	1/2	1.80
Z1113	7000	4	30	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.80
Z1112	7000	4-8-15	40	10	1 7/8	3 1/4	1 3/4	B4	1	3.30
Z1115	7600	3.2	35	5	1 3/8	2 3/8	1 3/8	D4	1/2	2.00
Z1406	14,000 P.P.	4-8-15	30	15	2 3/8	2 3/8	1 3/8	B5	1	3.50
Z1000	S. or P.P.-4000-14000	1 to 30	35	4	1 3/8	2 3/8	1 3/8	D2	1/2	2.50
S3501	500-1000-1500-2000	3.2, 6-8	60	8	1 3/8	2 3/4	1 3/8	A2	3/4	2.80

## FILAMENT TRANSFORMERS

F5511	Primary 117 Volts—Sec. 6.3 Volts C.T. @ 1.2 A.	1 3/8	2 7/8	1 3/8	A4	3/4	\$2.80
F5512	Primary 117 Volts—Sec. 6.3 Volts C.T. @ 3.0 A.	2 3/8	3 1/4	1 3/8	B5	1	4.10
F5516	Primary 117 Volts—Sec. 6.3 Volts C.T. @ 10.0 Amps.	3 1/2	2 3/4	2 3/8	U5	3 1/2	7.00



# TELEVISION COMPONENTS Halldorson



## HORIZONTAL DEFLECTION AND H. V. FLYBACK TRANSFORMERS

Item Number	Application	Dimensions			Mtg. Type	Weight Lbs.	List Price
		H	W	D			
FB400	9 to 10 K.V. for R.C.A. 211T1 and 211T3	4 3/8	3 3/4	2 1/4	F'	1 3/4	\$8.90
FB401	10-14 K.V. for G.E. 77J1 Type Units	4 1/2	2 7/8	2 1/4	F'2	1	11.00
FB402	13 to 14 K.V. for R.C.A. 211T5 in doubler circuits	4 3/8	3 3/4	2 1/4	F'	1 3/4	10.50
FB403	12 to 13 K.V.—65° to 70° Picture Tubes	4 3/8	3 3/4	2 1/4	F'	1 3/4	11.00
FB404	11-13 K.V. for R.C.A. 74951 in direct-drive circuits	2 7/8	3 1/2	3	F'1	1/2	7.00

## TV POWER TRANSFORMERS—All Primaries 117 Volts, 60 Cycles

Item Number	Plate A.C. Load Volts	D.C. Ma.	Fil. No. 1		Fil. No. 2		Fil. No. 3		Dimensions			Mtg. Type	Weight Lbs.	List Price
			Volt	Amp.	Volt	Amp.	Volt	Amp.	H	W	D			
P9701	225-0-225	90	5	2	6.3	5.15			3 3/4	2 3/4	3 3/8	L	4 1/2	\$9.80
P9702	335-0-335	175	5	2	6.3	7	6.3	1.2	4 3/8	3 3/8	3 3/8	S	8	16.50
P9703	380-0-380	180	5 C.T.	3	6.3	9	Rect. Tube Socket		5 1/2	4 1/8	3 1/2	L2	9	18.00
P9705	360-0-360	200	5	3	6.3	7.75	6.3	1.2	5 1/2	3 3/4	4 3/8	L	11	21.90
P9707	375-0-375	205	5	3	5	2	6.3	5.6	4 1/4	3 3/4	4 1/2	L	9 1/4	18.15
P9708	378-0-378	205	5	3	6.3	9.5	6.3	1.2	4 3/8	3 3/4	4 1/2	S	10	17.50
P9709	390-0-390	230	5	3	5	2	6.3	9	5 1/4	3 3/4	4 3/8	L	12	24.00
P9711	360-0-360	250	5	3	5	2	6.3	9	5 1/8	3 3/4	4 1/2	L	14	25.00
							6.3	2.7						
P9713	360-0-360	250	5	3	5	2	6.3	8	5 1/4	3 7/8	4 3/4	L	10	21.95
							6.3	.6						
P9715	332-0-332 207-0-207	180 70	5	3	6.3	1.2	6.3	9	5 1/2	3 3/4	4 1/2	L2	12	27.00
								Rect. Tube Socket						
P9717	360-0-360 167-0-167	185 65	5	3	6.45	12			4 1/4	3 3/4	4 1/2	L	9 5/8	18.40
P9719	350-0-350	270	5	2	5	6	6.6	7.8	4 1/4	3 3/4	4 1/2	L	13	23.00
							6.3	1.6						
P9721	365-0-365	295	5	6	5	2	12.6 C.T.	5	6 1/2	3 3/4	4 3/4	L	16 1/2	27.00
P9723	375-0-375 325-0-325	170 130	5 5	3 3	6.3 5	2.6 2	12.6 C.T.	5	5 3/8	3 3/4	4 1/2	L	11	25.00
P9725	385-0-385 235-0-235	195 105	5 5	3 2	5 2		6.3	7.65	4 3/8	3 3/4	4 1/2	L	11 1/4	23.00
							6.3	.6						
P9727	400-0-400 212-0-212	220 90	5 5	3 3	5 3	2	6.3	10	5 3/8	3 3/4	4 1/2	L	10	25.00
							6.3	2.6						
P9728	405-0-405 325-0-325	240 200	5 5	3 3	5 6.3	3 2.6	6.3	6	5 1/8	4 7/8	5 5/8	S	18	40.00
P9918	1500	10	2.5	1.75	2.5	2.1			4	3 1/4	3 1/4	S	4 1/2	11.90
P9916	2400	5	2.5	2	2.5	2			4 1/4	3 1/4	3 3/4	S	6	14.00

ADDITIONAL POWER TRANSFORMERS ARE LISTED ON PAGES N-106 and N-107

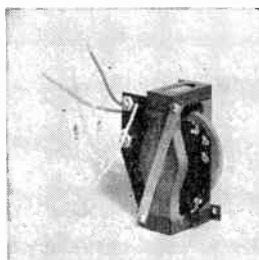
## TELEVISION FILTER CHOKES

Item Number	Inductance Hys.	Ma. D.C.	D.C. Res.	Insulation	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
C5019	8	85	250	2000	2 1/4	3 3/4	2 1/4	C4	1 1/2	\$3.10
C5024	2.5	130	100	2000	2	3 1/4	1 3/4	B4	1	2.90
C5026	2.3	150	60	1500	2	3 1/4	1 3/4	B4	1	2.90
C5029	4	175	100	3000	3 1/4	2 5/8	3	S	2 1/2	6.00
C5030	2	200	60	1500	2 1/4	3 3/4	2 1/4	C4	1 3/4	3.50
C5036	4	250	60	3000	3 5/8	3	3 1/2	S	4 1/2	9.10
C5037	1	300	45	1500	2 1/4	3 3/4	2 1/4	C4	1 3/4	3.40

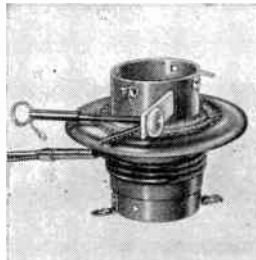
N4



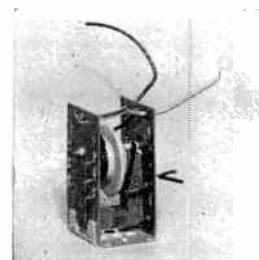
F



F1



F2





# Halldorson *QUALITY Transformers SINCE 1913*

## AUDIO INTERSTAGE—SINGLE PLATE TO SINGLE GRID

Item Number	Application	Impedance Primary	Impedance Secondary	Turns Ratio	Primary D.C. Ma.	H	Dimensions W	D	Mtg. Type	Weight Lbs.	List Price
A2500	Single Plate to Single Grid	10,000	90,000	1:3	10	2 1/8	2 3/4	2 3/8	B4	1 1/2	\$3.40
A2501	Single Plate to Single Grid	10,000	90,000	1:3	10	1 5/8	2 3/4	1 1/2	D4	3/4	2.50
A2502	Single Plate to Single Grid	10,000	90,000	1:3	10	1 5/8	2 7/8	1 1/2	A4	3/4	3.15
A2503	Single Plate to Single Grid	10,000	90,000	1:3	10	1 5/8	2 7/8	1 1/2	A4	3/4	3.00
A2504	Single Plate to Single Grid	10,000	40,000	1:2	10	1 5/8	2 7/8	1 1/2	A4	3/4	3.00

## SINGLE PLATE TO PUSH-PULL GRIDS

A2600	Single Plate to P.P. Grids	10,000 to 160,000	1:4	10	3	2 5/8	2 3/4	S	2 1/2	\$7.70
A2601	Single Plate to P.P. Grids	10,000 to 160,000	1:4	10	2	3 1/4	1 3/4	B4	1	3.65
A2602	Single Plate to P.P. Grids	10,000 to 122,500	1:3.5	10	1 5/8	2 7/8	1 1/2	A4	3/4	3.00
A2603	Single Plate to P.P. Grids	10,000 to 90,000	1:3	10	1 5/8	2 7/8	1 1/2	A4	3/4	2.70
A2604	Single Plate to P.P. Grids	10,000 to 90,000	1:3	10	2	3 1/4	2	B4	1	3.45

## PUSH-PULL PLATES TO PUSH-PULL GRIDS

A2700	Single or P.P. to Single or P.P.		1:1, 1:3, 1:6	10	2	3 1/4	2	B4	1 1/2	\$4.75	
A2701	P.P. Plate to P.P. Grids	20,000	45,000	1:1.5	10	2	3 1/4	2 3/8	B4	1	4.55

## UNIVERSAL P.P. INPUT—C.T. PRI.—SPLIT SEC.

A2710	P.P. Plates to P.P. Grids	10,000	90,000	1:3	10	2 3/8	2 7/8	1 3/4	B4	1	\$4.75
A2711	P.P. Plates to P.P. Grids	10,000	90,000	1:3	10	2 1/4	3 3/4	2 5/8	C4	2	5.55

## DRIVER

Item Number	From	To	Class	Ratio Primary 1/2 Sec.	Primary D.C. MA.	H	Dimensions W	D	Mtg. Type	Weight Lbs.	List Price
D6000	30	19 or 2-30	B	2.5:1	15	1 5/8	2 7/8	1 1/2	A4	3/4	\$2.80
D6001	6C5	P.P. 6F6	AB	2:1	15	1 5/8	2 7/8	1 1/2	A4	3/4	3.15
D6002	6C5, 6R7, TRI-6F6	P.P. 6L6	AB	2.5:1	40	3 1/4	2 5/8	2 3/4	S	2 1/2	6.65
D6003	41	P.P. 6A6	B	4:1	15	1 5/8	2 7/8	1 1/2	A4	5/8	3.60
D6004	6C5, 6R7, or 6F6Tri.	P.P. 6L6	AB	5:1	30	2	3 1/4	1 7/8	B8	1	4.85
D6005	6A6 or 53 Par.	P.P. 6N7	B	3:1	30	2 1/2	2 7/8	1 7/8	B7	1	4.55
D6006	Tri. 89, 46 or 59	1-79, 2-46 or 2-59	B	2.2:1	30	2 1/2	2 7/8	1 7/8	B7	1	4.35
D6100	20,000 P.P.	P.P. Grids	B	3:1	10	1 5/8	2 7/8	1 1/2	A4	5/8	3.20
D6101	20,000 P.P.	30,000 P.P.	B	2.8:1	15	3 3/8	2 5/8	2 5/8	E4	2 1/2	6.95
D6102	P.P. 2A3, 45, 6L6 P.P. Par. 2A3, 6L6	P.P. 849, T240 P.P. B12, 211	A B	2:1	90	3 1/2	2 7/8	3 1/4	S	3 3/4	8.50
D6103	2A3-45-46 42	PP-6L6-6V6-6F6 P.P. Par. 6L6	AB2 AB1	5:1	80	3 3/8	2 5/8	2 5/8	S	2 3/4	7.15

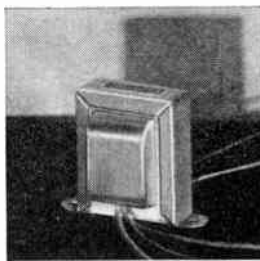
## DRIVER—Universal Type

D6200	1:1.75-1:1.85-1:1-1:1.25-1:1.45-1:1.175 1:2-1:2.25-1:2.5-1:2.75-1:3.15	Pri. -150 MA. Sec. -100 MA.	3 1/8	2 5/8	3 3/8	G	3 1/4	\$15.25
D6201	1:1-1.5:1-2:1	35	2	3 3/8	1 3/4	B4	1	4.65

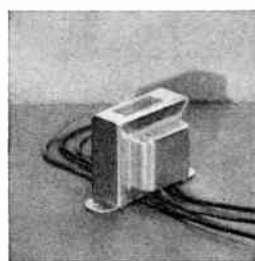
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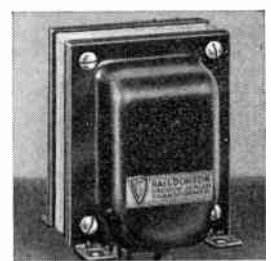
A7, B7, C7, or D7



A8, B8, C8, or D8



S



QUALITY *Transformers* SINCE 1913

# Haldorson



## AUDIO OUTPUT—Single Plate to Voice Coil and Line

Item Number	Typical Output Tubes	Primary Impedance	Secondary Impedance	Primary Ma.	Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
						H	W	D			
Z1100	50L6, 25L6, 25B6, 48	1500	2-4-6	55	5	1 3/8	2 3/8	1 3/8	D4	1/2	\$2.65
Z1101	50L6, 35A5, 25B6	2000	3, 2	50	3	1 3/8	2 1/8	1	K4	1/2	1.45
Z1102	50L6, 35A6, 25L6, 2A3	2000	3 to 6	50	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.75
Z1103	25L6, 10 Ohm Tap	2000	3 to 6	50	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.20
Z1104	35L6, 2A3	2500	4-8-15	60	10	1 3/8	3 1/4	1 3/8	B4	1	3.35
Z1105	50L6, 35B5, 7A5 (3% Tap)	3000	3 to 4	50	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.20
Z1106	71A, 45, 25A6, 12A5	4000	4-8-15	40	10	1 7/8	3 1/4	1 3/8	B4	1	3.30
Z1107	43, 25A6, 2A6	4500	3 to 6	35	5	1 3/8	2 3/8	1 3/8	D4	1/2	1.80
Z1108	45, 25A6, 6L6, 6V6	5000	4-8-15-500	55	20	3 1/8	2 5/8	2 5/8	S	2 1/2	7.40
Z1109	50, 31, 25A7G, 6V6	5000	4-8-15	50	8	1 7/8	3 1/4	1 3/8	B4	1	3.40
Z1110	184, 384	6000	3 to 6	10	3	1 3/8	2 1/8	7/8	K4	1/2	1.65
Z1111	50B5, 50L6, 35A5	2000 or 6000	3, 2	60 or 10	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.20
Z1112	6AC5, 6B5, 6F6, 6N7	7000	4-8-15	40	10	1 7/8	3 1/4	1 3/8	B4	1	3.30
Z1113	7B5, 6K6, 6F6, 42	7000	4	30	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.80
Z1114	2500-4000-5000-6000-7000	500	500	60	10	2 3/4	3 1/8	2 1/4	C3	7 1/2	6.75
Z1115	6F6, 6K6, 6N6, 7B5	7600	3, 2	35	5	1 3/8	2 3/8	1 3/8	D4	1/2	2.00
Z1116	3Q4 Hum Reducing Tap	9000	3 to 6	10	4	1 3/8	2 3/8	1 1/4	D4	1/2	2.15
Z1117	6N7, 3C5, 1J6	10,000	4	30	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.80
Z1118	12A7, 6Y7, 6V7, 1T5	15,000	4	10	5	1 3/8	2 3/8	1 1/4	D4	1/2	1.90
Z1119	1N6, 1LA4, 1D8, 1A5	25,000	4	5	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.45

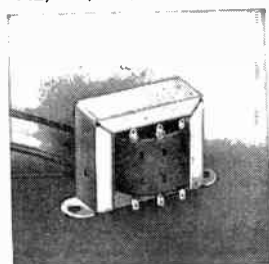
## AUDIO OUTPUT—Push-Pull Plates to Voice Coil and Line

Item Number	Typical Output Tubes	Primary Impedance	Secondary Impedance	Primary Ma.	Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
						H	W	D			
Z1400	P.P. Par. 6L6, 45	3800 & 3300	4-8-250-500	250	75	4 3/4	3 3/8	3 7/8	S	8	\$12.75
Z1401	P.P. 6L6 (10% F.B. Winding)	4400	4-8-15-250-500	70	30	3 3/8	3	3 1/4	S	3 1/2	9.50
Z1402	P.P. 2A3, 6A3 (Fixed Bias)	5000	4-8-15	80	15	2 3/8	2 7/8	1 3/8	B5	1	3.60
Z1403	P.P. 6L6 (F.B. Winding)	6600	4-8-15-500	150	35	4	3 1/4	3 3/8	S	4 3/4	10.45
Z1404	P.P. 6V6, 6F6, 2A5	10,000	4-8-15	30	12	2 3/8	2 7/8	1 3/4	B5	1	3.15
Z1405	P.P. 45, 6V6, 6AC5	10,000-7000	4-8-15-500	60	25	3 1/8	2 5/8	2 3/4	S	2 1/2	8.50
Z1406	P.P. 89, 47, 7B5, 6K6	14,000	4-8-15	30	15	2 3/8	2 7/8	1 3/8	B5	1	3.50
Z1407	8,000-10,000-12,000-14,000	5,000	5-8-15	55	10	2 3/8	3 3/8	2 1/4	C3	1 3/4	6.85
Z1408	P.P. 6Z7, 6K6, 1S6	20,000	4-8-15	25	15	2 3/8	2 7/8	1 3/8	B5	1	3.75
Z1409	5,000-10,000-20,000	50-125-333-500	15	1	2	3 3/4	1 3/8	B2	1	4.50	
Z1410	P.P. 1F4, 1J5, 1T5, 6G6	25,000	4	10	5	1 3/8	2 3/8	1 3/8	D4	1/2	2.30
Z1411	P.P. 1A5-1N6	50,000	3, 5	10	5	1 3/8	2 3/8	1 1/4	D4	1/2	2.50
Z1412	P.P. 1A5G, 1E7G, 1N7G, 6V7G	50,000	3 to 6	20	8	1 5/8	2 7/8	1 1/2	A4	5/8	3.40

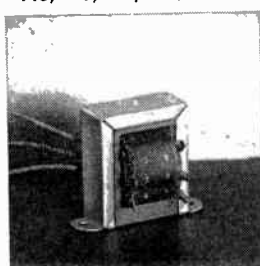
## UNIVERSAL AUDIO OUTPUT

Item Number	Application	Secondary Impedance	Primary Ma.	Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
Z1000	Single or P.P. Plates (4,000-14,000)	1 to 30	35	4	1 3/8	2 3/8	1 1/4	D2	1/2	\$2.50
Z1001	Single or P.P. Plates (2,500-15,000)	2, 4, 6, 8, 15	50	4	1 3/8	2 3/8	1 3/8	D2	5/8	2.80
Z1002	Single or P.P. Plates (4,000-14,000)	1 to 30	40	8	1 5/8	2 7/8	1 1/2	A2	3/4	2.70
Z1003	Single Plate (4000, 7000, 10,000)	3 to 8	40	8	1 5/8	2 7/8	1 1/2	A2	3/4	3.15
Z1004	Single or P.P. Plates (4,000-20,000)	3 to 6	50	8	2	2 3/8	1 1/2	A3	3/4	3.25
Z1005	Single or P.P. Plates (2,500-13,000)	2, 4, 6, 8, 15	70	8	2	2 1/2	2 1/8	A3	3/4	3.30
Z1006	Single Plate (1500 to 10,000)	1 to 20	55	10	1 5/8	2 7/8	1 1/2	A2	3/4	2.90
Z1007	Single or P.P. Plates (2,500-14,000)	1 to 30	50	10	2 3/8	2 7/8	1 1/2	B3	1	3.85
Z1008	Single or P.P. Plates (2,500-14,000)	1 to 30	50	10	2 3/8	2 7/8	1 3/8	B6	1	3.85
Z1009	P.P. Plates (3,500-14,000)	.5 to 30	40	15	2 3/8	2 7/8	2	B3	1 1/8	3.65
Z1010	P.P. Plates (2,500-13,000)	2, 4, 6, 8, 15	70	15	2 3/8	2 7/8	2 3/8	B3	1 1/2	4.75
Z1011	P.P. Plates (4,000-14,000)	1 to 30	50	18	2	3 1/4	2	B2	1 1/4	4.70
Z1012	P.P. Plates (8,000-10,000-12,000-14,000)	4-8-15-500	60	18	3 1/8	3 3/8	2 1/2	S	2 1/4	8.30
Z1013	Single or P.P. Plates (4,000-13,500)	1 to 30	60	20	3 1/8	3 3/8	2 1/2	C3	3	5.25

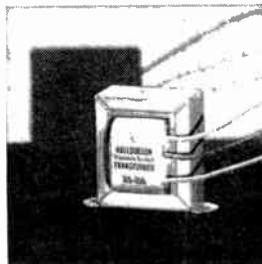
A2, B2, C2, D2, or E2



A3, B3, C3, D3, or E3



A5, B5, C5, D5, or E5



B6





# Halldorson QUALITY Transformers SINCE 1913

## HIGH FIDELITY TRANSFORMERS

BRIDGING, REPEAT, INPUT, INTERSTAGE and OUTPUT HIGH FIDELITY TRANSFORMERS

These Halldorson High Fidelity Transformers are single to quadruple alloy-shielded with high permeability nickel-iron cores. Finish is grey enamel and mounting is by means of a strap-clamp which allows the units to be rotated. The frequency response of these units is within 1 DB from 30 to 20,000 cycles. They can be used as replacements in the most expensive broadcast equipment or for original components in amplifying systems designed for the best reproductive tone quality. Their performance has been proved in innumerable instances. The world's largest distributor of wired music has adopted them as standard components for his amplifiers, after exhaustive tests against the best in the field.

Item Number	Application	Primary Impedance	Secondary Impedance	±1 DB	Max. DB Level	Max. Unbal. D.C. Primary	Mtg. Type	Weight Lbs.	List Price
H4000	Interstage	8,000 to 15,000	60,000 C.T.	30 to 20,000	+20	3 Ma.	Y	½	\$22.90
H4001	Output to Line	8,000 to 15,000 in Two Sections	50-125-200 250-333-500	30 to 20,000	+10	1 Ma.	Y	½	25.85
H4002	Input	500-333-250 200-125-50	50,000 in Two Sections	30 to 20,000	0	3 Ma.	Y	½	25.85
H4003	Bridging	20,000	50,000	30 to 20,000	+20	3 Ma.	Y	½	21.45
H4004	Repeat Coil	500/600	500/600	30 to 20,000	+20	0	Y	½	23.45

## HIGH FIDELITY OUTPUT TRANSFORMERS ±1 DB 20-20,000 CPS FOR USE IN MUSIC LOVERS, POPULAR AMPLIFIER CIRCUITS

Item Number	Primary Impedance	Secondary Impedance	Max. Watts	Max. Pri. D.C. Per Half	H	W	D	Mtg. Type	Weight Lbs.	List Price
H4100	3000	8-16	50	175 Ma.	4 ¼	3 ½	4 ¼	S	5	\$18.50
H4101	5000	8-16	50	150 Ma.	4 ¼	3 ½	4 ¼	S	5	18.50
H4102	9000	8-16	50	100 Ma.	4 ¼	3 ½	4 ¼	S	5	18.50

## LINE, MICROPHONE, INTERCOM., TRANSCIVER INPUT TO GRID

Item Number	Application	Primary Impedance	Secondary Impedance	H	W	D	Mtg. Type	Weight Lbs.	List Price
G2000	Single Button to Single Grid	100	60,000	1 ¾	2 ¾	1 ½	D4	½	\$2.95
G2001	Single Button to P.P. Grids	100	400,000	2 ½	2 ¾	1 ¾	B5	1 ¼	4.15
G2002	Single Button to Single Grid	200-70	80,000	1 ¾	2 ¾	1 ¾	D4	½	2.95
G2003	Double Button to Single Grid	200 C.T.	125,000	1 ¾	3 ¼	1 ¾	B5	1	3.85
G2005	Single or Double to P.P. Grids	500-333-200-125-50	100,000	1 ¾	3 ¼	1 ¾	B7	1 ¼	5.25
G2006	Mic. Line or Mixer to Single Grid	†500 C.T. †200 C.T. 250-50	50,000	3	2 ¾	2 ¾	S	2 ½	8.35
G2007	Transceiver Mic. & Plate to Grid	200-5000	60,000	1 ¾	2 ¾	1 ½	A4	¾	3.60
G2008	Intercommunicator Input	4	25,000	1 ¾	2 ¾	1 ½	D8	½	2.60

## LINE TO LINE

L2400	Line to Line	500-333-200-125-50	500-333-200-125-50	2	3 ¼	1 ¾	B2	1	\$6.00
L2401	Line to Line or Line to V.C.	†500 C.T. †200 C.T. 250-50	4-8-15-500	3	2 ¾	2 ¾	S	2 ½	9.10

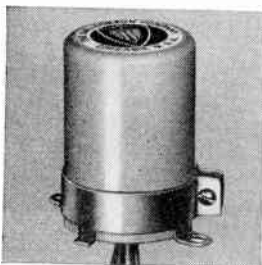
†Inductive and capacitive balance to center tap.

## SPEAKER MATCHING

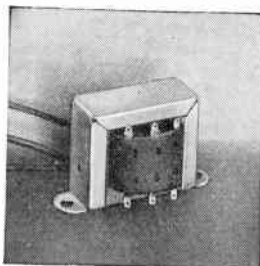
Item Number	Primary Impedance	Secondary Impedance	Watts	H	W	D	Mtg. Type	Weight Lbs.	List Price
S3500	500	3.2, 6-8	5	1 ¾	2 ¾	1 ¾	D2	½	\$2.00
S3501	2000-1500-1000-500	3.2, 6-8	8	1 ¾	2 ¾	1 ¾	A2	¾	2.80
S3502	2000-1500-1000-500	3.2, 6-8	12	2 ¾	2 ¾	1 ¾	B3	1 ¾	3.90
S3504	8000-6000-4000-2500	6-8	12	2 ¾	2 ¾	1 ¾	B5	1 ½	4.50
S3503	2000-1500-1000-500	3.2, 6-8	18	2 ¾	2 ¾	1 ¾	B3	1 ¾	4.55
S3505	500	3.2, 6-8	15	2 ¼	2 ¾	2	B3	1 ½	4.55
S3506	1500-1000-500	8, 4, 2.65, 2.35, 2, 1.5, .7, .5, .3, .2, .1, .05	25	3 ½	3 ¾	2 ¼	E3	2 ½	5.10
S3507*	10,000-5000-2500-1250-625	4-8-15	8	2	2 ½	1 ¾	A3	¾	3.90
S3508*	10,000-5000-2500-1250-625-312.5	4-8-15	16	2 ¾	3 ¼	2 ¼	C3	1 ½	5.10

\*70.7 volt line-to-voice coil application. Power level adjustable in 3 db steps.

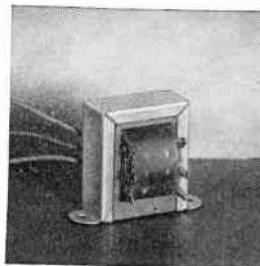
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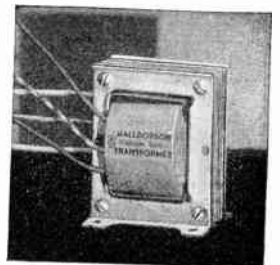
A2, B2, C2, D2, K2



A3, B3, C3, D3, E3



J



QUALITY *Transformers* SINCE 1913

# Haldorson



## PLATE SUPPLY

Showing continuous service D.C. Ma. using choke-input filter. For intermittent duty, current drain may be increased 25% above rated value. With capacitor-input filter, current drain should be decreased by 25%.

Item Number	Secondary A.C. Voltage	D.C. Ma.	Primary Volts	Dimensions			Mtg. Type	Weight Lbs.	List Price
				H	W	D			
T3000	415-0-415	200	117	4	3 1/4	3 1/2	S	5	\$10.75
T3001	515-0-515	235	117	4 3/8	3 5/8	4 1/8	S	7	13.75
T3002	600-500-0-500-600	250	117	4 3/4	4	4	S	9 1/2	13.90
T3003	665-0-665	250	117	4 3/4	4	4 3/8	S	9 5/8	17.50
T3004	750-0-750	265	117	4 3/4	4	4 7/8	S	11 1/2	19.50
T3005	920-0-920	250	117	4 3/4	4	5	S	12	20.50
T3100	1200-0-1200	225	117	4 3/4	4	5 1/8	S3	13	22.50
T3101	1200-0-1200	325	117	5 3/8	4 5/8	6 5/8	S3	22 1/4	37.00
T3102	1475-0-1475	250	117	5 3/8	4 5/8	6 1/2	S3	22 1/4	36.50
T3103	1790-0-1790	225	117	6	4 1/2	6 3/4	S3	25	42.00
T3104	2065-0-2065	200	117	6	4 1/2	6 3/4	S3	25	41.75

## MODULATION TRANSFORMERS—Specific Type

Item Number	Inductance in Ohms		Pri. Ma.	Sec. Ma.	Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
	Primary	Secondary				H	W	D			
M6300	10,000 C.T.	4000	32	50	5	1 5/8	2 7/8	1 1/2	A4	3/4	\$3.30
M6301	4500	8500	60	50	10	2	3 1/4	2	B4	1 1/4	4.85
M6302	10,000 C.T.	8000, 6500 5000, 3000	100	100	25	3 1/4	2 5/8	2 3/4	S	2 3/4	7.60
M6303	900, 6900 C.T.	6250, 5000 4000, 3300	250	300	175	4 3/4	4	6 1/4	G	11 1/2	21.00

## MODULATION TRANSFORMERS—Universal Type

Item Number	Adjustable Impedance:	Primary D.C. Ma.	Secondary D.C. Ma.	Watts	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
M6500	2,000-20,000 ohms	100	100	15	3 1/8	2 5/8	2 7/8	G	2 1/2	\$12.95
M6501	2,000-20,000 ohms	150	150	30	4	3 1/4	3 1/2	G	4 1/4	13.95
M6502	2,000-20,000 ohms	180	180	60	4	3 1/4	4 1/4	G	6 1/8	14.95
M6503	2,000-20,000 ohms	225	225	125	4 3/4	4	4 1/2	G	9 1/2	22.30

## 6 VOLT VIBRATOR TRANSFORMERS—AUTO RADIO

Item Number	Secondary D.C. Volts to Filter	Secondary Ma.	Dimensions			Mounting Type	Weight Lbs.	List Price
			H	W	D			
V3800	150	40	2 5/8	3 1/8	2 3/8	C5	1 1/4	\$5.20
V3801	225	40	2 5/8	3 1/8	2 3/8	C5	1 1/2	5.95
V3802	250	50	3 1/8	2 1/2	2 3/8	J	2 1/4	6.05
V3803	250	50	3 1/8	2 3/8	2 1/2	N3	3	7.50
V3804	265	55	3 1/4	2 5/8	2 1/2	N6 with Hash Filter	2 1/2	6.90
V3805	250	60	2 1/8	2 1/2	2 3/8	J	2	6.95
V3806	270	60	2 5/8	2 1/4	2 3/4	N3	2 1/4	6.90
V3807	280	65	3 1/8	2 3/8	2 1/2	N3	2 1/4	7.50
V3808	285	75	3 1/8	2 1/2	2 1/4	J	2 3/4	7.90

## 6 VOLT VIBRATOR OR 115 V. A.C. PRIMARY

Item Number	Secondary D.C. Volts to Filter	Secondary Ma.	Dimensions			Mounting Type	Weight Lbs.	List Price
			H	W	D			
V3815	350 Fil. 0.3 V., C.T.	135- 4.75A	4 3/4	3 3/8	4 1/4	S	10	\$14.90

## STEP-DOWN AUTOFORMERS

Item Number	Primary Voltage	Secondary Voltage	Watts	Dimensions			Mounting Type	Weight Lbs.	List Price
				H	W	D			
J4300	220	110	65	8 1/8	2 5/8	2 3/4	S2	2 1/2	\$8.90
J4301	220	110	100	4	3 1/4	3	S2	3 1/2	10.50
J4302	220	110	160	4	3 1/4	3 1/4	S2	5	12.90
J4303	220	110	250	4 1/4	3 1/2	4	S2	7 1/2	16.90
J4304	220	110	500	4 3/4	4	5	S2	12	21.35
J4305	220	110	1000	5 1/4	4 3/8	6 3/4	S2	25	45.00

## ISOLATION TRANSFORMERS

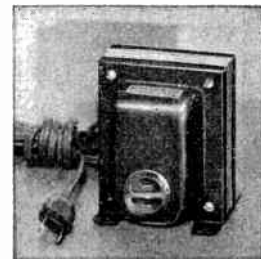
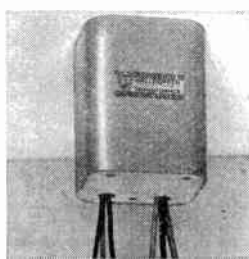
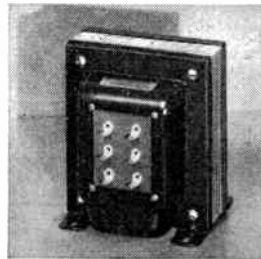
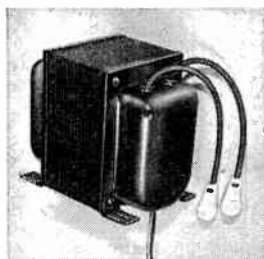
Item Number	Primary Voltage	Secondary Voltage	Watts	Dimensions			Mounting Type	Weight Lbs.	List Price
				H	W	D			
K4600	115	115	50	4	3 1/4	3 1/4	S2	6	\$10.30
K4601	115	115	100	4 3/4	3 3/8	3 3/8	S2	7 1/2	18.50
K4602	115	115	150	4 3/4	3 3/8	3 3/8	S2	8 1/2	19.95
K4603	115	115	250	4 3/4	3 3/8	5 1/8	S2	13 1/2	35.00

S3

G

N3

S2







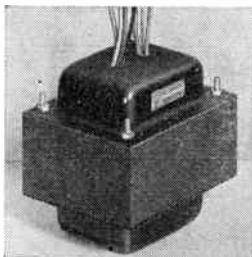
# Halladorson *QUALITY Transformers SINCE 1913*

## POWER—Plate and Filament

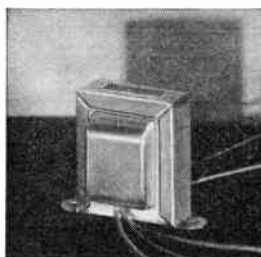
Item Number	Plate A.C. Load Volts	D.C. Ma.	Fil. No. 1		Fil. No. 2		Dimensions			Mtg. Type	Weight Lbs.	List Price
			Volt	Amp.	Volt	Amp.	H	W	D			
P9200	235-0-235	40	5	2	6.3 C.T.	2	3 1/8	2 5/8	2 5/8	S	2 1/4	\$6.00
P9201	235-0-235	40	5	2	6.3 C.T.	2	2 5/8	2 1/2	3	L	2 1/4	6.00
P9202	240-0-240	55	5	2	6.3 C.T.	2	3 1/8	2 5/8	2 3/4	S	2 1/2	6.25
P9203	240-0-240	55	5	2	6.3 C.T.	2	2 3/4	2 1/2	3	L	2 1/2	6.25
P9204	250-0-250	70	5	2	6.3 C.T.	2.5	3 1/8	2 5/8	3 1/8	S	3 1/4	7.70
P9205	250-0-250	70	5	2	6.3 C.T.	2.5	3 1/8	2 1/2	3	L	3 1/4	7.70
P9206	260-0-260	90	5	2	6.3 C.T.	3	3 5/8	3	3 1/2	S	4	8.50
P9207	260-0-260	90	5	2	6.3 C.T.	3	3 5/8	2 7/8	3 1/2	L	4	8.50
P9208	270-0-270	120	5	3	6.3 C.T.	3.5	4	3 1/4	3 1/2	S	5	9.25
P9209	270-0-270	120	5	3	6.3 C.T.	3.5	3 1/2	3 1/8	3 3/4	L	5	9.25
P9300	325-0-325	40	5	2	6.3 C.T.	2	3 1/8	2 5/8	2 3/4	S	2 1/2	6.25
P9301	325-0-325	40	5	2	6.3 C.T.	2	2 3/4	2 1/2	3	L	2 1/2	6.25
P9302	325-0-325	55	5	2	6.3 C.T.	2	3 1/8	2 5/8	3 1/8	S	3 1/4	7.00
P9303	325-0-325	55	5	2	6.3 C.T.	2	3 1/8	2 1/2	3	L	3 1/4	7.00
P9304	300-0-300	70	5	3	6.3 C.T.	3	3 1/2	3	3 1/4	S	4	7.90
P9305	300-0-300	70	5	3	6.3 C.T.	3	3 1/4	3	3 1/2	L	4	7.90
P9306	340-0-340	70	5	2	6.3 C.T.	2.5	3 5/8	3	3 3/8	S	3 7/8	7.90
P9307	340-0-340	70	5	2	6.3 C.T.	2.5	3 1/2	3	3 3/8	L	3 7/8	7.90
P9310	350-0-350	90	5	2	6.3 C.T.	3	3 5/8	3	3 5/8	S	4 1/2	8.50
P9311	350-0-350	90	5	2	6.3 C.T.	3	3 3/4	2 7/8	3 5/8	L	4 1/2	8.50
P9312	300-0-300	120	5	3	6.3 C.T.	5	3 7/8	3 1/4	3 3/4	S	5 1/2	9.75
P9313	300-0-300	120	5	3	6.3 C.T.	5	3 3/4	3 1/4	3 7/8	L	5 1/2	9.75
P9314	360-0-360	120	5	3	6.3 C.T.	3.5	4	3 1/4	3 3/4	S	5 1/2	9.75
P9315	360-0-360	120	5	3	6.3 C.T.	3.5	3 3/4	3 1/4	3 3/4	L	5 1/2	9.75
P9316	375-0-375	150	5	3	6.3 C.T.	4.5	4 1/4	3 1/2	4	S	6	11.60
P9317	375-0-375	150	5	3	6.3 C.T.	4.5	3 3/4	3 1/2	4 1/4	L	6	11.60
P9318	385-0-385	200	5 C.T.	3	6.3 C.T.	5	4 3/4	4	4 1/4	S	9 1/2	14.55
P9321	370-0-370	275	5 C.T.	3	6.3 C.T.	7	4 1/4	3 3/4	4 1/2	L	9 1/2	17.50
P9400	440-0-440	130	5	3	6.3 C.T.	3.5	4 1/4	3 5/8	3 1/8	S	7	13.50
P9402	400-0-400	175	5	3	6.3 C.T.	4.5	4 3/4	4	4	S	8	13.50
P9403	400-0-400	175	5	3	6.3 C.T.	4.5	3 7/8	3 3/4	4 1/2	L	8	13.50
P9404	400-0-400	200	5	3	6.3 C.T.	5	4 3/4	4	4	S	8 1/4	13.75
P9405	400-0-400	200	5	3	6.3 C.T.	5	3 7/8	3 3/4	4 1/2	L	8 1/4	13.75
P9406	400-0-400	250	5	4	6.3 C.T.	5	4 3/4	4	4 1/2	S	10	16.25
P9600	600-0-600	200	5	3	6.3 6.3	3 3	4 3/4	4	4 3/4	S	8 1/2	17.00

### PRIMARIES FOR 117 VOLT, 60 CYCLE OPERATION

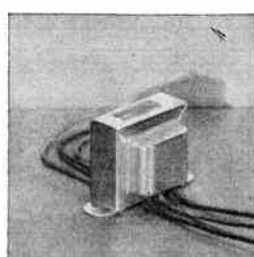
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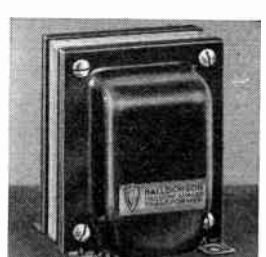
A7, B7, C7, or D7



A8, B8, C8, or D8



S





**POWER**—FOR USE WITH 6AX5, 6X4, 6X5 OR SELENIUM RECTIFIERS

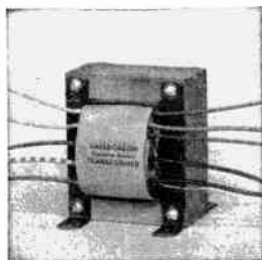
Item Number	Plate A.C. Load Volts	D.C. Ma.	Volt	Fil. No. 1 Amp.	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
P9100	125 ½ Wave	15	6.3	0.6	2	2 ¾	1 ¾	A5	¾	\$2.90
P9101	125-0-125	25	6.3	1.0	2 ¾	2 ¾	1 ¾	B5	1	3.60
P9102	125 ½ Wave	50	6.3	2.0	2 ¼	3 ¾	2 ½	C4	1 ½	4.75
P9210	230-0-230	50	6.3	2.5	3 ½	2 ½	2 ½	S	2 ¼	5.75
P9211	230-0-230	50	6.3	2.5	2 ½	2 ½	3	L	2 ¼	5.75
P9212	240-0-240	70	6.3	3.0	3 ½	2 ½	2 ¾	S	2 ½	6.50
P9213	240-0-240	70	6.3	3.0	2 ¾	2 ½	3	L	2 ½	6.50
P9214	260-0-260	90	6.3	4.0	3 ½	3	3 ½	S	3 ½	7.25
P9215	260-0-260	90	6.3	4.0	3 ½	2 ¾	3 ¾	L	3 ½	7.25

**MULTIPLE FILAMENT AND MISCELLANEOUS TYPES**

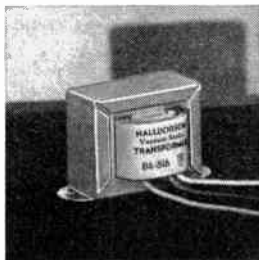
Item Number	Plate A.C. Load Volts	D.C. Ma.	Fil. No. 1		Fil. No. 2		Fil. No. 3		Dimensions			Mtg. Type	Weight Lbs.	List Price
			Volt	Amp.	Volt	Amp.	Volt	Amp.	H	W	D			
P9901	280-0-280	50	5	2	6.3	1.5	6.3	.6	3	3	2 ½	L	3 ½	\$8.00
P9903	350-0-350	70	5 C.T.	2	2.5 C.T.	9			3 ¾	2 ¾	3 ½	L	3 ¾	9.80
P9905	350-0-350	90	5 C.T.	3	2.5 C.T.	12.5			3	3 ½	3 ¾	L	4 ¼	10.10
P9907	400-0-400	110	5 C.T.	3	2.5 C.T.	3.5	2.5 C.T.	15	3 ¾	3 ½	3 ¾	L	5 ½	12.50
P9909	350-0-350	120	5 C.T.	3	2.5 C.T.	3.5	2.5 C.T.	12.5	3 ¾	3 ½	3 ¾	L	5 ½	12.70
P9908	320-0-320	150	5	3	6.3	3	6.3	8.0 6.3 1	4 ¾	4	4	S	9 ½	17.55
P9910	400-0-400 80 Volt Tap	175	5 C.T.	3	2.5	1.75	6.3 C.T.	2.5 6.3 C.T. 2.5	4 ¾	4	3 ¾	S	8 ¼	15.90
P9911	400-0-400	200	5	3	6.3 C.T.	5.3	50-24-18V, 25W		4 ½	4 ½	3 ¾	L	7 ¾	17.65
P9912	1600	2	2.0 1.25 Tap	1.75	6.3	.3	6.3	.3	4	3 ½	3	S	3	17.55
P9914	2700	2	2.0 1.25 Tap	1.75	6.3	.3	6.3	.3	4	3 ½	3	S	3	19.15

PRIMARYS FOR 117 VOLT, 60 CYCLE OPERATION

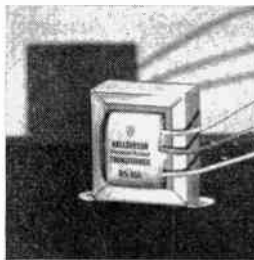
U5



A4, B4, C4, D4, or E4



A5, B5, C5, D5, or E5



L2





## FILTER CHOKES—Smoothing

Item Number	Inductance Hys.	Ma. D.C.	D.C. Res.	Insulation	Dimensions			Mtg. Type	Weight Lbs.	List Price
					H	W	D			
C5000	300	5	5000	2000	1 5/8	2 7/8	1 1/2	A4	1	\$2.80
C5001	20	15	900	1500	1 5/8	2 7/8	1 1/2	A4	3/4	2.00
C5002	12	30	400	2000	1 5/8	2 7/8	1 1/2	D4	1/2	2.05
C5003	30	35	700	2000	2	3 1/4	1 3/4	B4	1	3.05
C5004	12	40	400	2000	1 5/8	2 7/8	1 1/2	A4	3/4	2.05
C5005	15	40	400	2000	2	3 1/4	1 3/4	B4	1	2.65
C5006	3.5	50	200	1500	1 5/8	2 7/8	1 1/2	A4	3/4	1.95
C5007	4.5	50	300	1500	1 5/8	2 7/8	1 1/2	D4	1/2	1.65
C5008	6	50	300	1500	1 5/8	2 7/8	1 1/2	A4	3/4	1.75
C5009	7	50	550	1500	1 5/8	2 7/8	1 1/2	D4	1/2	1.80
C5010	8.5	50	400	1500	1 5/8	2 7/8	1 1/2	A4	3/4	2.00
C5011	16	50	575	1500	2	3 1/4	1 3/4	B4	1 1/8	2.25
C5012	6	60	200	2000	1 5/8	2 7/8	1 1/2	A4	3/4	1.75
C5013	10	60	275	2000	2	3 1/4	1 3/4	B4	1	2.65
C5014	13	65	500	1500	2	3 1/4	1 3/4	B4	1	2.75
C5015	8	75	290	2000	2	3 1/4	1 3/4	B4	1	3.00
C5016	15	75	400	1500	2 1/4	3 3/4	2 1/4	C4	1 3/4	3.00
C5017	16	80	350	1500	3 1/4	2 5/8	2 5/8	S	2 1/2	4.90
C5018	20	80	350	2000	2 1/4	3 3/4	2 1/4	C4	1 1/2	3.55
C5019	8	85	250	2000	2 1/4	3 3/4	2 1/4	C4	1 1/2	3.10
C5020	5	100	300	3000	2	3 1/4	1 3/4	B4	1	3.00
C5021	12	110	250	2000	2 5/8	4	3	E4	2 1/4	4.25
C5022	12	110	250	2000	3 1/4	2 5/8	3	S	2 1/2	4.65
C5023	8	120	350	2000	2 5/8	4	2 1/8	E4	2 1/2	5.25
C5024	2.5	130	100	2000	2	3 1/4	1 3/4	B4	1	2.90
C5025	8	130	100	2000	3 1/4	2 5/8	3	S	2 1/2	5.60
C5026	2.3	150	60	1500	2	3 1/4	1 3/4	B4	1	2.90
C5027	7	150	200	1500	2 5/8	4	2 1/4	E4	2 1/4	4.50
C5028	7.5	150	160	2000	3 1/4	2 5/8	3	S	2 1/2	5.55
C5029	4	175	100	3000	3 1/4	2 5/8	3	S	2 1/2	6.00
C5030	2	200	60	1500	2 1/4	3 3/4	2 1/4	C4	1 3/4	3.50
C5031	4.5	200	80	3000	3 5/8	3	3 1/8	S	3 1/2	6.50
C5032	8	200	125	3000	3 1/2	2 7/8	3	S	3 3/4	7.65
C5033	8.5	200	120	3000	3 7/8	3 1/8	3	U5	4 1/2	7.50
C5034	15	200	150	5000	3 1/2	3 7/8	3 1/2	S	5 1/2	9.45
C5035	4	250	60	3000	3 1/2	2 7/8	3 1/8	U3	4 1/4	8.25
C5036	4	250	60	3000	3 5/8	3	3 1/2	S	4 1/2	9.10
C5037	1	300	45	1500	2 1/4	3 3/4	2 1/4	C4	1 3/4	3.40
C5038	8	300	80	3000	4 3/4	4	3 7/8	S	8	12.50
C5039	15	350	150	5000	4 3/4	4	4 1/2	S	11	16.75

## FILTER CHOKES—Swinging

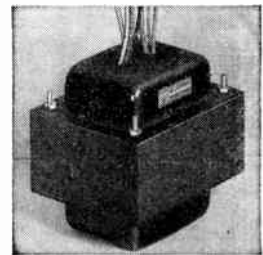
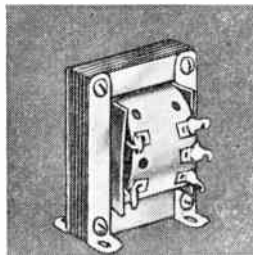
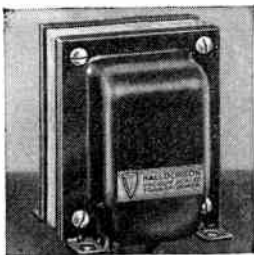
C5400	4-14	150	130	2000	3 1/8	2 5/8	2 1/2	S	2 1/2	\$5.65
C5401	2-12	175	100	3000	3 1/8	2 5/8	2 5/8	S	2 1/2	6.25
C5402	2-12	200	80	3000	3 5/8	3	3 1/4	S	3 1/2	7.15
C5403	2-12	250	60	3000	3 5/8	3	3 1/2	S	4 1/4	8.85
C5404	4-20	300	80	3000	4 3/4	4	3 7/8	S	8	11.40
C5405	5-15	350	100	5000	4 3/4	4	4	S	9 1/2	12.00

S

A4, B4, C4, D4, or E4

U3

L





## FILAMENT—Single Secondary

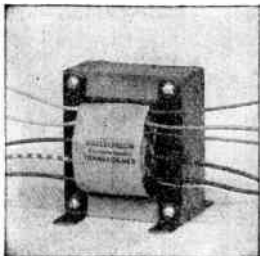
Item Number	Primary	Secondary		Insulation	Dimensions			Mtg. Type	Weight Lbs.	List Price
		Volts	Amp.		H	W	D			
F5500	117	2.5	1.5	2500	1 5/8	2 7/8	1 1/2	A4	3/4	\$3.25
F5501	117	2.5 C.T.	2.5	2000	1 5/8	2 7/8	1 1/2	A4	7/8	3.60
F5502	117	2.5 C.T.	5	7500	2 5/8	3 1/8	2 1/4	C5	1 1/2	5.25
F5503	107-117	2.5 C.T.	10	2500	3 1/8	2 5/8	2 5/8	S	2 1/2	6.75
F5504	117	2.5 C.T.	10	10,000	3 1/2	2 7/8	2 1/2	U3	2 1/2	6.40
F5505	117	5.0 C.T.	3	5000	3	2 1/2	2 1/2	S	2 1/2	6.65
F5506	117	5.0 C.T.	3	2000	2 3/8	2 7/8	1 3/4	B5	1	4.25
F5507	117	5.0 C.T.	6	2500	3 1/8	2 1/2	1 3/4	U3	2 1/4	4.90
F5508	117	5.0 C.T.	10	2500	3 1/8	2 1/2	2 7/8	U5	3	6.50
F5509	107-117	5.0 C.T.	14	10,000	5 1/8	4 1/4	8 1/2	N	12 1/2	22.40
F5510	107-117	5.0 C.T.	22	10,000	5 1/8	4 1/4	8 1/2	N	13 1/2	23.75
F5511	117	6.3 C.T.	1.2	3000	1 5/8	2 7/8	1 5/8	A4	3/4	2.80
F5512	117	6.3 C.T.	3	2000	2 3/8	2 7/8	1 3/4	B5	1	4.10
F5513	107-117	6.3 C.T.	4	2500	3 1/8	2 5/8	2 5/8	S	2 3/4	6.50
F5514	117	6.3 C.T.	6	2500	3 1/8	2 1/2	2 7/8	U3	2 1/2	5.80
F5515	107-117	6.3 C.T.	6	2500	3 5/8	3	3 1/8	S	3 1/2	7.50
F5516	107-117	6.3 C.T.	10	2500	3 1/2	2 7/8	2 3/4	U5	3 1/2	7.00
F5517	117	7.5 C.T.	2.5	2000	2 3/8	2 7/8	1 3/4	B5	1	3.75
F5518	117	7.5 C.T.	4	2500	3 1/8	2 1/2	2 7/8	U3	2 3/4	5.75
F5519	117	7.5 C.T.	8	2500	3 7/8	3 1/8	2 7/8	U5	4 3/4	8.15
F5520	107-117	7.5 C.T.	8	2500	4	3 1/4	3 3/8	S	4 3/4	9.25
F5521	117	10.0 C.T.	4	2500	3 1/2	2 7/8	2 5/8	U3	3 1/4	7.00
F5522	107-117	10.0 C.T.	5	2500	4	3 1/4	3 1/8	S	4	8.25
F5523	107-117	10.0 C.T.	8	2500	4	3 1/4	3 5/8	S	5 1/4	5.10
F5524	107-117	10.0 C.T.	12	7500	5 1/8	4 1/4	8 1/2	N	14 3/4	24.20
F5525	107-117	11.0 C.T.	10	7500	5 1/8	4 1/4	8 1/2	N	13	23.70
F5526	117	12.6 C.T.	3	2000	3	2 1/2	2 7/8	U5	3 1/2	6.65
F5527	117	25.2	1	1500	2	3 1/4	2	B4	1 1/2	4.50
F5528	117	12.6 or 25.2	7 3.5	2500	3 1/8	2 5/8	3 1/2	S	5	10.00

## FILAMENT—Multiple Secondary

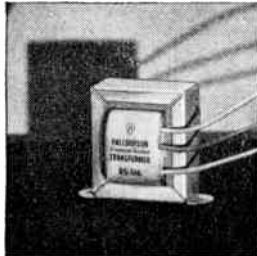
2000 VOLT INSULATION

Item Number	Primary	Fil. No. 1		Fil. No. 2		Dimensions			Mtg. Type	Weight Lbs.	List Price
		Volts	Amp.	Volts	Amp.	H	W	D			
F5900	117	2.5 C.T.	6	5.0 C.T.	3	3 1/2	2 1/2	2 1/2	U5	2 1/2	\$7.40
F5901	117	5.0 C.T.	3	5.0 C.T.	3	2 3/4	3 1/8	2 1/2	C5	1 3/4	6.90
F5902	117	5.0 C.T.	3	6.3 C.T.	6	4 1/8	3 1/4	3 3/8	S	3 1/2	9.60
F5903	107-117	5.0 C.T.	6	6.3 C.T.	6	4 1/8	3 1/4	3 3/4	S	4 3/4	11.50
F5904	117	5.0 C.T.	3	7.5 C.T.	3.25	4 1/8	3 1/4	3 1/4	S	3	8.25
F5905	117	6.3 C.T.	3	6.3 C.T.	3	3	3 5/8	2 1/4	B5	2 1/4	6.90

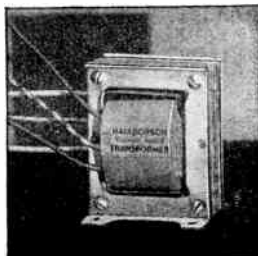
U5



A5, B5, C5, D5, E5



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# CHICAGO

## NEW EQUIPMENT

# POWER TRANSFORMERS FILTER REACTORS



CHICAGO TRANSFORMER DIVISION \* ESSEX WIRE CORPORATION

### POWER TRANSFORMERS—PLATE AND FILAMENT SUPPLY

For CAPACITOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary			Filaments				Wt. Lbs.	H-Type Mounting			S-Type Mounting			C-Type Mounting		
Volts A-C	Ma. Output D-C	V.D-C	Rectifier Volts	Amps.	Others Volts	Amps.		Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
250-0-250	10	320	6.3	1.2	6.3	0.6	PHC-10	14	\$23.35							
250-0-250	20	300	6.3	1.2	6.3	0.6	PHC-20	15	23.90							
225-0-225	40	210	5	2	6.3CT	2	PHC-40	17	19.75	PSC-40	17	\$ 9.20	PCC-40	16	\$ 6.50	
270-0-270	55	260	5	2	6.3CT	2	PHC-55	17	21.65	PSC-55	17	10.85	PCC-55	16	7.05	
300-0-300	60	285	5	2	6.3CT	3	PHC-60	19	22.60	PSC-60	19	11.40	PCC-60	18	8.10	
330-0-330	80	320	5	2	6.3CT	3	PHC-70	19	23.45	PSC-70	19	12.45	PCC-70	18	8.65	
330-0-330	85	320	5	2	6.3CT	3	PHC-85	20	25.15	PSC-85	20	14.35	PCC-85	20	10.00	
345-0-345	105	320	5	2	6.3CT	3.5	PHC-105	21	27.70	PSC-105	21	15.20	PCC-105	20	10.85	
375-0-375	120	380	5	3	6.3CT	4	PHC-120	21	29.30	PSC-120	22	16.00	PCC-120	22	12.20	
370-0-370	150	390	5	3	6.3CT	4	PHC-150	22	36.30	PSC-150	22	21.15	PCC-150	22	16.30	
385-0-385	200	390	5	3	6.3CT	4.5	PHC-200	22	38.20	PSC-200	22	22.50	PCC-200	22	17.60	
400-80-0-80-400	250	410	5	6	6.3CT	7	PHC-250	24	45.60	PSC-250	24	26.05	PCC-250	24	21.70	



**MEETS MIL-T-27 SPECS**

H-Type. Steel base cover deep-seal soldered into case. Terminals hermetically sealed. Ceramic bushings. Stud-mounted unit.

For REACTOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary			Filaments				Wt. Lbs.	H-Type Mounting			S-Type Mounting			C-Type Mounting		
Volts A-C	Ma. Output D-C	V.D-C	Rectifier Volts	Amps.	Others Volts	Amps.		Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
350-0-350	55	260	5	2	6.3CT	2	PHR-55	17	\$21.65	PSR-55	17	\$11.10	PCR-55	16	\$ 7.85	
425-0-425	70	320	5	2	6.3CT	3	PHR-70	19	23.45	PSR-70	19	12.70	PCR-70	18	8.90	
440-0-440	85	325	5	2	6.3CT	3	PHR-85	20	25.15	PSR-85	20	14.65	PCR-85	20	10.30	
450-0-450	105	320	5	2	6.3CT	3.5	PHR-105	21	27.70	PSR-105	21	15.45	PCR-105	20	11.10	
500-0-500	120	390	5	3	6.3CT	4	PHR-120	21	29.30	PSR-120	22	16.30	PCR-120	22	12.45	
510-0-510	150	395	5	3	6.3CT	4	PHR-150	22	36.30	PSR-150	22	21.40	PCR-150	22	16.50	
520-0-520	200	390	5	3	6.3CT	4.5	PHR-200	22	38.20	PSR-200	22	22.80	PCR-200	22	17.90	
550-370-75-300 0-75-370-550	420	420	5	6	6.3CT	5	PHR-300	24	52.15	PSR-300	24	32.60	PCR-300	24	25.50	

For REGULATED POWER SUPPLIES, CAPACITOR INPUT—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary			Filaments						Wt. Lbs.	H-Type Mounting			S-Type Mounting		
Volts A-C	Ma. Output D-C	V.D-C	Rectifier		Others		Others			Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
440-0-440	165	430	5	3	6.3	7.5	6.3	3	PHC-165	22	\$45.90	PSC-165	22	\$30.60	
450-0-450	200	442	5	2	6.3	4	6.3	0.6	PHC-200A	22	42.95	PSC-205	22	29.00	



S-Type. Steel base cover fitted with phenolic terminal board. Convenient numbered solder lug terminals. Flange-mounted unit.

### FILTER REACTORS

Inductance in Henries	Max. Current Ma. D-C	D-C Resistance in Ohms	Insulation Test Volts	Wt. Lbs.	H-Type Mounting			S-Type Mounting			C-Type Mounting		
					Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
15	10	680	1,000	1	RH-1510	8	\$9.75						
15	20	680	1,000	1	RH-1520	8	10.30						
15	40	475	2,500	1½	RH-1540	12	10.40	RS-1540	12	\$ 4.55	RC-1540	12	\$ 3.25
15	55	385	2,500	2	RH-1555	13	10.75	RS-1555	13	5.40	RC-1555	12	4.00
15	85	270	2,500	2½	RH-1585	14	11.40	RS-1585	15	6.50	RC-1585	14	4.85
12	105	170	2,500	4	RH-12105	17	13.35	RS-12105	17	7.05	RC-12105	16	5.65
12	150	150	2,500	5½	RH-12150	19	15.30	RS-12150	19	9.45	RC-12150	18	7.85
12	200	140	2,500	7	RH-12200	20	18.00	RS-12200	21	11.10	RC-12200	20	9.45
10	55	222	2,500	1¾	RH-1055	13	10.75	RS-1055	13	5.10	RC-1055	12	3.80
10	85	175	2,500	2½	RH-1085	14	11.40	RS-1085	15	6.20	RC-1085	14	4.55
8	105	103	2,500	3¾	RH-8105	17	13.35	RS-8105	17	6.75	RC-8105	16	5.40
8	150	100	2,500	5½	RH-8150	18	15.30	RS-8150	19	9.20	RC-8150	18	7.60
8	200	85	2,500	7	RH-8200	20	18.00	RS-8200	21	10.85	RC-8200	20	9.20
8	250	90	2,500	10½	RH-8250	22	21.70	RS-8250	22	13.55	RC-8250	22	11.95
8	300	70	2,500	12½	RH-8300	22	25.85	RS-8300	22	16.80	RC-8300	22	14.65



C-Type. With 10" color-coded stripped and tinned leads brought out through fibre board base cover. Flange-mounted unit.

### FILAMENT TRANSFORMERS—Primary 115-230 Volts, 50-60 Cycles

Secondary			Insulation Test Volts	Wt. Lbs.	H-Type Mounting			S-Type Mounting		
Volts	Amps.	2.5CT			Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
2.5CT	5.25	3,500		FH-25	15	\$15.45	F-25	14	\$ 8.10	
2.5CT	10.0	5,000		FH-210	15	22.15	F-210	17	11.65	
2.5CT	10.0	9,000		FH-210H	19	25.75	F-210H	19	13.55	
2.5CT	15.0	9,000		FH-215H	21	30.95	F-215H	20	16.30	
5CT	4.0	2,500	2½	FH-54	15	16.10	F-54	15	8.35	
5CT	10.0	2,500	3½	FH-58	17	22.15	F-58	17	11.65	
5CT	10	8,000	6	FH-510H	21	33.00	F-510H	21	17.35	
5CT	20.0	2,500	6½	FH-516	21	32.00	F-516	21	16.80	
5CT	20	10,000	13	FH-520HB	22	41.25	F-520HB	22	21.70	
5CT	30	2,500	10½	FH-530	22	41.25	F-530	22	21.70	
6.3CT	5.5	2,500	3	FH-65	16	18.55	F-65	17	9.75	
6.3CT	10.0	2,500	5	FH-610	19	26.25	F-610	19	13.80	
7.5CT	5.0	2,500	3½				F-75	17	9.45	
7.5CT	12	2,500	6½				F-712	21	16.30	
7.5CT	25.0	2,500	12				F-725	22	21.75	
10CT	4.0	2,500	3½	FH-104	17	19.05	F-104	17	10.00	
10CT	6.5	2,500	5	FH-106	19	26.25	F-106	19	13.80	
10CT	10.0	2,500	6½	FH-1010	21	30.95	F-1010	21	16.25	
11CT	10.0	2,500	9½				F-1110	22	17.35	

### CASE DIMENSIONS

Case No.	Depth	Width	Height
12	2¼"	2¼"	2½"
13	2¼"	2¼"	2½"
14	2½"	2½"	3¼"
15	2½"	2½"	3¼"
16	2½"	2¼"	3½"
17	2½"	2¼"	3½"
18	3¼"	3"	3½"
19	3¼"	3"	4¼"
20	3¼"	3½"	4½"
21	3¼"	3½"	4½"
22	4½"	4½"	5½"
24	5½"	4½"	6½"



**B-TYPE MOUNTING**



**H-TYPE MOUNTING**

### FULL FREQUENCY RANGE AUDIO TRANSFORMERS

Frequency Response within  $\pm 1/2$  db, 30 to 15,000 Cycles

#### INPUT TRANSFORMERS H-Type (Cat. No. BIH) and B-Type (Cat. No. BI) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Hum Shielding	Case Size	Wt. Lbs.	Cat. No.	List Price
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-1	\$45.40
						BI-1	23.90
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-90 dbm.	13	1 1/2	BIH-2	59.85
						BI-2	31.50
Line bridging to P-P Grids	*Pri: 8,000/6,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-3	47.45
						BI-3	24.95
Line to Line	Pri: 600/150 ohms CT Sec: 600/150 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-4	43.35
						BI-4	22.80
Line to Line	*Pri: 600/150 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	-90 dbm.	18	3 1/4	BIH-5	61.95
						BI-5	32.60
Interstage: P-P Plates to Sgl. or P-P Grids	*Pri: 20,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-6	45.40
						BI-6	23.90
Low Imped. Mike, Pickup, or Multiple Line to Grid	Pri: 50/150/250/600 *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-7	47.45
						BI-7	24.95
Single Plate to Push-Pull Grids	*Pri: 10,000 ohms *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	13	1 1/2	BIH-8	45.40
						BI-8	23.90
Single Plate to Push-Pull Grids**	Pri: 10,000 ohms *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	18	3 1/4	BIH-9	53.70
						BI-9	28.25

#### OUTPUT TRANSFORMERS

#### H-Type (Cat. No. BOH) and B-Type (Cat. No. BO) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Case Size	Wt. Lbs.	Cat. No.	List Price
Single Plate to Line	†Pri: 15,000 ohms *Sec: 600/150 ohms CT	+15 dbm.	14	2 1/4	BOH-1	\$26.80
					BO-1	14.10
P-P Plates to Line	*Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	16	3	BOH-2	39.20
					BO-2	20.60
P-P Plates to Line	Pri: 5,000 ohms CT *Sec: 600/150 ohms CT	+40 dbm.	20	5 3/4	BOH-3	35.10
					BO-3	18.45
P-P Plates to Line	Pri: 7,500 ohms CT *Sec: 600/150 ohms CT†	+43 dbm.	20	6	BOH-4	37.10
					BO-4	19.55
P-P Plates to Line or Voice Coil	*Pri: 10,000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+37 dbm.	18	4	BOH-5	49.50
					BO-5	26.05
P-P Plates to Voice Coil	Pri: 7,500 ohms CT Sec: 8/20 ohms†	+43 dbm.	20	6	BOH-6	47.45
					BO-6	24.95
Line to Voice Coil	Pri: 600/150 ohms Sec: 8/20 ohms	+45 dbm.	20	6 1/2	BOH-7	45.40
					BO-7	23.90
P-P Parallel Pl. to Line or Voice Coil	Pri: 1500 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+45 dbm.	21	6 1/2	BOH-8	61.95
					BO-8	32.60
P-P Plates to Line or Voice Coil	*Pri: 5000/3000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+42 dbm.	20	6	BOH-9	45.40
					BO-9	23.90
P-P Low Level Plates to Line	Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+15 dbm.	13	1 1/2	BOH-10	43.35
					BO-10	22.80
P-P Plates to Line or Voice Coil	*Pri: 3000/2500 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+46 dbm.	22	9 1/2	BO-11	41.45

\*Split and balanced windings. †0 to 10 ma. D.C.  
 †Has tertiary winding to provide 15% inverse feedback.  
 \*\*Has D.C. in primary; frequency response  $\pm 2$  db, 30-15,000 cycles.

#### DETAILS OF NEW EQUIPMENT LINE MOUNTINGS

**H-TYPE MOUNTING**—Hermetic sealing meets all MIL-T-27 specifications. Steel base cover is bonded into the case by deep-seal soldering. Terminals are hermetically sealed by unique rubber gasket—ceramic bushing construction. Units are stud mounted.  
**C-TYPE MOUNTING**—Moisture-resistant compound surrounds coil and core. Ten-inch, RMA-color-coded leads, ends stripped and tinned for easy soldering. Flange-mounted drawn steel cases.

**S-TYPE MOUNTING**—Precision-fitted steel base-covers and terminal boards, plus compound filling, keep moisture out. Solder-lug terminals are clearly identified, easy to use. Drawn steel cases are flange-mounted.

**B-TYPE MOUNTING**—Steel bases are bonded into the drawn steel cases by deep-seal soldering to make units completely moisture proof. Stud-mounted cases take minimum chassis space. Convenient, compact, pin-type terminals.

#### BIAS TRANSFORMERS—Combination Plate and Filament—Primary 50-60 Cycles

Primary Volts	High Voltage Secondary			Rea. Volts	Fila. Amps.	H-Type Mounting			S-Type Mounting			C-Type Mounting		
	AC Volts	CT	DC Ma.			Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price	Cat. No.	Case No.	List Price
115	180-160-140-120	150	150	5.0	3.0	1BH-150	19	\$26.80	1BS-150	19	\$14.10	1BC-150	18	\$8.90
230	180-160-140-120	150	150	5.0	3.0	2BH-150	19	26.25	2BS-150	19	13.80	2BC-150	18	9.65

#### HIGH Q CHOKES

For Dynamic Noise Suppression Circuits (S-Type Mounting)



Two efficient reactors, inductance values .8 and 2.4 henrys respectively, are designed for noise suppression circuits, but can be used in any tuned circuit requiring the given inductances. Inductance values accurate within -5% with up to 15 ma. d-c. Minimum Q of 20. Mounted in identical drawn steel cases.

Cat. No.	Inductance	List Price
NSI-1	.8 hy.	\$8.10
NSI-2	2.4 hy.	8.10

# CHICAGO PUBLIC ADDRESS RANGE AUDIO TRANSFORMERS

Frequency Response within  $\pm 1$  db, 50 to 10,000 Cycles

Driver and output transformers in this CHICAGO series are designed for three general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150-ohm lines, 16, 8, and 4-ohm speakers.

(16/8/4-ohm taps also suitable for 20/6/3.2-ohm speakers.) Output transformers have tertiary windings for 10% inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.

## DRIVER TRANSFORMERS

H-Type (Cat. No. PHD), S-Type (Cat. No. PSD) and C-Type (Cat. No. PCD) Mountings

Application	Primary Impedance	Max. D.C. Pri.	Ratio, Pri. to 1/2 Sec.	Case Size	Wt. Lbs.	Cat. No.	List Price
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	10 ma.	3:1	14	2 1/4	PHD-10 PSD-10 PCD-10	\$15.00 7.85 5.40
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	25 ma.	3:1	15	2 1/4	PHD-25 PSD-25 PCD-25	14.45 7.60 5.10
P-P Plates to P-P Grids	5,000/10,000 ohms (Pri. CT)	100 ma.	5:1	18	4 1/2	PHD-100 PSD-100 PCD-100	24.75 13.00 9.20

## OUTPUT TRANSFORMERS

H-Type (Cat. No. PHO), S-Type (Cat. No. PSO) and C-Type (Cat. No. PCO) Mountings

Application	Impedances	Typical Output Tubes	Class	Max. Audio Watts	Max. D.C. Pri. CT	Case Size	Wt. Lbs.	Cat. No.	List Price
P-P Plates to Line or Voice Coil	Primary: 5,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6B4G, 6L6, 6V6, etc.	A <sub>1</sub> AB	20	120 ma.	20: 6 1/2 lbs.	19: 5 lbs.	PHO-80 PSO-80 PCO-80	\$30.95 16.30 11.95
P-P Plates to Line or Voice Coil	Primary: 10,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6V6, 6F6, 6K6, etc.	AB, AB <sub>1</sub>	15	200 ma.	19: 5 lbs.	19: 5 lbs.	PHO-150 PSO-150 PCO-150	27.85 14.65 10.30
P-P Plates to Line or Voice Coil	Primary: 6,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	Two 6L6's, Four 6V6's, or similar	B, AB <sub>2</sub> †	30	250 ma.	22: 9 lbs.	22: 9 lbs.	PHO-200 PSO-200 PCO-200	34.60 17.90 13.55

\*Has tertiary winding to provide 10% inverse feedback.  
†For low distortion, use fixed bias.

## COMMUNICATIONS RANGE AUDIO TRANSFORMERS

Frequency Response within  $\pm 1$  db, 200 to 3,500 Cycles

These transformers are specifically designed for use in receiving and transmitting equipment such as amateur, police, railroad, and aircraft types, where clear voice reproduction is desired.

### INPUT TRANSFORMERS

H-Type (Cat. No. CIH), S-Type (Cat. No. CIS) and C-Type (Cat. No. CIC) Mountings

Application	Impedances: Primary—Secondary	Case Size	Wt. Lbs.	Cat. No.	List Price
Low Level Line to Single or Push-Pull Grids	Pri: 600/150 ohms CT *Sec: 100,000 ohms CT	9	3/4	CIH-1 CIS-1 CIC-1	\$21.65 11.40 8.15
Low Level S. B. or D. B. Mike to Sgl. or P-P Grids	Pri: 125/50 ohms @ 80 ma. Sec. 125,000 ohms CT	9	3/4	CIH-2 CIS-2 CIC-2	12.35 6.50 4.00

\*Split and balanced windings: may be used singly or push:pull.

## OUTPUT TRANSFORMERS

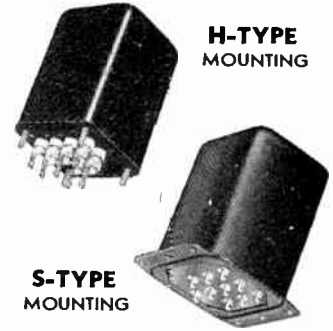
H-Type (Cat. No. COH), S-Type (Cat. No. COS) and C-Type (Cat. No. COC) Mountings

Application	Impedances: Pri.—Sec.	Typical Audio Tubes	Class	Max. Case Watts	Max. D.C.	Case Size	Wt. Lbs.	Cat. No.	List Price
Sgl. P. to Line or Speaker	Pri.: 5000 ohms Sec. ohms: 600/150/16/8/4	6L6, 6V6, 25A6	A	5	55 ma.	14	2 1/4	COH-1 COS-1 COC-1	\$15.45 8.10 5.10
Sgl. Pl. to Line or Speaker	Pri: 8000 ohms Sec. ohms: 600/150/16/8/4	6F6, 6V6, 6K6	A	5	55 ma.	14	2 1/4	COH-2 COS-2 COC-2	16.00 8.35 5.40

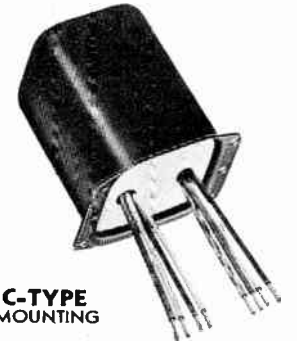
## DRIVER TRANSFORMER

H-Type (Cat. No. CDH), S-Type (Cat. No. CDS) and C-Type (Cat. No. CDC) Mountings

Application	Primary Impedance	Max. D.C. Pri. CT	Ratio, Pri. to 1/2 Sec.	Case Size	Wt. Lbs.	Cat. No.	List Price
P-P Plates (2A3's, etc.) to P-P Grids	5,000 ohms (Pri. CT)	100 ma.	3:1	17	3 1/2	CDH-1 CDS-1 CDC-1	\$17.00 8.90 6.20



S-TYPE MOUNTING



C-TYPE MOUNTING

## MODULATION TRANSFORMER CMS-1

for Communications Transmitters

Freq. Range, 200 to 3,500 Cycles



Chicago's No. CMS-1 Modulation Transformer and matching Driver Transformer No. CDS-1, at left, are ideally suited for use in ham and commercial speech transmitters. No. CMS-1 will deliver 250-350 watts of Class B audio power from P-P 203A's, 211's, 805's, 75TL's, etc. to a Class C load with response variations not exceeding  $\pm 1$ db. over the stated frequency range. Primary impedances, 9000/6700 ohms ct; secondary, 8000/6000/4000 ohms. Case size 26. Wt., 22 lbs.

No. CMS-1.....List Price, \$43.45



MODULATION TRANSFORMER CMS-2

Delivers 500-750 watts of Class B audio power from 810's, 822's, etc. to a Class C load. Frequency response is within  $\pm 1$  db. over the stated voice range. Primary impedance, 12,000 ohms CT; secondary, 6,250 ohms. FS-Type mounting, size 65 (see page N-79). Wt. 43 lbs.

No. CMS-2.....List Price, \$81.50

# CHICAGO

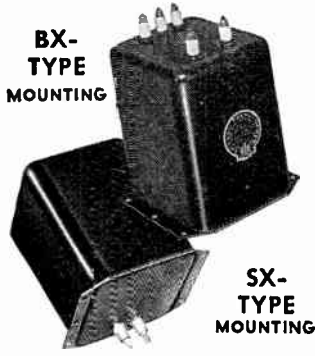
NEW EQUIPMENT

## TRANSFORMERS and REACTORS

for Broadcast, Amateur, and Industrial Application



CHICAGO TRANSFORMER DIVISION \* ESSEX WIRE CORPORATION



### LARGE CAPACITY TRANSFORMERS AND REACTORS For Broadcast, Communications and Industrial Use DRIVER TRANSFORMERS

In:	Recommended Application: Tubes:	Ratio Pri./½ Sec.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	From two 2A3's, 6B4's, or similar P-P Plates to Class B 838's, 805's, 203-A's, etc.	3.5:1	B*	20	6½	BD-1	\$32.60
1-KW Transmitter	From four 2A3's, 6B4's, or similar P-P Plates to two 833-A's or similar P-P Grids	3:1	†	24	12¼	BD-2	67.35
5-KW Transmitter	From four 845's, two 152-TL's or similar P-P Plates to 891-R's or similar P-P Grids	3.5:1	BX	26	24	BD-3	173.85

†Similar to SX-Type mounting, but with screw terminals on a terminal board.  
\*B-Type mounting, but with screw terminals. See page N-77 for dimensions.

### MODULATION TRANSFORMERS

Recommended Application In:	With:	Impedances (Pri. Plate to Plate)	Modulator Tubes	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	Driver Transformer #BD-1	Pri: 7500 ohms CT Sec: 5000 ohms	203-A, 838 805, etc.	BX	26	25	BM-1	\$72.80
1-KW Transmitter	Driver Transformer #BD-2	Pri: 9000 ohms CT Sec: 7500 ohms	833-A, etc.	FS	84	175	BM-2	423.85
5-KW Transmitter	Driver Transformer #BD-2	Pri: 13500 ohms CT Sec: 10250 ohms	891-R, etc.	WC	1100		BM-3	777.00 (net)

### MODULATION REACTORS

Recommended Application In:	With:	Inductance	D.C. Ma.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	List Price
250-Watt Transmitter	Mod. Transformer #BM-1	65 hy.	250	BX	28	41	BR-1	\$105.42
1-KW Transmitter	Mod. Transformer #BM-2	100 hy.	500	FS	81	165	BR-2	201.06
5-KW Transmitter	Mod. Transformer #BM-3	120 hy.	900	WC		1100	BR-3	652.08(net)

### PLATE TRANSFORMERS

Primary: Volts	Max. VA.	Secondary: A.C. Load Volts	D.C. Volts after Filter	D.C. Ma.	Mtg. Size	Mtg. Type	Wt. Lbs.	Cat. No.	List Price
115-230	185	675-0-675 575-0-575	500 400	250	22	S	12	P-45	\$19.55
115-230	250	900-0-900 735-0-735	750 600	250	22	S	13½	P-67	23.35
115-230	310	1150-0-1150 870-0-870	1000 750	250	60	FS	37	P-107	54.35
115-230	360	1425-0-1425* 600-0-600	1250 400	150 200	24	S	26	P-1240	35.30
115-230	550	1710-0-1710 1430-0-1430	1500 1250	300	63	FS	43	P-1512	70.65
115-230	915	2820-0-2820 2260-0-2260	2500 2000	300	71	FS	71	P-2520	108.70
115-230	1850	3450-0-3450 2850-0-2850	3000 2500	500	81	FS	137	P-3025	190.20

\*Both secondaries may be rectified simultaneously.

### FILTER REACTORS

Inductance in Henrys	Max. D.C. Ma.	D.C. Resistance, Ohms	Insulation Test Volts	Mtg. Type	Mtg. Size	Wt. Lbs.	Cat. No.	List Price
10	500	40	9,000	FS	62	35	R-105	\$38.00
10	300	40	7,500	SX	26	22	R-103	21.70
6	700	35	10,000	FS	61	35	R-67	43.45
6	500	35	9,000	FS	60	35	R-65	35.30
6	300	35	7,500	SX	24	16½	R-63	18.45

### Splatter Chokes for High Level "Clipper" Filters

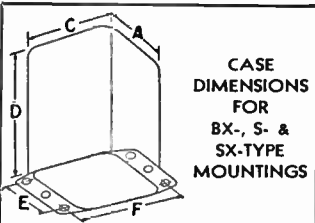
Can withstand high peak voltages. Has tapped windings to cover an inductance from .02 to 1.5 henries at relatively constant Q. Eliminates splatter, caused by heavy modulation; limits band width to 3,000 cycles, effectively increases "get through" ability of phone signals, and prevents negative peak clipping.

Type	D.C. Ma.	Insulation Volts	Inductance in Henrys	Mounting		List
				Type	Size	
SR-300	300	7,500	.02 to 1.5 Hy	BX	22	\$18.45
SR-500	500	10,000	.02 to 1.5 Hy	BX	24	23.90

### Low Pass Filter No. LPF-1

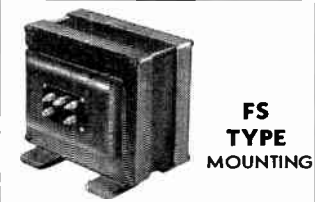
For attenuating frequencies above 3,000 cycles in low level speech amplifiers. Operates out of a 15,000 ohm source, e.g., the plate of 6C5, 6J5, etc. when its 60,000 ohm secondary is connected to an equal impedance output. Operates at signal levels up to -8 db. Complete with operating instructions. S type mtg. Case size 13. (See pg. N-76).

List Price.....\$13.55

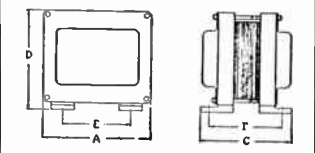


CASE DIMENSIONS FOR BX-, S- & SX-TYPE MOUNTINGS

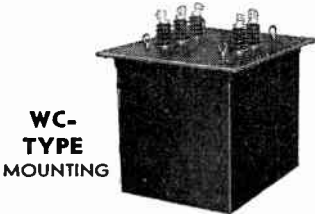
Case Size	Dimensions in Inches					
	A	C	D	E	F	
22	4 3/16	4 1/4	5 3/16	2 1/2	4 3/4	
24	5 5/16	4 13/16	6 1/16	3 1/2	5 3/8	
26	6 1/8	5 7/16	7 1/16	4 1/4	6	
28	7 1/16	6 3/8	8 1/16	5	7	



FS TYPE MOUNTING



Size	Dimensions in Inches					
	A	D	E	F	C	
60	7 1/2	7	4 3/4	5 1/2	6 3/16	
61	7 1/2	7	4 3/4	5 5/16	6 7/8	
62	7 1/2	7	4 3/4	6 1/4	7 1/8	
63	7 1/2	7	4 3/4	6 11/16	7 1/8	
65	7 1/2	7	4 3/4	6 7/8	7 13/16	
71	8 7/8	8 1/2	5 1/2	6 1/8	8 1/4	
81	11 1/2	10 3/4	7 1/2	8 3/4	10 1/2	
84	11 1/2	10 3/4	7 1/2	11 13/16	13 13/16	



WC-TYPE MOUNTING

Overall Case Dimensions:  
H—3 1/2" W—26 1/2" D—23 1/2"



# CHICAGO

REPLACEMENT TYPE

## TRANSFORMERS and REACTORS

Premium Quality—Yet They Cost No More

CHICAGO TRANSFORMER DIVISION \* ESSEX WIRE CORPORATION



### POWER TRANSFORMERS—(Pri: 117 volts, 50/60 cycles)

#### 6.3-VOLT FILAMENTS—VERTICAL SHIELD MOUNTING (V)

Catalog No.	High Voltage Secondary		Rectifier Filament		Other Filaments		Dimensions			Wt. Lbs.	List Price
	A.C. Volts	D.C. Ma.	Volts	Amps.	Volts	Amps.	H	W	D		
PV-10S	250-0-250	10	6.3	1.2	6.3	0.6	2 1/4	2 7/8	2 1/8	1	\$ 8.80
PV-20S	250-0-250	20	6.3	1.2	6.3	0.6	2 3/8	3 1/8	2 1/8	1 1/2	8.60
PV-40	225-0-225	40	5	2	6.3 C-T	1	3 3/8	2 7/8	2 1/8	2 3/4	7.15
PV-50	325-0-325	50	5	3	6.3 C-T	2	3 3/8	2 7/8	3	3 3/8	8.05
PV-50A	117	50	6.3		6.3		2 3/8	2 7/8	2 1/8	1 1/2	4.15
PV-60	250-0-250	60	5	2	6.3 C-T	1.75	3 3/8	3 1/8	2 1/8	3	8.60
PV-70	350-0-350	70	5	3	6.3 C-T	3	4 1/8	3 3/8	3 1/8	4 1/2	9.25
PV-70A	300-0-300	70	5	3	6.3 C-T	3	3 3/4	2 7/8	3 1/8	4	9.15
PV-90	350-0-350	90	5	3	6.3 C-T	3.5	4 1/8	3 3/8	3 1/8	5 1/4	10.30
PV-100	350-0-350	100	5	3	6.3 C-T	5	4 7/8	3 3/8	3 3/8	7 1/2	10.65
PV-120	300-0-300	120	5	3	6.3 C-T	5	4 1/8	3 1/8	3 3/8	5 3/4	10.85
PV-120A	350-0-350	120	5	3	6.3 C-T	4.5	4 1/8	3 1/8	3 1/8	6	11.95
PV-145	372-0-372	145	5	3	6.3 C-T	5	4 7/8	3 3/4	4	7 1/2	12.85
PV-200	400-0-400	200	5	4	6.3 C-T	5.5	4 7/8	3 3/4	4 1/4	9	15.00

V



#### 6.3-VOLT FILAMENTS—HORIZONTAL SHIELD MOUNTING (H)

Catalog No.	High Voltage Secondary		Rectifier Filament		Other Filaments		Dimensions			Wt. Lbs.	List Price
	A.C. Volts	D.C. Ma.	Volts	Amps.	Volts	Amps.	H	W	D		
PH-20S	250-0-250	20	6.3	1.2	6.3	0.6	2 3/8	2 3/8	2 3/8	1	\$9.50
PH-40	250-0-250	40	5	2	6.3 C-T	1.6	3	2 1/2	2 1/2	2 1/2	7.40
PH-50	250-0-250	50	5	2	6.3 C-T	2	3 1/2	3	2 1/2	3	7.50
PH-50A	280-0-280	50	5	3	6.3	1.5	6.3				
PH-70	300-0-300	70	5	3	6.3 C-T	3	3 1/4	3	2 1/2	3 1/2	7.70
PH-70B	350-0-350	70	5	3	6.3 C-T	2.5	3 1/2	3	2 1/2	4 1/4	7.95
PH-90	350-0-350	90	5	3	6.3 C-T	3.5	4 1/8	3 3/8	3 1/8	5 1/4	8.35
PH-120	300-0-300	120	5	3	6.3 C-T	5	3 1/2	3 3/4	3 1/8	5 3/4	9.25
PH-120B	350-0-350	120	5	3	6.3 C-T	4.5	3 7/8	4 1/8	3 1/8	6	9.25
PH-145	372-0-372	145	5	3	6.3 C-T	5	3 7/8	4 1/4	3 3/4	7 1/2	10.85
PH-200	350-0-350	200	5	3	6.3 C-T	6	4	4 1/2	3 3/4	8	13.30

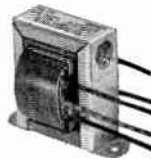
H



#### 2.5-VOLT FILAMENTS—HORIZONTAL SHIELD MOUNTING (H)

Catalog No.	High Voltage Secondary	D.C. Ma.	Rectifier Filament	Other Filaments	Dimensions (H, W, D)	Wt. Lbs.	List Price
PH-70A	325-0-325	70	5	3	2.5 C-T 9	3 3/8 3 3/4 3 1/8	4 1/2 \$ 8.95
PH-120A	325-0-325	120	5	3	2.5 C-T 12.5	3 7/8 4 1/8 3 1/8	6 11.40

U

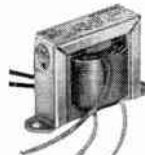


### FILAMENT TRANSFORMERS

Catalog No.	Secondary		Primary		Insulation Test Volts	Mounting Type	Dimensions			Wt. Lbs.	List Price
	Volts	Amps.	Volts	Cycles			H	W	D		
FO-26	2.5 C-T	6	107/117	60	2000	U	2 3/8	2 7/8	1 7/8	1	\$3.80
FO-210H	2.5 C-T	10	107/117	60	7500	U	3	3 5/8	2 1/2	2 1/2	6.15
FO-53	5.0 C-T	3	107/117	60	2000	U	2 3/8	2 1/8	2	1	4.15
FO-56	5.0 C-T	6	107/117	60	2000	U	2 3/8	3 3/8	2	2	5.40
FO-513	5.0 C-T	13	107/117	60	2000	U*	3 3/8	2 1/4	2 1/4	4	6.65
FV-520H	5.0 C-T	20	117	50/60	9000	V	4 1/2	3 3/8	3 3/8	7	14.55
FV-530	5.0 C-T	30	117	50/60	2000	V	4 1/2	3 3/4	4	6	14.05
FO-615	6.3 C-T	1.5	107/117	60	2000	U	1 5/8	2 7/8	1 3/4	3/4	2.95
FO-63	6.3 C-T	3	107/117	60	2000	U	2 3/8	2 7/8	2	1 1/4	4.15
FO-66	6.3 C-T	6	107/117	60	2000	U	2 1/2	4 3/8	2 1/2	2	5.65
FO-610	6.3 C-T	10	107/117	60	2000	U*	3 3/8	2 1/4	2 3/4	3 1/4	7.05
FO-75	7.5 C-T	5	107/117	60	2000	U	3	3 5/8	2 1/2	2 1/4	5.15
FO-105	10 C-T	5	107/117	60	2000	U	3 1/4	2 1/2	2 1/2	3	7.15
FV-1010	10 C-T	10	117	50/60	2000	V	3 3/4	3 1/4	3 3/8	5	9.35
FO-122	12.6 C-T	2	107/117	60	2000	U	2 3/8	3 1 1/2	2	1 1/2	4.65

L

LS



\*Universal mounting frames

ISOLATION TRANSFORMERS



CHICAGO Isolation Transformers are designed for a dual purpose: (1) To supply 115 volts isolated from a line of above/below normal, or normal, voltage—primary switch sets for 125/115/105 volts, 50/60 cycles; or (2) For use in servicing to eliminate shock hazard, by isolating chassis ground from line ground (particularly important on "hot" AC-DC television sets). Also provide 125 and 105 volts on the secondary for locating doubtful tubes, etc.

### FILTER REACTORS

Catalog No.	Inductance in Henrys	Maximum D.C. Current Ma.	D.C. Resistance in Ohms	Insulation Test Volts	Mtg. Type	Dimensions			Wt. Lbs.	List Price
						H	W	D		
R-1230	12	30	400	2000	L	1 3/8	2 3/8	1 3/8	1/2	\$1.65
R-1240	12	40	400	2000	L	1 5/8	2 5/8	1 5/8	3/4	1.70
R-650	6	50	300	1500	L	1 3/8	2 3/8	1 3/8	3/4	1.75
R-1365	13	65	500	2000	L	2 1/4	3 3/4	2 1/4	1 1/2	2.70
R-885	8	85	250	2000	L	2 1/4	3 3/4	2 1/4	1 1/2	2.95
R-23110	23	110	250	2000	V	2 1/2	4	2 1/2	2 1/2	4.15
R-8120	8	120	350	1500	L	2 1/2	4	2 1/2	2 1/2	4.25
R-7150	7.5	150	160	2000	V	3 1/2	2 1/2	3 1/2	2 1/2	5.45
R-7200	8	200	125	3000	V	3 3/8	2 7/8	3 3/8	3 3/8	6.85
R-8300	8	300	60	3500	V	4 1/2	3 3/4	4	8	12.35

### DRIVER TRANSFORMERS

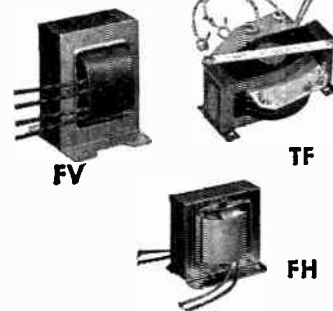
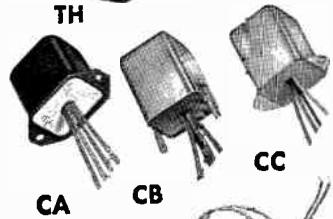
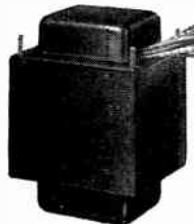
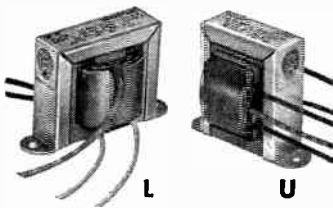
Cat. No.	Typical Applications: From Driver Tubes	To Output Tubes	Class	Ratio Primary: 1/2 Sec.	Max. Pri. D.C. Ma.	Mtg. Type	Dimensions			Wt. Lbs.	List Price
							H	W	D		
D-15	Single 30	P-P 19 or 30's	B	2.5-1	15	L	1 3/8	2 7/8	1 1/2	3/4	\$2.80
D-30	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3:1	30	LS	2	3 1/4	2 1/4	1	4.00
D-35	Triode Plate	P-P Grids		1:1, 1.5:1 or 2:1	35	L	2	3 1/4	1 7/8	1	4.30
D-40	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3:1	40	V	3 1/4	2 1/2	2 1/4	2 1/2	5.95

Cat. No.	Capacity	List Price
IS-50	50 VA	\$ 9.75
IS-100	100 VA	15.20
IS-150	150 VA	22.80
IS-250	250 VA	38.00

# CHICAGO

**REPLACEMENT TYPE TRANSFORMERS**

Premium Quality—  
Yet They Cost No More



### Vertical Blocking Oscillator Transformers

No. TBO-1. Creates 60-cycle vertical sweep voltages. Pri. Induc.: 1.15 hy. @ 3 v., 1000 cycles. Ratio (Pri:Sec) 1:4.2 Type CC mounting. Wt., 1 lb. List Price, \$2.95

No. TBO-2. Same as TBO-1, but in Type CB mounting. Wt. 1/2 lb. List Price, \$2.70

No. TBO-3. Same function as TBO-1. Pri. Induc.: 3 hy. @ 3 v., 60 cycles. Type CA mtg. Wt., 1 lb. List Price, \$3.25

### TV Filter Reactors (Type L)

Low inductance chokes for use in TV power supplies. 2 3/4" H. x 4" x 2". Mtg. 3/8".

Type TR-3300. Inductance 2.8 henries @ 300 ma. D.C. D.C. resistance 60 ohms. Insulation tests at 1250 V. Ship. Wt., 2 1/2 lbs. List, \$4.25

Type TR-4200. Inductance 3.7 henries @ 200 ma. D.C. D.C. resistance 60 ohms. Insulation tests at 1250 V. Ship. Wt., 2 1/2 lbs. List, \$4.25

## OUTPUT TRANSFORMERS

### SINGLE PLATE TO VOICE COIL

Catalog No.	Application Typical Output Tubes	Ohms Impedance		Max. Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions			Wt. Lbs.	List Price
		Pri.	Sec.				H	W	D		
RO-2	25L6 85A5, 2A3, 6B4	2000	3 to 6	50	4	L	1 3/8	2 3/8	1 1/4	1/2	\$1.85
RO-3	25L6 (10-ohm tap on primary)	2000	3 to 6	50	4	L	3 3/8	2 3/8	1 3/8	1/2	2.25
RO-6	12A5, 25A6, 45, 71A	4000	4-8-15	40	10	L	2	3 1/4	1 3/4	1	2.80
RO-8	2A5, 25A6, 43	4500	3 to 6	35	5	L	1 3/8	2 3/8	1 1/4	1/2	2.00
RO-9	6V6, 25A7G, 30, 31, 50	5000	4-8-15	50	8	L	2	3 1/4	1 3/4	1	2.80
RO-11	18A	6000	3 to 6	5	2	L	1 1/8	2 1/8	1 1/4	3/8	1.70
RO-13	7B5, 18, 31, 33, 42, 46, 47	7000	3 to 6	35	5	L	1 3/8	2 3/8	1 1/4	1/2	1.85
RO-16	1C5G, 1G5G, 1J6G, 6A4, 6A6	10000	3 to 6	30	5	L	1 3/8	2 3/8	1 1/4	1/2	1.95
RO-18	1A5G, 1E7G, 1N6G, 6V7G	25000	3 to 6	10	5	L	1 3/8	2 3/8	1 1/4	3/8	1.80

### PUSH-PULL PLATES TO VOICE COIL

Catalog No.	Application	Ohms Impedance	Max. Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions H W D	Wt. Lbs.	List Price			
RO-110	P-P 2A5, 6AC5G, 6A6, 6N7, 45	10000	4-8-15	80	12	U	2 3/8	2 3/8	1 3/4	1	\$3.25
RO-111	P-P 6B5, 6K6, 6N6G, 7B5, 31	14000	4-8-15	80	15	U	2 3/8	2 3/8	1 3/4	1	3.45
RO-113	P-P 1A5G, 1E7G, 1N6G, 6V7G	50000	3 to 6	20	8	L	1 3/8	2 3/8	1 1/2	5/8	3.15

### UNIVERSAL TYPE—SINGLE PLATE TO VOICE COIL

Catalog No.	Range of Ohms Impedance Primary	Secondary	Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions H W D	Wt. Lbs.	List Price
RO-201	4000, 7000, or 100000	3 to 6	40	8	L	1 3/8 2 3/8 1 1/2	5/8	\$2.80

### UNIVERSAL TYPE—SINGLE OR PUSH-PULL PLATES TO VOICE COIL

Catalog No.	Ohms Impedance	Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions H W D	Wt. Lbs.	List Price	
RO-301	2500 to 14000	2, 4, 6, 8, 15, etc.	30	4	L	1 3/8 2 3/8 1 3/8	1/2	\$2.85
RO-302	2500 to 15000	2, 4, 6, 8, 15	50	4	L	1 3/8 2 3/8 1 3/8	5/8	2.85
RO-303	2500 to 14000	2, 4, 6, 8, 15, etc.	40	8	L	1 3/8 2 3/8 1 3/8	3/4	2.95
RO-304	2500 to 13000	2, 4, 6, 8, 15	70	8	U	2 3/8 2 3/8 1 3/8	13/16	3.25
RO-305	2500 to 14000	2, 4, 6, 8, 15, etc.	60	12	L	2 3/8 3 1/4 2 3/8	1	4.45
RO-'07	2500 to 14000	2, 4, 6, 8, 15, etc.	50	10	L	2 3/8 2 3/8 2 3/4	1	3.45

### UNIVERSAL TYPE—PUSH-PULL PLATES (ONLY) TO VOICE COIL

RO-401	2500 to 13000	2, 4, 6, 8, 15	70	15	U	2 3/8 2 3/8 2 3/8	1 1/2	\$4.55
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## SPEAKER MATCHING TRANSFORMERS

Catalog No.	Application	Primary D.C. Ma.	Max. Audio Watts	Mtg. Type	Dimensions H W D	Wt. Lbs.	List Price	
SM-1	Sgl. Tube—500-1000-1500-2000	6	80	12	L	2 3/8 2 3/8 1 3/4	1	\$4.05
SM-2	Sgl. Tube—2500-4000-6000-8000	6	80	12	L	2 3/8 2 3/8 1 3/4	1	4.35
SM-3	Sgl. Tube—500-1000-1500-2000	6	60	5	L	1 3/8 2 3/8 1 3/4	3/4	2.50

# CHICAGO

## EXACT REPLACEMENT TELEVISION TRANSFORMERS

### POWER TRANSFORMERS (Primary 117 volts, 60 cycles)

Catalog No.	HV Secondary		Filaments		Mtg. Type	Wt. Lbs.	List Price
	A.C. Volts	D.C. Ma.	Rectifier	Others			
TP-210	233-0-233	90	5 v. 2 a.	6.3 v. 5.3 a.	TH	4 1/2	\$ 9.50
TP-350	356-0-356	200	5 v. 3 a.	6.4 v. 8.7 a.; 6.4 v. 0.6 a.	C	15	38.00
	2380	2		1.25 v. 0.3 a.	(in case)		
TP-355	360-0-360	250	5 v. 3 a.	5 v. 2 a.; 6.4 v. 8 a.; 6.4 v. 0.6 a.	TH	13	20.10
TP-360	365-0-365	260	5 v. 6 a.	6.3 v. 9 a.; 6.3 v. 1.2 a.	TH	13 1/2	20.10
TP-365	362-0-362	295	5 v. 6 a.	12.6 v. CT 5 a.; 5 v. 2 a.	TH	17	28.25
TP-370	348-0-348	215	5 v. 3 a.	6.3 v. 9 a.; 6.3 v. 1.2 a.	TH	12	20.10
TP-375	354-0-354	185	5 v. 3 a.	6.45 v. 12 a.	TH	11	18.45
	163-0-163	65					
TP-380	380-0-380	180	5 v. 3 a.	6.3 v. 9 a.	TH	9 1/2	16.30
TP-383	383-0-383	230	5 v. 3 a.	5 v. 2 a.; 6.3 v. 9 a.	TH	13 1/2	21.75
TP-390	400-330-0	180	5 v. 3 a.	5 v. 3 a.	V	11	19.55
	330-400	180			Vert. Shield		
TP-392	383-0-383	230	5 v. 3 a.	5 v. 2 a.; 6.45 v. 7.4 a.; 6.3 v. 1.6 a.	TH	13 1/2	21.75
TP-393	366-0-366	270	5 v. 6 a.	6.7 v. 4.5 a.	TH	13 1/2	19.00
TP-395	360-0-360	260	5 v. 6 a.	5 v. 2 a.; 6.3 v. 8.85 a.	TH	13 1/2	22.80
TP-400	374-0-374	205	5 v. 3 a.	5 v. 2 a.; 6.3 v. 5.6 a.	TH	9	16.30
TP-405	350-0-350	270	5 v. 6 a.	5 v. 2 a.; 6.6 v. 7.8 a.; 6.3 v. 1.6 a.	TH	9 1/2	22.80
TP-409	360-0-360	240	5 v. 6 a.	6.5 v. 9.3 a.	TH	11 1/2	19.00
TP-410	385-0-385	240	5 v. 3 a.	5 v. 2 a.; 6.3 v. 8.6 a.	TH	12	20.65
TP-450	364-0-364	195	5 v. 3 a.	5 v. 2 a.; 6.3 v. 8.25 a.			
	229-0-229	105	5 v. 2 a.	6.3 v. 0.6 a.	TH	12	22.50

### Vertical Scanning Output Transformers

- No. TSO-1. Type FV. List, \$5.65
- No. TSO-2. Type FH. List, 5.10
- No. TSO-3. Type FV. List, 5.40
- No. TSO-4. Type FV. List, 4.55
- No. TSO-5. Type L. List, 3.80

### Horizontal Deflection Output and H-V Transformers (Type TF)

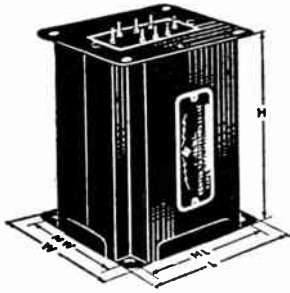
- No. TFB-1. 7 and 10-inch tubes. List, \$ 7.60
- No. TFB-2. 10-inch tubes. List, 7.60
- No. TFB-3. 12-inch tubes. List, 10.30
- No. TFB-4. 16-inch tubes; has filament windings to supply 2 rectifiers. List, 10.30

## INTERSTAGE TRANSFORMERS

Cat. No.	Application	Class	Ohms Impedance Pri. Sec.	Max. Primary D.C. Ma.	Ratio Sec.: Pri.	Mtg. Type	Dimensions H W D	Wt. Lbs.	List Price
IN-10	S. Pl. to P-P Gds.	A	10000 160,000	10	4-1	L	2 3/4 3 1/4 1 3/4	1	\$3.45
IN-11	S. Pl. to P-P Gds.	A	10000 122,500	10	3.5:1	L	1 3/8 2 3/8 1 1/2	5/8	2.80
IN-13	S. Pl. to P-P Gds.	A	10000 90,000	10	3:1	L	2 3/4 3 1/4 1 3/8	1	3.45
IN-14	S. Pl. to P-P Gds.	A	10000 90,000	10	3:1	L	1 3/8 2 3/8 1 1/2	5/8	3.15
IN-15	P-P Pls.—P-P Gds.	A	10000 * 90,000	10	3:1	L	2 3/4 3 1/4 1 3/8	1	4.40
IN-16	Sgl. or P-P Input & Output	A			1:1, 3:1, or 6:1	L	2 3/4 3 1/4 1 3/8	1 1/2	4.60

\*Universal type: center-tapped primary, split secondary.

# KENYON "T" LINE TRANSFORMERS



## DIMENSIONS OF "T" LINE TRANSFORMERS

Case No.	MOUNTING DIMENSIONS		OVERALL DIMENSIONS		
	ML	MW	Length (L)	Width (W)	Height (H)
1A	2-1/32	1-9/16	2-7/16	2	27/8
2A	2 1/8	1-13/16	2 3/4	2 3/8	3-3/16
3A	2-7/16	1-15/16	3-1/16	2-9/16	3 3/8
4A	3 3/8	2-7/16	4 1/2	3	3 7/8
5A	4-5/16	3-3/16	5	3 3/8	5
5 1/2 A	4-5/16	3-27/32	5	4 1/2	5
6A	4-5/16	4 1/2	5	5 1/8	5
7A	5 1/2	4-5/16	6-5/16	5-3/16	6 3/8
8A	5 3/4	4-13/16	6-9/16	5-11/16	7 1/8
9A	6-15/16	5 3/4	7 3/4	6 3/8	7-3/16
10A	8 3/8	7-11/32	9 1/2	8 1/4	10 3/8

## LOW IMPEDANCE SOURCE TO GRID TRANSFORMERS

Type No.	From	Primary Ohms	Secondary Ohms	Case No.	Weight lbs.	Weight ozs.	List Price
T-2 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 Single Grid	1A	1	1	\$11.75
T-3 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 P.P. Grids	1A	1	1	12.10
T-6 (Multiple Shielded)	Any line	500-333-250-200-125-50	20,000 Single Grid	1A	1	1	15.95

## LINE-TRANSFORMERS — LINE TO LINE AND LINE TO VOICE COIL

Type No.	Primary Ohms	Secondary Ohms	Maximum Level	Case No.	Weight lbs.	Weight ozs.	List Price
T-26 (Hum bucking type)	500-333-250-200-125-50	500-333-250-200-125-50	+ 24 D.B.	1A	1	1	\$10.75
T-28	500-200	15-8-4	30 watts	4A	5	10	17.80

## DRIVER TRANSFORMERS

Type No.	Primary to Match	Class A8 or Class B Tubes	Ratio (pri. to 1/2 Sec.)	Case No.	Weight lbs.	Weight ozs.	List Price
T-251	Single 53, 6A6, 6N7, 56, 6C5	53, 6A6, 6N7	2.3:1	2A	1	14	\$ 9.75
T-252	Single 30, 49, 89	19, 30's, 49's	1.7:1	1A	1	13	8.40
T-255	P.P. 56, 6C5, 53, 6N7	6L6's	2.9:1	2A	1	14	10.55
T-271	P.P. 45's, 2A3's, 6F6's	6L6's, 809's, TZ40's	3.7:1	3A	2	13	13.65
T-264	7 Watts	{ Any Line or Single or Push }		3A	2	12	14.55
T-263	18 Watts	{ Pull Plates to Class B Grids }		4A	5	12	21.80

## PREAMPLIFIER OUTPUT TRANSFORMERS

Type No.	From	Secondary Ohms	Case No.	Weight lbs.	Weight ozs.	List Price
T-101	Single 56, 76, 6C5	200-500	1A	1	4	\$ 8.35
T-102	P.P. 56, 76, 6C5	200-500	1A	1	4	8.90

## OUTPUT TRANSFORMERS TO 500-200 OR 15-8-4 OHMS

Type No.	From	Primary Ohms	Case No.	Weight lbs.	Weight ozs.	List Price
T-104	Single 2A5, 6F6, 42, 47, 89	7,000	2A	1	14	\$11.20
T-105	Class "A," P.P. 2A5's, 6F6's, 42's, 47's, 89's	14,000	2A	2	12	12.15
T-301	Class "A," P.P. 6L6's, Class AB 45's, 2A3's	5,000 or 3,000	4A	4	5	17.95
Type No.			Case No.	Weight lbs.	Weight ozs.	List Price
T-108	Will match any set of Push-Pull or Push-Pull Parallel or a single plate to 500-200 or speaker voice-coils. Low impedance connection for speaker voice coils range from .5 to 25 ohms.	15 watts	3A	2	13	\$13.80
T-109		30 watts	4A	5	2	19.40

## KEN-O-TAP MODULATION TRANSFORMERS

Type No.	Audio Watts	Class C. W. Sec.	Max. Pri. D.C.	Max. Sec. D.C.	Max D.C. Voltage	Primary Range Ohms	Secondary Range Ohms	Case No.	Weight lbs.	Weight ozs.	List Price
T-489	15	30	120	120	600	2000-20000	200-20000	3A	2	13	\$13.15
T-493	40	80	250	250	750	2000-20000	200-20000	4A	5	10	19.10
T-494	75	150	250	300	1250	2000-20000	200-20000	5A	9	9	25.95
T-441	125	250	250	250	1500	2000-20000	200-20000	6A	15	8	36.05
T-496	300	600	250	300	2500	500-18000	200-19000	8A	26	4	80.60
T-442	600	1200	400	400	3000	500-18000	200-19000	9A	45	45	90.10

## FILAMENT TRANSFORMERS

Type No.	SECONDARY RATING					Case No.	Weight lbs.	Weight ozs.	List Price
T-365	10 V.-4 A. CT.					3A	2	13	\$11.55
T-361	10 V.-8 A. CT.					4A	5	10	18.00
T-384	10, 10.5, 11 V.-5 A. CT.					4A	5	10	16.75
T-386	6.3 V.-3 A. CT.	2000 V. Test	5 V.-4 A. CT.	2000 V. Test	3A	2	13	13.15	
T-368	6.3 V.-4 A. CT.	2000 V. Test	6.3 V.-4 A. CT.	2000 V. Test	4A	4	11	17.55	
T-376	5 V.-3 A.	2000 V. Test	6.3 V.-4 A. CT.	2000 V. Test	4A	5	10	18.10	
T-377	5 V.-3 A.	2000 V. Test	5 V.-6 A.	2000 V. Test	5A	10	1	27.10	
	2000 V. Test	2000 V. Test	6.3 V.-1 A. CT.	2000 V. Test					
			6.3 V.-5 A. CT.	2000 V. Test					
			6.3 V.-5 A. CT.	2000 V. Test					

# KENYON "T" LINE TRANSFORMERS

## PLATE TRANSFORMERS DESIGNED FOR BOTH CONTINUOUS AND INTERMITTENT DUTY

Type No.	Primary Conn.	Volts Secondary No. 1		55°C. Rise	55°C. Rise	Case No.	Weight		List Price
		D.C.	A.C.	MA Cont.	15 Min. On 15 Min. Off MA Int.		lbs.	ozs.	
T-655	High Low	450 350	575-0-575 460-0-460	— 250	340 375	5A	10	1	\$26.30
T-656	High Low	750 600	925-0-925 740-0-740	— 270	320 360	6A	15	9	40.30
T-665	High Low	1250 1000	1470-0-1470 1180-0-1180	— 200	270 300	7A	23	4	60.60
T-666		1250	1460-0-1460	280	350	8A	32	2	66.65
T-652	High Low	1750 1500	2080-0-2080 1760-0-1760	— 320	450 500	9A	50	8	86.35
T-663		2000	2360-0-2360	350	500	10A	82		149.15
T-673	High Low	3000 2500	3400-0-3400 2840-0-2840	— 425	400 500	10A	82		154.55
T-674	High Low	3000 2500	3400-0-3400 2840-0-2840	— 850	400 1000	Spec.	135		219.40

Primaries on these items for 115/230 volt series-parallel connection.

## REACTORS

Type No.	In-ductance At Rated D.C.	Rated D.C. MA	D.C. Resistance	Insulation Test R.M.S.	Case No.	Weight lbs. ozs.	List Price	Type No.	In-ductance At Rated D.C.	Rated D.C. MA	D.C. Resistance	Insulation Test R.M.S.	Case No.	Weight lbs. ozs.	List Price	
T-155	280	10	5200	1500	2A	2	\$ 8.80	T-178	10	400	90	5000	6A	15	2	\$35.15
T-156	30	25	800	1500	1A	1	6.65	T-177	11	500	90	5000	7A	21	1	47.85
T-157	10	50	200	1500	1A	1	6.45	T-161	7.5	600	50	5000	7A	21	4	46.40
T-153	20	90	360	1500	3A	2	12	T-180	10	500	60	7000	8A	26	4	61.55
T-154	12.5	165	220	1500	3A	3	11.00	T-181	5	1000	18	7000	9A	50	2	90.10
T-151	7	250	100	1500	4A	5	10	T-515	6/21	165/30	220	1500	3A	3	4	11.00
T-152	7.5	200	140	1500	3A	2	13	T-506	4/16	200/30	140	1500	3A	2	13	10.40
T-164	13	250	120	1500	5A	10	1	T-501	5/15	250/30	100	1500	4A	5	10	15.00
T-166	10	300	120	1500	5A	10	1	T-510	6/20	300/30	120	1500	5A	10	1	22.15
T-159	10	500	70	1500	6A	15	9	T-502	6/22	500/50	70	1500	6A	15	9	33.85
T-160	11	300	120	3000	5A	10	1	T-512	6/22	300/30	103	5000	5A	10	1	22.15
T-167	11	400	70	3000	6A	15	9	T-521	6/26	500/60	90	5000	7A	21	1	47.80
T-175	10	200	140	5000	4A	5	10	T-516	6/22	400/50	70	3000	6A	15	9	33.80
T-176	10	300	103	5000	5A	10	11	24.60								

OPERATING VOLTAGES FOR 1500 VOLT TEST — UP TO 600 VOLTS D.C.  
OPERATING VOLTAGES FOR 3000 VOLT TEST — UP TO 1000 VOLTS D.C.

OPERATING VOLTAGES FOR 5000 VOLT TEST — UP TO 2000 VOLTS D.C.  
OPERATING VOLTAGES FOR 7000 VOLT TEST — UP TO 3000 VOLTS D.C.

## FILAMENT TRANSFORMERS

Type No.	Secondary Rating	Case No.	Weight lbs. ozs.	List Price
T-388	2.5, 5, 6.3 V.-3A	1A	1 7	\$ 8.75
T-352	2.5 V.-10 A. CT.	2A	1 14	9.55
T-360	2.5 V.-10 A. CT.	3A	2 13	11.70
T-389	2.5 V.-10 A. CT.	4A	4 14	16.80
T-354	5 V.-3 A. CT.	2A	1 14	9.35
T-390	5 V.-20 A. CT.	5 1/2A	11 9	27.05
T-382	5, 5.1, 5.25 V.-16 A. CT.	4A	5 10	18.90
T-351	6.3 V.-3 A. CT.	2A	1 14	9.10
T-378	6.3, 7.5 V.-7 A. CT.	3A	2 13	12.10
T-387	6.3, 6.45, 6.6 V.-8 A. CT.	3A	2 13	12.55
T-395	6.3 V.-20 A. CT.	5A	9	21.90
T-396	6.3 V.-30 A. CT.	5 1/2A	12	30.05
T-397	6.3 V.-12 A. CT.	4A	5 12	17.60

## PLATE AND FILAMENT TRANSFORMERS

Type No.	High Voltage — Volts	M.A.	Filament No. 1 Volts	No. 1 Amps	Filament No. 2 Volts	No. 2 Amps	Filament No. 3 Volts	No. 3 Amps	Filament No. 4 Volts	No. 4 Amps	Case No.	Weight lbs. ozs.	List Price
T-249*	235-0-235	20	6.3 C.T.	0.6	6.3 C.T.	0.9					2A	2	\$12.80
T-245*	320-0-320	40	6.3 C.T.	2	6.3 C.T.	2					3A	2	13
T-205*	350-0-350	75	5	2	6.3 C.T.	3					4A	5	10
T-222*	250-0-250	50	5	2	6.3 C.T.	2					3A	2	13
T-206*	325-0-325	100	5	3	6.3 C.T.	3	6.3 C.T.	2			5A	9	27.05
T-212	420-0-420	125	5	3	6.3 C.T.	3	2.5 C.T.	4			5A	9	2
T-244*	425-0-425	165	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	13	11
T-213	520-110-0-520	180	5	3	2.5	3	6.3 C.T.	3	6.3 C.T.	3	5A	10	6
T-215	360-125-0-360	200	5	3	2.5 C.T.	3	2.5 C.T.	10	6.3 C.T.	2.1	5A	10	10
T-247	590-0-590	200	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	12	8
T-220*	125-0-125	200	5	3	6.3 C.T.	3	6.3 C.T.	3			5A	4	5
T-246	625-0-625	250	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	15	9
T-223	600-0-600	300	5	6	6.3 C.T.	3	6.3 C.T.	2			6A	15	9
T-221											7A	21	10

High voltage secondary 520-390-105-390-520 to deliver 400 V. D.C. at 400 M.A. and 300 V. D.C. at 160 M.A.  
Filament No. 1 | Filament No. 2 | Filament No. 3 | Filament No. 4 | Filament No. 5  
5 V.-6A | 5 V.-3A | 2.5 V.-3A | 6.3 V. C.T.-4A | 6.3 V. C.T.-4A

\* Indicates unit designed for condenser input. All other units should be used choke input. If used with condenser input, the D.C. current rating of these items should be reduced to 70% of that specified.

## POWER LINE AUTO TRANSFORMERS

Type No.	Input	Output	Volt-Amperes Capacity	Case No.	Weight lbs. ozs.	List Price
T-219	88 to 130 volts	115 volts	500	5A	10 1	\$30.00

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For any other voltage 50 to 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation, add 60% to list prices. For any other voltage 25 cycle operation add 100% to list prices. Case sizes for 25 cycle application are different from those specified for standard 115 volt 50 to 60 cycle operations.

Prices and Specifications Subject to Change Without Notice



# TRANSFORMERS

## REPLACEMENT TRANSFORMERS

### OUTPUT TRANSFORMERS Receiver Replacement Type

To couple the plate or plates of the output stage to the speaker voice coil. Sec. impedance—3.5 ohms.

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-3025	\$1.50	7A5, 35A5, 35C5, 50C5, 32L7, 35L6, 50B5	A	2500	50	3	1 3/4	1 3/8	1 1/8	7/8	A
A-3026	1.50	6V6, 7C5, 25AC5, 35A5, 35B5, 35L6	A	5000	40	3	1 3/4	1 3/8	1 1/8	7/8	A
A-2927	1.60	Single 1C5-G, 1G5-G, 1G5, 1S4, 3Q4, 3Q5, 384, 6A4	A	8000	20	3	1 1/2	1 3/8	1 1/8	1	B
A-2928	1.75	Single 2A3, 6A3, 6B4, 6Y6, 25AC5, 25B6, 25N6, 25L6, 35A5, 35L6, 50L6, 48, 50B5, 35B5, 50A5	A	2000	60	5	2	1 3/8	2 3/8	1 1/4	A
A-3018	2.75	Single 6A3, 6L6, 6Y6, 7A5, 12A5, 25A6, 25B6, 25C6, 25L6, 50, 50A5, 50B5, 50C5, 50L6	A	3500	60	8	2 3/8	1 3/8	2 13/16	1 1/2	A
A-2930	1.80	Single 6V6, 7C5, 12A, 12A5, 25A6, 25A7, 35A5, 35L6, 31, 45, 50, 59	A	5000	40	5	2	1 3/8	2 3/8	1 1/4	A
A-3019	2.75	Single 6L6, 6V6, 6AQ5, 6AS5, 7C5, 25A6, 35A5, 35L6, 50	A	5000	50	8	2 3/8	1 3/8	2 13/16	1 1/2	A
A-2935	3.60	PP 6L6	A	5000 c.t.	150	18	2 13/16	2	3 1/4	1 3/8	A
A-2931	1.80	Single 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 20, 31, 42, 47, 50, 6V5	A	7000	30	5	2	1 3/8	2 3/8	1 1/4	A
A-3020	2.75	Single 2A5, 6AC5, 6AD7, 6AR5, 6B5, 6F6, 6K6, 6N6, 6Y7, 7B5, 12A6, 14A5, 41, 47	A	7000	40	8	2 3/8	1 3/8	2 13/16	1 1/2	A
A-2932	1.80	Single 1C5, 1Q5, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38, 41, 49, 3V4	A	10000	30	5	2	1 3/8	2 3/8	1 1/4	A
A-2938	2.50	Single 19, 1G6, 1J6 PP 1H4, 30, 49	B	10000 c.t.	40	6	2	1 3/8	2 3/8	1 1/4	A
A-2936	2.88	PP 6AC5	B								
A-2933	2.20	PP 6V6, 7C5	AB <sub>1</sub>	10000 c.t.	75	10	2 3/8	1 3/8	2 13/16	1 1/2	A
A-2933	2.20	Single 1D8, 7B5, 6K6, 6G6	A	12000	10	6	2	1 3/8	2 3/8	1 1/4	A
A-3021	3.60	PP2A5, 6E6, 6K6 PP6AD7, 47, 49	A	14000 c.t.	85	12	2 13/16	2	3 1/4	1 3/8	A
A-2934	1.85	Single 6Y7, 6Z7, 79 Single 1D8, 1F4, 1F6, 1J5, 1T5, 6V7, 12A7, 85	B								
A-2937	2.40	Single 1A5, 1N6, 6V7, 85 PP 1E7, 1J5, 6G6, 3A4, 3V4	A	15000	10	5	2	1 3/8	2 3/8	1 1/4	A
A-3017	2.50	PP1A5, 1AC5, 1N6, 1LA4	A	25000 c.t.	10	5	2	1 3/8	2 3/8	1 1/4	A
A-3017	2.50		A	50000 c.t.	10	5	2	1 3/8	2 3/8	1 1/4	A

### FILTER TAPPED OUTPUT TRANSFORMERS Pri. has 3% and 6% Humbucking Taps Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-3031	\$2.20	Single 2A3, 6A3, 7A5, 25L6, 35A5, 35B5, 35L6, 45, 50B5, 50L6	A	3000	50	5	2	1 3/8	2 3/8	1 1/4	A
A-3032	2.20	Single 6V6, 6B5, 7C5, 6F6	A	6000	40	5	2	1 3/8	2 3/8	1 1/4	A

### SPECIAL OUTPUT TRANSFORMERS 250-500 ohms To Couple Push Pull Plates to Line or Voice Coil Sec. Impedance 2-4-8-15-

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-3027	\$6.60	PP2A5, 6V6, 7C5, 19, 6F6 PPIH4G, 1J6, 6AC5, 49	A	10000 c.t.	45	15	2 13/16	2	3 1/4	1 3/4	F
A-3028	7.50	PP6L6 PP2A3	A <sub>1</sub>	5000 c.t.	70	20	3 1/8	2 3/8	3 11/16	2	F

All prices subject to trade discount, and change without notice.

Products of Merit

A
B
F



# TRANSFORMERS

## VERTICAL OUTPUT TRANSFORMER

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	Dimensions			Mtg. Type
				H.	W.	D.	
★A-3035	\$6.00	10:1	1 <sup>11</sup> / <sub>16</sub> x2	3 <sup>1</sup> / <sub>8</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>2</sub>	EV
★A-3036	4.00	10:1	2 <sup>1</sup> / <sub>16</sub>	2	3 <sup>1</sup> / <sub>4</sub>	2	A
★A-3037	4.00	11.4:1*	2 <sup>1</sup> / <sub>16</sub>	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	A
★A-3038	5.50	10:1	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>11</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	A
★A-3039	5.50	18:1*	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>11</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	A
★A-3080	5.25	25:1, 50:1	3 <sup>1</sup> / <sub>8</sub>	3	3 <sup>3</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	B
★A-3081	6.00	30:1, 50:1*	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>11</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	A

★Indicates TV Replacements.

\*Auto Transformer.

## DUAL PRIMARY OUTPUT TRANSFORMERS For Use with AC-DC Battery Portable Receivers—Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-3029	\$2.20	Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35B5, 35L6, 50A5, 50B5, 50L6 OR	A	2000 or 6000	60 or 10	5	2	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	A
A-3030	2.20	Single 1S4, 1Q5, 3Q4, 3Q5, 3V4 OR Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35L6, 50A5, 50B5, 50L6 OR Single 1S4, 1Q5, 3Q4, 3Q5, 3V4	A	2000 or 10000	60 or 10	5	2	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	A

## UNIVERSAL OUTPUT TRANSFORMERS To Provide Correct Coupling Between a Variety of Output Tubes and Any Speaker Voice Coil

Type No.	List Price	Tube	Ohms Impedance		Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions			Mtg.	
			Pri.	Sec.				H.	W.	D.		
A-2900	\$2.60	Single or Push-pull	4000-7000-8000-10000-14000	c.t.	.17 to 32	35	4	2	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2901	2.75	Single or Push-pull	4000-7000-8000-10000-14000	c.t.	.17 to 32	40	8	2 <sup>1</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2902	2.75	Single	1500-2000-4000-5000-7000-10000		.1 to 40	55	10	2 <sup>1</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2903	2.50	Single	2000-4500-7000-10000		3.2	30	4	2	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2904	3.75	Single or Push-pull	4000-7000-8000-10000-14000	c.t.	.17 to 32	40	18	2 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2905	5.25	Single or Push-pull	3000-5000-7000-8000-10000	c.t.	.17 to 32	70	24	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	F
A-2998	2.50	Single	3500-5000-7000-10000		3.2	35	3	1 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F
A-2999	2.65	Single	12000-15000-18000-25000		3.2	10	3	1 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	F

## HEAVY DUTY OUTPUT TRANSFORMERS High Level Type to Couple to Line or Speaker. Sec. Impedance: 4-8-15-250-500 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	Dimensions			Mtg.
							H.	W.	D.	
A-3127	\$ 6.00	Single 6L6, 2A3, 6A3, 6Y6	A	2500	80	8	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	D
A-3128	10.00	PP8V6, 6F6	AB <sub>1</sub>	8000 c.t.*	50	14	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	D
A-3129	10.00	PP6L6	AB <sub>1</sub>	4300 c.t.*	95	25	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	D
A-3130	10.50	PP6L6	AB <sub>1</sub>	6600 c.t.*	80	34	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>8</sub>	D
A-3131	8.50	PP6L6, 6Y6, PP2A3, 6A3, 6B4, 45, PP6N7, 46	AB	5000 c.t.	80	30	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	D
A-3132	8.50	PP6F6, 2A5, 7C5, Single 6N7, 6A6	AB <sub>2</sub>	10000 c.t.	40	23	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	D
A-3133	13.75	P.P. Par. 6L6, P.P. 807	B	3300 c.t.	240	55	4 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	4	D†

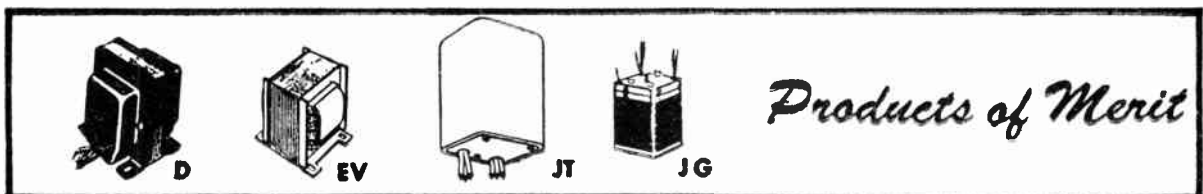
\* 10% Feedback Winding.

† Mtg. Centers 3 x 2<sup>1</sup>/<sub>8</sub>.

## OUTPUT TRANSFORMERS—HIGH FIDELITY TYPE Frequency Response ± 1 DB 30-20000 Cycles

A-3100	\$18.00	PP2A3, 6A5G, 275A, 6A3, 6L6, etc.	5000 and 3000 c.t.	Sec. 4-8-16	20	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	D
A-3101	18.00	PP6F6, 6L6, 6V6, etc.	10000 and 6600 c.t.		20	4 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>8</sub>	D

All prices subject to trade discount, and change without notice.





# TRANSFORMERS

## UNIVERSAL LINE TRANSFORMERS To Couple Various Line Impedances to a Voice Coil

Type No.	List Price	Ohms Impedance		Watts	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2906	\$3.00	500-1000-1500-2000	3.2, 6-8	10	2 3/8	1 5/8	2 15/16	1 1/2	F
A-2907	5.00	500-1000-1500-2000	3.2, 6-8	18	2 3/8	2 1/4	2 7/8	1 1/2	G
A-2908	5.25	500-1000-1500-2000	6-8, 16	24	3 1/8	2 1/4	3 11/16	2 1/8	F
A-2909	2.75	45-50	3.2, 6-8	8	2	1 5/8	2 15/16	1 1/2	G
A-3005	2.10	500	3.2, 6-8	5	2	1 5/8	2 3/8	1 1/4	A

For Use With Constant 70.7V. Line as Recommended by the RMA. Rated Power is Furnished on Lowest Tap. Other Taps Provide Reduction in Power in Steps of 3DB.

A-3013	\$3.00	1000-2000-4000-8000-16000	3.5, 7	5	2	1 5/8	2 3/8	1 1/2	F
A-3014	3.60	500-1000-2000-4000-8000	4-8-16	10	2 3/8	1 5/8	2 3/8	1 1/2	F
A-3015	5.25	275-550-1100-2200-4400-8800	4-8-16	18	2 3/8	2 1/4	2 7/8	1 1/2	G
A-3016	6.25	210-420-840-1680-3360-6720	4-8-16	24	3 1/8	2 1/4	3 11/16	2 1/8	F

## TUBE TO LINE TRANSFORMERS For Coupling Single or Push-Pull Plates to Line or Mixer

Type No.	List Price	Ohms Impedance		Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2925	\$4.75	20000 c.t.	500/125	10	2 15/16	2	3 1/4	1 5/8	A
A-2926	4.75	20000 c.t.	200/50	10	2 15/16	2	3 1/4	1 5/8	A
†A-3023	5.00	5000-10000-20000 c.t.	500/333/200/125/50	15	2 15/16	2	3 1/4	1 5/8	F
†A-3024	11.00	5000-10000-20000 c.t.	500/333/200/125/50	50	2x1 11/16	3 3/8	2 5/8	2 3/4	DL

†20,000 ohm only center tapped.

## INPUT TRANSFORMERS For Coupling Microphone or Line to Single or Push-Pull Grids. Static Shielded.

Type No.	List Price	Ohms Impedance		Turns Ratio	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2923	\$2.75	3.2	50000	1:125	2	1 3/8	2 3/8	1 1/4	A
A-2918	4.25	100	40000 c.t.	1:64	2 15/16	2	3 1/4	1 5/8	A
A-2919	4.25	200/50	100000	1:22	2 15/16	2	3 1/4	1 5/8	A
A-2924	4.75	500/125	100000 c.t.	1:14	2 15/16	2	3 1/4	1 5/8	A

## INTERSTAGE TRANSFORMERS To Couple a Single Plate to a Single Grid

Type No.	List Price	Ohms Impedance		Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.				H.	W.	D.	
A-2910	\$2.75	10000	90000	3:1	10	2	1 5/8	2 3/8	1 1/4	A
A-2911	2.75	10000	90000	3:1	10	2 3/8	1 5/8	2 15/16	1 1/2	A

### To Couple a Single Plate to Push-Pull Grids

A-2914	\$2.75	10000	90000 c.t.	3:1	10	2	1 5/8	2 3/8	1 1/4	A
A-2915	3.00	10000	90000 c.t.	3:1	10	2 3/8	1 5/8	2 15/16	1 1/2	A
A-2916	3.60	10000	90000 c.t.	3:1	10	2 15/16	2	3 1/4	1 5/8	A

### To Couple Push-Pull Plates to Push-Pull Grids

A-2912	\$4.25	10000 c.t.	90000*	3:1	10 per side	2 15/16	2	3 1/4	1 5/8	A
A-2913	3.60	20000 c.t.	20000 c.t.	1:1	10 per side	2 3/8	1 5/8	2 15/16	1 1/2	A
A-2917	4.25	20000 c.t.	45000 c.t.	1.5:1	10 per side	2 15/16	2	3 1/4	1 5/8	A

\*Split secondary.

All prices subject to trade discount, and change without notice.

*Products of Merit*



F



DL



G



# TRANSFORMERS

**POWER TRANSFORMERS<sup>1</sup>** Receiver Replacement Type — Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded—Mtg. Fig. C

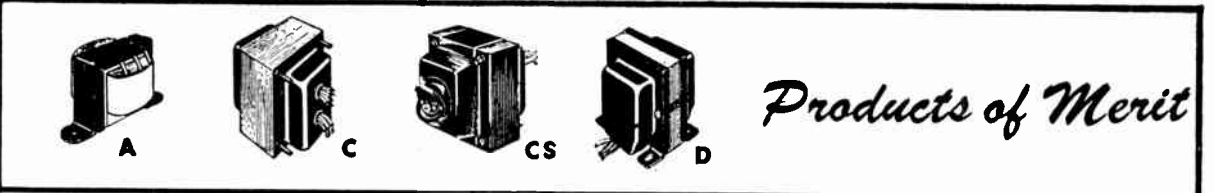
Type No.	List Price	H. V. Secondary		Rectifier		Fil. Wdgs.		Mtg. Centers	Dimensions		
		Volts	D.C. M.A.	Volts	Amp.	Volts	Amp.		H.	W.	D.
*P-3045 •	\$ 4.65	120	50	.....	.....	6.3	2	3 1/8	2 1/16	2 5/8	2
*P-3046 •	3.00	150	25	.....	.....	6.3 c.t.	.5	2	2 1/16	2 1/2	1 3/4
P-3047	5.50	240-240	50	.....	.....	6.3	2.5	2 x 2 1/2	2 1/2	3	2
P-3048	6.50	260-260	90	.....	.....	6.3	4.7	2 x 2 1/2	2 1/2	3	2 1/2
P-2949	6.00	240-240	40	.....	.....	6.3 c.t.	2	2 x 2 1/2	2 1/2	3	2 3/4
P-2958	6.00	240-240	50	.....	.....	6.3	2.6	2 x 2 1/2	2 1/2	3	2 3/4
P-3051	7.70	260-260	70	.....	.....	6.3	3	2 x 2 1/2	2 1/2	3	3
P-3052	8.50	280-280	90	.....	.....	6.3	5	2 1/2 x 2 1/2	2 1/2	3 3/8	3 1/2
P-2957	7.25	350-350	50	.....	.....	6.3 c.t.	2.6	2 1/2 x 2 1/2	2 1/2	3 3/8	3
P-2966 †	8.00	350-350	70	.....	.....	2.5 c.t.	9	2 1/2 x 2 1/2	2 1/2	3 3/8	3 3/8
P-2967	10.00	350-350	90	.....	.....	2.5 c.t.	3.5	2 1/2 x 2 1/2	2 1/2	3 3/8	3 3/8
P-2968	12.50	400-400	110	.....	.....	2.5 c.t.	12.5	3 x 3 3/4	3 3/4	4 1/2	4 1/2
P-2950	6.25	325-325	40	.....	.....	2.5 c.t.	3.5	3 x 3 3/4	3 3/4	4 1/2	4 1/2
P-2951	7.25	325-325	70	.....	.....	6.3 c.t.	2	2 x 2 1/2	2 1/2	3	2 7/8
P-2952	8.00	350-350	90	.....	.....	6.3 c.t.	3.5	2 x 2 1/2	2 1/2	3	3 7/8
P-2953	9.25	350-350	120	.....	.....	6.3 c.t.	4.7	2 1/2 x 2 1/2	2 1/2	3 3/4	3 3/4
P-2954	12.00	375-375	150	.....	.....	6.3 c.t.	5	2 1/2 x 2 1/2	2 1/2	3 3/4	4 1/2
P-2955	14.00	400-400	200	.....	.....	6.3 c.t.	5	3 x 3 3/4	3 3/4	4 1/2	4 1/2
P-2956	17.50	435-435	250	.....	.....	6.3 c.t.	3	3 x 3 3/4	3 3/4	4 1/2	4 3/4
★P-3079	14.00	(80-volt Bias Tap) 140 tap 117	300	.....	.....	6.3 or 5	3	3 x 3 3/4	3 3/4	4 1/2	4 3/4
★P-3071 †	22.50	360-360	180	.....	.....	6.3	9	3 x 3 3/4	3 3/4	4 1/2	3 3/4
★P-3072	21.25	360-360	180	.....	.....	6.3	9	3 x 3 3/4	3 3/4	4 1/2	3 3/4
★P-3069 †	22.50	350-350	225	.....	.....	6.3	10	3 x 3 3/4	3 3/4	4 1/2	4 1/4
★P-3070	21.25	350-350	225	.....	.....	6.3	2.7	3 x 3 3/4	3 3/4	4 1/2	4
★P-3077	17.50	300-300	250	.....	.....	6.3	2.7	3 x 3 3/4	3 3/4	4 1/2	4 1/4
★P-3059	25.00	360-360	250	.....	.....	6.3	2.7	3 x 3 3/4	3 3/4	4 1/2	5 1/8
★P-3063	22.50	360-360	250	.....	.....	6.3	9	3 3/8 x 4 1/8	5 1/16	3 7/16	4 23/32
★P-3078	22.50	360-360	275	.....	.....	6.3	1.2	3 x 3 3/4	3 3/4	4 1/2	4 3/4
★P-3061	27.50	362-362	295	.....	.....	6.3 or 5	2.7	3 3/8 x 4 1/8	6 13/16	3 7/16	4 23/32
★P-3073 †	27.50	† 322-322	180	.....	.....	6.3	10	3 x 3 3/4	3 3/4	4 1/2	5
★P-3066	25.00	† 205-205	70	.....	.....	6.3	2.7	3 x 3 3/4	3 3/4	4 1/2	5 3/8
★P-3067	25.00	† 375-375	170	.....	.....	12.6 c.t.	5	3 x 3 3/4	3 3/4	4 1/2	5 3/8
★P-3067	25.00	† 325-325	130	.....	.....	6.3	2.6	3 x 3 3/4	3 3/4	4 1/2	5 3/8
★P-3067	25.00	† 400-400	220	.....	.....	6.3	10	3 x 3 3/4	3 3/4	4 1/2	5 3/8
★P-3067	25.00	† 212-212	90	.....	.....	6.3	2.6	3 x 3 3/4	3 3/4	4 1/2	5 3/8
★P-3076	23.00	† 270-270	300	.....	.....	6.3	6.5**	3 x 3 3/4	3 3/4	4 1/2	5
★P-3076	23.00	† 180-180	200	.....	.....	6.3	0.5**	3 x 3 3/4	3 3/4	4 1/2	5

\* For use with Half-Wave Rectifier. † Replaces P2965.  
 ‡ Socket Type. See Figure CS. ◊  
 1 All TV Powers are Fully Flux and Static Shielded.  
 • Type A Mtg.  
 \* Shielded to meet Underwriters approval for pre-amp use.. Mtg B.  
 †Max. MA High Tap Only P-3066 320 P-3067 300 P-3073 220 P-3076 435  
 Max MA Low Tap Only 340 340 325 500  
 \*\*Can be used in series for 12.6 V.

**REPLACEMENT TYPE FILTER CHOKES** Inductance Ratings are at 10 V. 60 cy. with Rated Current Flowing as Recommended by the R.M.A.

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Mtg. Centers	Dimensions			Mtg.
							H.	W.	D.	
★C-2973	\$1.55	1.5	10	95	1500	1 3/4	1 3/16	1 1/8	A	
★C-2994	2.00	1.5	200	90	1500	2 3/8	1 5/8	1 5/8	A	
C-2974	3.85	2.0	200	50	1500	2 13/16	3 1/4	1 5/8	A	
C-2977	2.20	4.5	50	200	1500	2	1 5/8	1 1/2	A	
C-2975	1.80	5.5	50	330	1500	2	1 5/8	1 1/2	A	
C-2976	1.80	8	40	500	1500	2	1 5/8	1 1/2	A	
★C-2995	2.75	8.0	100	375	1500	2 13/16	2 1/2	1 5/8	A	
C-2981	2.20	8.5	50	400	1500	2	1 5/8	1 1/2	A	
C-2985	2.20	20	15	900	1500	2 1/2	2 1/2	1 1/2	A	
C-2987	2.50	16	50	550	1500	2 1/2	2 1/2	1 1/2	A	
C-2990	3.30	15	75	400	1500	2	3 1/4	1 5/8	A	
★C-2991	4.40	2	250	53	2000	3 1/2	2 3/4	2 3/8	A	
C-2993	4.40	10.5	110	220	1500	3 1/2	2 3/4	2 3/8	A	
★C-2996	3.30	1.0	300	60	1500	3 1/2	2 3/4	2 3/8	A	

★ Indicates TV replacements. All prices subject to trade discount, and change without notice.







# TRANSFORMERS

## POWER TRANSFORMERS<sup>1</sup> Receiver Replacement Type—Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded Fully Shielded Upright Mounting Type—Mtg. Fig. D

Type No.	List Price	H. V. Secondary		Rectifier		Fil. Wdgs.		Mtg. Centers	Dimensions		
		Volts	D.C. M.A.	Volts	Amps.	Volts	Amps.		H.	W.	D.
P-3147	\$5.50	240-240	50	5	2	6.3	2.5	2 x 1 <sup>9</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>
P-3148	6.50	260-260	90	5	2	6.3	4.7	2 x 2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3149	6.00	240-240	40	5	2	6.3 c.t.	2	2 x 1 <sup>11</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>
P-3150	6.25	240-240	40	5	2	6.3 c.t.	2	2 x 1 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>
P-3154	8.25	325-325	50	5	2	6.3	2.6	2 x 2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3160	7.25	350-350	50	5	2	6.3 c.t.	2.6	2 <sup>1</sup> / <sub>4</sub> x 1 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3151	7.25	325-325	70	5	3	6.3 c.t.	3.5	2 <sup>1</sup> / <sub>4</sub> x 1 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3152	8.00	350-350	90	5	3	6.3 c.t.	3.5	2 <sup>3</sup> / <sub>8</sub> x 2 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3153	9.25	350-350	110	5	3	6.3 c.t.	4.5	3 x 2 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>
P-3173	11.25	350-350	150	5	3	6.3	6.5	2 <sup>1</sup> / <sub>2</sub> x 2 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>
P-3175	14.00	400-400	200	5	3	6.3 c.t.	5	3 x 3 <sup>3</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>
P-3155	17.50	435-435	250	5	3	6.3 c.t.	3	3 x 3 <sup>15</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>
★P-3165	18.00	(80-volt Bias Tap) 350-350	200	5	10	6.3 or 5	3	3 x 3 <sup>7</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5
★P-3169	27.00	†(390-390) (325-325)	180 130	5 5	3 3	6.3 6.3	8 4	3 x 3 <sup>3</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>
★P-3166	30.00	400-400	300	5 5	3 6	12.6 c.t.	10	3 <sup>1</sup> / <sub>2</sub> x 4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>
★P-3174	40.00	†(450-450) (325-325)	240 200	5 5	3 3	6.3 6.3	6 6	3 <sup>5</sup> / <sub>8</sub> x 3 <sup>7</sup> / <sub>8</sub>	5 <sup>15</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>
★P-3170	10.50	1750	2	5 2.5	2	6.3 or 2.5	.9	2 x 1 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>
★P-3171	14.00	2500	5	2.5 2	2	6.3 or 2.5	3	2 <sup>1</sup> / <sub>2</sub> x 2 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>

<sup>1</sup>All TV Powers are Fully Flux and Static Shielded.

†Max. M. A. High Tap Only P-3169: 270 P-3174: 400  
Max. M.A. Low Tap Only P-3169: 290 P-3174: 430

## FILAMENT TRANSFORMERS For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec. Amp.	Insulation Volts	Dimensions			Mtg.
					H.	W.	D.	
P-2939	\$ 3.75	2.5 c.t.	5	2500	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	A
P-2940	5.75	2.5 c.t.	10	7500	3	3 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	B
P-3042	6.25	2.5 c.t.	10	10000	2 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	EH
P-3040	4.25	5 c.t.	3	2500	2	3 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	A
P-2941	5.00	5 c.t.	6	2500	2 <sup>1</sup> / <sub>4</sub>	3 <sup>11</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	A
P-2942	11.00	5 c.t.	15	10000	4 <sup>1</sup> / <sub>2</sub>	3 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	EV
P-2943	11.00	5 c.t.	30	2500	3 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	3	DL
P-2944	2.80	6.3 c.t.	1	2500	1 <sup>1</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	A
★P-3074	3.60	6.3	1.2	5000	2	3 <sup>1</sup> / <sub>4</sub>	2	A
P-2945	3.60	6.3 c.t.	2	2500	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	A
P-2946	4.25	6.3 c.t.	6	2500	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	A
P-2947	5.50	6.3 c.t.	6	2500	3	3 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	B
P-2948	7.50	6.3 c.t.	10	2500	3 <sup>1</sup> / <sub>4</sub>	3 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	EV
P-2960	5.00	7.5 c.t.	4	2500	2 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	B
P-2961	6.90	6.3 c.t.	3	2500	3	3 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	B
P-3041	6.90	6.3 c.t.	3	2500	2 <sup>1</sup> / <sub>2</sub>	4	2 <sup>3</sup> / <sub>8</sub>	A
P-3143	8.50	7.5 c.t.	8	2500	3 <sup>1</sup> / <sub>2</sub>	2 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	D
P-3145	8.50	10 c.t.	5	2500	3 <sup>1</sup> / <sub>4</sub>	2 <sup>15</sup> / <sub>16</sub>	3	D
P-3146	10.00	10 c.t.	10	3000	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	D
P-2959	4.50	12.6 c.t.	2	2500	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	A
P-2962	4.50	25.2	1	2500	2	3 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	A
P-2963	10.00	12.6 or 25.2	7 3.5	2500	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	D

## TV ISOLATION FILAMENT TRANSFORMER Isolates damper tube from other filaments. Secondary insulated for 5000 V.

Type No.	List Price	Pri. Volts	Sec.		Mtg. Centers	Dimensions			Mtg.
			Volts	Amps.		H	W	D	
P-3097	3.70	6.3	12.6 or 6.3	1 1.2	2 <sup>15</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	2	A

## TV AUTOTRANSFORMER Provides TV picture tube booster voltage.

Type No.	List Price	Input Volts	Output		Mtg. Centers	Dimensions			Mtg.
			Volts	Amps.		H	W	D	
P-3098	2.75	6.3	12.6 tans at 9.45-6.3	1	2 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	A

## TV CONVERSION—REPLACEMENT—IMPROVEMENT KIT

KIT No. 1000 \$25.25 1 EA. HVO-7, MDF-70, MWC-1 CONVERSION AND REPLACEMENT DATA INCLUDED

## VIBRATOR TRANSFORMERS For Operation From 6 V. Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. M.A.	Dimensions			Mtg.
				H.	W.	D.	
P-2969	\$5.25	150	40	2 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	B
P-2970	5.75	225	40	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	B
P-2971	6.00	250	50	2 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	B
P-2972	6.90	260	60	3	3 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	C
P-3068	5.00	260	60	2 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	C
P-4071	7.50	250	60	3	2 <sup>5</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	JT
P-4076	7.00	265	55	3 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	JG
P-4077	7.50	280	65	3 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	JT
P-4078	6.90	270	60	2 <sup>5</sup> / <sub>8</sub>	2 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	JT
P-4079	8.00	270	75	3 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	JT

★Indicates TV Replacement.

All prices subject to trade discount, and change without notice.



# TRANSFORMERS

## BLOCKING OSCILLATOR TRANSFORMERS

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	Dimensions			Mtg. Type
				H.	W.	D.	
★A-3000 Vertical	\$2.50	1:4.2	2	1 3/8	2 3/8	1 1/4	A
★A-3001 Vertical	3.75	†	2 3/8	1 3/8	2 13/16	1 1/2	A
★A-4000 Vertical	3.25	1:4.2	1 15/16	1 3/8	2 3/8	1 1/2	J
★A-3002 Horizontal	2.75	2:1	2	1 3/8	2 3/8	1 1/4	A
★A-4002 Horizontal	3.75	2:1	1 15/16	1 3/8	2 3/8	1 1/2	J
★A-4003 Vertical	2.25	1:4.2	1 3/8	1 3/8	1 3/8	1 1/2	JL

† Pri./Sec. 1—1:2.08, Pri./Sec. 2—1:1.

## TV COMPONENTS

### HORIZONTAL OUTPUT AND HI-VOLTAGE TRANSFORMERS

Type No.	List Price	Picture Tube	Equivalent Type	Mtg. Type
★HVO-3	\$ 8.00	7DP4—10 BP4 Etc.	211T1—211T3	M
★HVO-5	10.00	16 AP4 Etc.	211T5	M
★HVO-7	12.00	10" to 24"	GE 77J1—HVO6	N
★HVO-8	7.00	10" to 24"	Air Core—74951	T
★MWC-1	2.25	Width lin. con. 4-29 M.H.—AGC wind.	None	O
★MWC-2	1.10	Width control 2-4.0 M.H.	RCA 208R1, 201R1, 201R4	O
★MWC-3	1.90	Width/Linearity Con. 20-60 M.H.	None	O

### FOCUS COILS

Type No.	List Price	Tube Size	Dimensions—Depth	Equivalent Type	M.A.	DC. Res. Ohms	Mtg. Type
★MF-1*	\$8.25	10"–12"	1"–1 1/2"	202D1	100	247	P
★MF-2	11.00	16"	1"–3 1/2"	202D2	100	470	S
★MF-3*	8.25	10"–12"	1"–1 1/2"		100	360	P
★MF-4	11.00	14"–20"	1"–3 1/2"		75	1000	S
★MF-5	11.00	14"–20"	1"–3 1/2"		75	1500	S

\*Equipped with lugs on each side and universal mtg. plate.

### DEFLECTION YOKES

Type No.	List Price	Tube Size	Inductance		Equivalent RCA Type	Def. Angle
			Horizontal	Vertical		
★MD-12	\$9.00	10"–16"	Low	High	201D1–D3–D12	53°
★MD-13	9.00	10"–16"	High	High		53°
★MDF-30*	11.00	10"–24"	High	Low	211D1	70°
★MDF-70*	11.00	12"–24"	Low	High		70°
★MDF-71*	11.00	12"–24"	High	High		70°

## INDUSTRIAL—AMATEUR

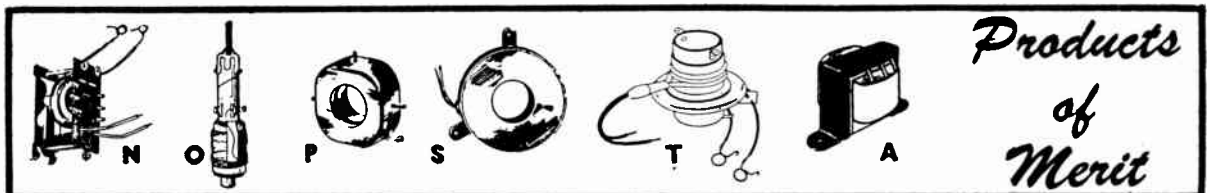
### OUTDOOR TYPE UNIVERSAL LINE TRANSFORMER To Couple Various Line Impedances to a Voice Coil Universal Mounting Bracket

Type No.	List Price	Ohms Impedance		Watts	Mtg. Center Case	Dimensions			Mtg. Type
		Primary	Sec.			H.	W.	D.	
A-4040	\$11.00	250-500-1000-1500-2000	4-8-16	8	2 3/4 x 3 3/8	4 1/4	4 7/8	3 3/8	JO
A-4041	11.75	250-500-1000-1500-2000	4-8-16	12	2 3/4 x 3 3/8	4 1/4	4 7/8	3 3/8	JO
A-4042	16.25	250-500-1000-1500-2000	4-8-16	25	2 3/4 x 3 3/8	4 1/4	4 7/8	3 3/8	JO
A-4043	11.75	45-50	4-8	12	2 3/4 x 3 3/8	4 1/4	4 7/8	3 3/8	JO

### DRIVER TRANSFORMERS To Couple Driver Plate to Amplifier Grids

Type No.	List Price	Driver	Output	Ratio, Pri. to 1/2 Sec.	Class	Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-2920	\$3.00	6C5, 1H4, 30, 49	Single 1J6, 19, Push-pull 30, 49	2.5:1	B	10	2 3/8	1 3/8	2 13/16	1 1/2	A
A-2921	4.25	6F6, 2A5, 42	PP6F6, 2A5, 6L6	1.7:1, 1.5:1, 1.3:1	AB	35	2 3/8	2	3 1/4	1 3/8	A
A-2922	5.00	6A6, 6C5, 6N7, 46	Single 6A6, 6N7, Push-pull 46	5:1, 4:1, 3:1, 2.5:1	B	20	2 3/8	2	3 1/4	1 3/8	A
A-3120	12.75	500 ohm line	Class B Grids 15 Watt Capacity		B	-----	2 3/8 x 2	3 3/8	2 3/8	3 3/8	DL
A-3121	14.50	500 ohm line	Class B Grids 30 Watt Capacity	1:1.75, 1:1.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3	B	-----	2 1/4 x 2 1/4	3 3/8	3	3 3/4	DL
A-3123	6.00	PP6A6, 53, PP6C5, 6N7, 6J5	PP6N7, 6A6, 53, PP6L6, T21	5:1*	B AB <sub>2</sub>	15	2 x 1 1/4	3 3/8	2 3/8	2 3/8	D
A-3124	6.00	6F6, 46, 59, 2A5, 42	PP46, 59, PP6L6, 807	2.2:1	B AB <sub>2</sub>	30	2 x 1 1/4	3 3/8	2 3/8	2 3/8	D
A-3125	8.50	6F6, 2A5, 47, 42	PP6L6	1.4:1*	B AB <sub>2</sub>	40	2 1/4 x 2	3 3/8	2 13/16	3 3/8	D
A-3126	6.90	PP2A3, 6L6, 45, 6V6, 6F6	PP800, 203A, 811, 812, 812A, RK18, RK58, T20, TZ40, T55, 807, 809, 838, 845, 35, 100TH	2:1	B	40	2 x 1 1/4	3 3/8	2 3/8	2 3/8	D

\*Indicates TV Replacement. \*Split secondary. \*Cosine-Ferrite core. All prices subject to trade discount, and change without notice.





# TRANSFORMERS

## MODULATION TRANSFORMERS For Specific Applications

Type No.	List Price	Output Tubes	Ohms Impedance		Max. M.A.		Watts	Dimensions			Mtg.
			Pri.	Sec.	Pri.	Sec.		H.	W.	D.	
A-3008	\$3.60	PP6AQ5, 6V6, 6F6, Single 6A6, 6N7, 53	10000 c.t.	4000-5000 7500-10000 12000	70	60	10	2 1/4	2 1/8	2 1/8	B
A-3109	8.50	PP2A3, 6A3, 6B4, 6L6, 45, 46, 59	6000 c.t. 3800 c.t. 3000 c.t.	5000-8000 10000	80	100	25	3 1/8	2 5/8	2 3/4	D
A-3110	14.50	PP6L6, 807, RK41, HY56, HY61, HK24	6600-3800 c.t.	4000-5000 7500-10000 12000	175	150	60	4 1/4	3 1/2	3 3/4	D
A-3113	22.00	PP 800, 809, TZ-40, T-55, HK-54, RK-31, HY-40, 811A, 807, 812A, 5514	15000-6900c.t.	3000-4000 5000-6000	250	300	175	4 3/8	3 15/16	5 1/8	D

## UNIVERSAL MODULATION TRANSFORMERS Tapped Series-Parallel Coils Provide a Wide Range of Modulation Ratios

Type No.	List Price	Pri. Impedance	Pri. M.A. per Side	Sec. Impedance	Max. Sec. M.A. †	Watts	Dimensions			Mtg.
							H.	W.	D.	
A-3104	\$10.75	2000-20000	50	2000-20000	50/100	15	3 1/8	2 5/8	2 3/8	DL
A-3105	16.00	2000-20000	150	2000-20000	150/300	60	3 7/8	3 1/8	4 1/8	DL
A-3106	22.50	2000-20000	220	2000-20000	220/440	125	4 7/8	3 15/16	4 7/8	DL

†Series/Parallel

## PLATE TRANSFORMERS For Small Transmitters. DC Voltage Ratings are Approx. Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Rectifier Tubes. Pri. is for 115 V. 60 cy.

Type No.	List Price	Sec. Rms. Volts	Sec. DC Volts	DC Sec. M.A.	Dimensions			Mtg.
					H.	W.	D.	
P-3175	\$10.50	550-550	400	150	3 1/8	3	3 7/8	D
P-3157	13.75	{ 660-660 } † { 550-550 }	{ 500 } { 400 }	250	4 5/8	3 15/16	4 3/8	D
P-3158	17.00	{ 1080-1080 }	1000 †	125	4 5/8	3 15/16	5	D
P-3159	16.50	{ 500-500 } { 900-900 } { 800-800 }	{ 400 } { 750 } { 600 }	150 225	4 5/8	3 15/16	5 1/8	D
P-3167	41.00	{ 1450-1450 }	1200	300	5 3/4	6 1/8	5	EH
P-3168	52.00	{ 1175-1175 } { 2100-2100 } { 1800-1800 }	{ 1000 } { 1750 } { 1500 }	300	5 3/4	6 1/8	6	EH
P-4062	80.00	{ 2900-2900 } { 2385-2385 }	{ 2500 } { 2000 }	300	8 1/2	6 1/2	5 5/8	H

†For dual operation with simultaneous use of both sec. ratings.

†Has 40-volt bias tap.

## FILTER CHOKES For Small Transmitter and Amplifier Applications

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions			Mtg.
						H.	W.	D.	
C-3192	\$5.00	15	85	325	1500	3 1/8	2 5/8	2 5/8	D
C-3193	5.00	10	110	200	1500	3 1/8	2 5/8	2 5/8	D
C-3194	6.00	12	150	230	1500	3 1/8	2 5/8	2 5/8	D
C-3195	8.75	15	150	180	2000	3 7/8	3 1/8	3 3/8	D
C-3196	7.00	5	200	80	1500	3 1/2	2 15/16	3 1/8	D

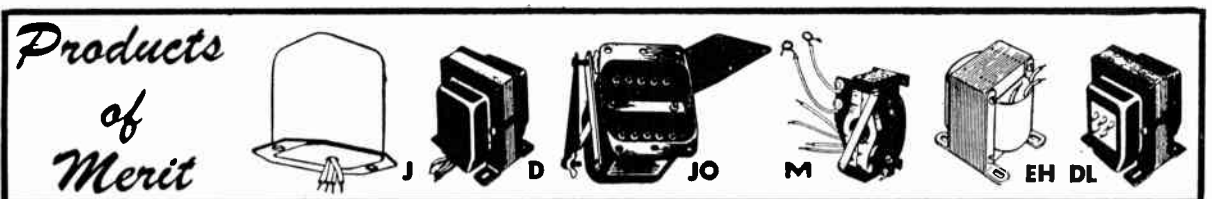
## FILTER SMOOTHING CHOKES For Transmitter Power Supplies

C-3180	\$6.50	10	150	210	3000	3 1/8	2 5/8	2 3/4	D
C-3181	8.00	10	200	140	3000	3 1/2	2 15/16	3 1/2	D
C-3182	11.00	10	250	125	3000	3 7/8	3 1/8	3 3/4	D
C-3183	11.50	8	300	80	3000	3 7/8	3 1/8	3 3/4	D

## FILTER INPUT OR SWINGING CHOKES

C-3187	\$6.50	4-16	150	210	3000	3 1/8	2 5/8	2 3/4	D
C-3188	8.00	4-16	200	140	3000	3 1/8	2 15/16	3 1/2	D
C-3189	11.00	4-16	250	125	3000	3 7/8	3 1/8	3 3/4	D
C-3190	11.50	3-14	300	80	3000	3 7/8	3 1/8	3 3/4	D

All prices subject to trade discount, and change without notice.





# TRANSFORMERS

## AC-DC VIBRATOR TRANSFORMER For Operation from 6 V. Battery and Vibrator or 115 V. 60 cy. Line

Type No.	List Price	H.V. Secondary		Filament		Dimensions			Mtg.
		DC Volts	MA	Volts	Amps	H.	W.	D.	
P-3176	\$15.00	300	160	6.3 or 5	3	4 5/8	3 15/16	4 1/4	D
P-3075	10.00	330	100	6.3	4.5	3 7/8	3 3/16	3 3/8	D

## PHOTO-FLASH POWER TRANSFORMER Primary for 117 V. 60 Cy. Line or 4 V. Battery Vibrator (or Charger Winding)

Type No.	List Price	Secondary		Mtg. Centers	Dimensions			Mtg.
		AC Volts	DC M.A.		H.	W.	D.	
P-3065	\$8.00	1100	1.5	2 1/16	2 5/8	3 1/8	1 2	B

## STEP-DOWN AUTOTRANSFORMERS Input 220-250 V. 60 cy. Output 110-125 V. Pri. Cord and Plug. Sec. Receptacle.

Type No.	List Price	Output Watts	Dimensions			Mtg.
			H.	W.	D.	
P-3161	\$9.75	80	3 1/2	2 15/16	3	D
P-3162	13.25	150	3 7/8	3 3/16	3 3/8	D
P-3163	17.75	250	4 5/8	3 15/16	4	D
P-3164	21.50	500	4 5/8	3 15/16	4 5/8	D
P-4065	50.00	1000	7 1/4	6 5/8	5 5/8	H

## ISOLATION TRANSFORMERS Equipped with Pri. Cord and Plug—Sec. Standard Receptacle. Voltage Selector Switch. Static Shielded

Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions			Mtg.
					H.	W.	D.	
P-3177	\$27.50	117	105-115-125	350	5 5/8	4 1/2	5 1/4	D

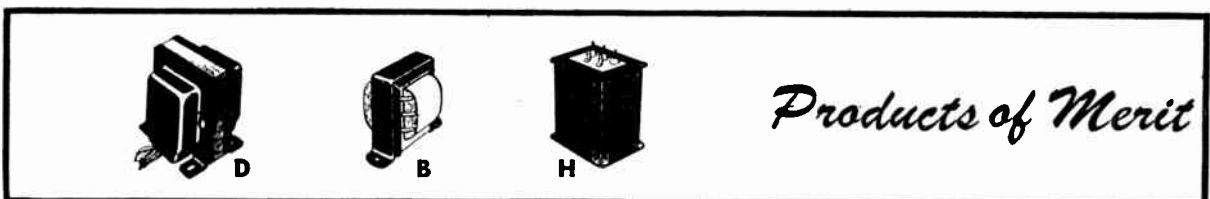
## ISOLATION TRANSFORMERS To Provide Isolation Between Line and Associated Circuits. Primary for 50-60 Cy. Static Shielding Between Primary and Secondary.

Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions			Mtg.
					H.	W.	D.	
P-3096	\$ 6.90	117	117	40	3 1/8	2 5/8	2 5/8	B
P-3197	10.00	117	117	80	3 7/8	3 3/16	3 1/2	D

## ISOLATION TRANSFORMERS Equipped with Line Cord and Standard Receptical

Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions			Mtg.
					H.	W.	D.	
P-3172	\$50.00	117	117	500	5 5/8	4 5/8	6 1/2	D
P-3198	18.75	117	117	100	4 1/4	3 3/16	3 3/4	D
P-3199	35.00	117	117	250	4 5/8	3 15/16	4 7/8	D

All prices subject to trade discount, and change without notice.





# IF-RF COILS

## ★ TELEVISION UNITS—IF Transformers—Permeability Tuned

Type No.	List Price	Function	Freq. MC.	Mtg. Centers	Dimensions	Mtg.
TV-100	\$2.75	1st Pix Amp.	25.3	$\frac{7}{8}$	$\frac{7}{8} \times \frac{1}{2} \times 2\frac{1}{8}$	A
TV-101	2.10	2nd Pix Amp.	22.3	$\frac{7}{8}$	$\frac{7}{8} \times \frac{1}{2} \times 2\frac{1}{4}$	A
TV-102	.80	3rd Pix Amp.	25.2	$\frac{7}{16}$	$\frac{1}{2} \times 1\frac{1}{2}$	B
TV-103	.80	4th Pix Amp. (Detector)	23.4	$\frac{7}{16}$	$\frac{1}{2} \times 1\frac{1}{2}$	B
TV-104	2.20	1st Sound (Amplifier)	21.25	$\frac{7}{8}$	$\frac{1}{2} \times \frac{1}{2} \times 2\frac{1}{4}$	A
TV-105	2.20	2nd Sound (Amplifier)	21.25	$\frac{7}{8}$	$\frac{1}{2} \times \frac{1}{2} \times 2\frac{1}{4}$	A
TV-106	2.60	Sound Discrim.	21.25	$1\frac{1}{8}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{2}$	A
TV-107	2.75	Converter	21.8	$\frac{7}{8}$	$\frac{1}{2} \times \frac{1}{2} \times 2\frac{1}{4}$	A
TV-108	2.75	Input Amp.	4.5	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{8}$	A
TV-109	3.00	Sound Disc.	4.5	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{8}$	A
TV-110	3.30	Sound Ratio Det.	4.5	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{8}$	A
TV-111	3.30	Sound Ratio Det.	21.25	$1\frac{1}{8}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{2}$	A
TV-112	1.00	Tunable Choke	21-25 MC	$\frac{7}{16}$	$\frac{1}{2} \times 1\frac{1}{2}$	B
TV-113	2.75	Sound Amp.	4.5	Clip	$\frac{3}{4} \times \frac{3}{4} \times 2$	K
TV-114	3.30	Sound Disc.	4.5	Clip	$\frac{3}{4} \times \frac{3}{4} \times 2$	K
TV-115	3.30	Sound Ratio Det.	4.5	Clip	$\frac{3}{4} \times \frac{3}{4} \times 2$	K

## TRAPS—Permeability Tuned

Type No.	List Price	Function	Freq. MC.	Mtg. Centers	Dimensions	Mtg.
TV-150	\$2.00	Cathode Trap*	21.25	$\frac{1}{16}$ Hole	$\frac{1}{2}$ O.D. x $1\frac{1}{2}$	B
TV-151	1.00	Sound Trap	4.5	$\frac{1}{16}$ Hole	$\frac{1}{2}$ O.D. x $1\frac{1}{2}$	B

\*Includes Condenser.

## HORIZONTAL "SYNC." TRANSFORMERS

Type No.	List Price	System	Mtg. Centers	Dimensions	Mtg.
TV-160	\$2.75	"Sync." Lock	$1\frac{1}{16}$	$1\frac{1}{16} \times 1\frac{1}{16} \times 2$	C
TV-161	2.00	"Sync." Guide	$1\frac{1}{16}$	$1\frac{1}{16} \times 1\frac{1}{16} \times 2$	C
TV-162	2.50	"Sync." Freq. and Phase	$1\frac{1}{16}$	$1\frac{1}{16} \times 1\frac{1}{16} \times 2$	C
TV-163	2.00	Ringing Coil	$\frac{7}{16}$ Hole		B

## ANTENNA COUPLING TRANSFORMERS

Type No.	List Price	Impedance Ratio	Mtg.	Dimensions	Mtg.
TV-170	\$2.75	52/300 or 300/52	"L" Bracket	$\frac{3}{4} \times \frac{3}{4} \times 1\frac{1}{8}$	D
TV-171	2.75	72/300 or 300/72	"L" Bracket	$\frac{3}{4} \times \frac{3}{4} \times 1\frac{1}{8}$	D

## PEAKING COILS

Type No.	List Price	Inductance Microhenries	Color Code	Shunt Resistor	Mtg.
TV-180	\$0.45	36	Black	—	E
TV-181	.45	93	Red	—	E
TV-182	.45	120	Blue	22K	E
TV-183	.45	180	White	39K	E
TV-184	.50	180	Yellow	—	E
TV-185	.50	250	Green	—	E
TV-189	.50	.8	Orange	—	E
TV-186	.50	73	—	10 meg.	E
TV-187	.50	250	—	22K	E
TV-188	.50	500	—	10 meg.	E

## HIGH-PASS FILTERS

Type No.	List Price	Line Impedance	Mtg.	Dimensions	Mtg.
TV-210	\$5.50	72 Ohm	L-Bracket	$1\frac{1}{16} \times 1\frac{1}{8} \times 3\frac{1}{2}$	F
TV-211	5.50	300 Ohm	L-Bracket	$1\frac{1}{16} \times 1\frac{1}{8} \times 3\frac{1}{2}$	F

★ IF-RF television units prefix "TV."

## WAVE TRAPS TV-FM

Type No.	List Price	Freq. Range	Mtg. Centers	Dimensions	Mtg.
TV-220	\$4.40	150-250 MC.	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 3\frac{3}{8}$	D
TV-221	4.40	75-150 MC.	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 3\frac{3}{8}$	D
TV-222	4.40	40- 80 MC.	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 3\frac{3}{8}$	D
TV-223	4.40	20- 40 MC.	$1\frac{1}{16}$	$1\frac{1}{8} \times 1\frac{1}{8} \times 3\frac{3}{8}$	D

## HI-VOLT OSCILLATOR TRANSFORMERS

Type No.	List Price	Output Volts	Mtg. Centers	Dimensions	Mtg.
TV-230	\$ 8.25	To 4000	$1\frac{1}{4}$	$1\frac{1}{4}$ dia. x $3\frac{3}{4}$ high	H
TV-231	13.75	To 30000	$2\frac{1}{4}$	$2\frac{1}{4}$ dia. x 6 high	H

*Products of Merit*





# IF-RF COILS

## FM

### IF TRANSFORMERS (Permeability Tuned)

Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
FM-250	\$3.30	Discriminator	10.7 MC.	1 1/4"	1 1/2" x 1 1/2" x 2 1/4"	A
FM-251	2.20	Amp. Interstage	10.7 MC.	1 1/4"	1 1/2" x 1 1/2" x 2 1/4"	A
FM-252	2.20	Ratio Detect.	10.7 MC.	1 1/4"	1 1/2" x 1 1/2" x 2 1/4"	A
FM-253	2.75	Disc.—Min.	10.7 MC.	Clip	3/4" x 3/4" x 2"	K
FM-254	3.30	Amp.—Min.	10.7 MC.	Clip	3/4" x 3/4" x 2"	K
FM-255	3.30	Ratio Det.—Min.	10.7 MC.	Clip	3/4" x 3/4" x 2"	K

### ANTENNA—OSCILLATORS—RF (Slug Tuned)

Type No.	List Price	Description	Freq. MC.	Mtg. Centers	Dimensions	Mtg.
FM-280	\$2.20	Antenna	88-108	3/8" Hole	1/2" x 1 1/4"	B
FM-281	2.20	RF	88-108	3/8" Hole	1/2" x 1 1/4"	B
FM-282	2.20	Osc.	88-108	3/8" Hole	1/2" x 1 1/4"	B

## BROADCAST

### IF TRANSFORMERS (Capacity Tuned)

Type No.	List Price	Function	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-300	\$2.50	Input	175 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-301	2.50	Interstage	175 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-302	2.50	Full Wave Output	175 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-303	2.50	Half Wave Output	175 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-304	2.20	Input	262 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-305	2.20	Interstage	262 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-306	2.20	Full Wave Output	262 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-307	2.20	Half Wave Output	262 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-308	2.20	Input	455 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-309	2.20	Interstage	455 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-310	2.20	Full Wave Output	455 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-311	2.20	Half Wave Output	455 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-312	2.20	Input	1500 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-313	2.20	Interstage	1500 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-314	2.20	Full Wave Output	1500 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I
BC-315	2.20	Half Wave Output	1500 KC	1 3/8"	1 3/8" x 1 3/8" x 2 5/8"	I

### IF TRANSFORMERS (Iron Core—Capacity Tuned)

Type No.	List Price	Function	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-330	\$3.30	Input	175 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-331	3.30	Interstage	175 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-332	3.30	Full Wave Output	175 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-333	3.30	Half Wave Output	175 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-334	2.75	Input	262 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-335	2.75	Interstage	262 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-336	2.75	Full Wave Output	262 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-337	2.75	Half Wave Output	262 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-338	2.75	Input	455 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-339	2.75	Interstage	455 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-340	2.75	Half Wave Output	455 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I
BC-341	2.75	Full Wave Output	455 KC	1 3/8"	1 3/8" x 1 3/8" x 3 1/4"	I

### IF TRANSFORMERS (Capacity Tuned)

Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-360	\$2.20	Input Midget	175 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-361	2.20	Interstage—Midget	175 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-362	2.20	Full Wave—Midget	175 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-363	2.20	Half Wave—Midget	175 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-364	1.95	Input—Midget	262 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-365	1.95	Interstage—Midget	262 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-366	1.95	Full Wave—Midget	262 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-367	1.95	Half Wave—Midget	262 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-368	1.95	Input—Midget	455 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-369	1.95	Interstage—Midget	455 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-370	1.95	Full Wave—Midget	455 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BC-371	1.95	Half Wave—Midget	455 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I
BD-372	1.95	Output—Midget*	262 KC	1 1/4"	1 1/2" x 1 1/2" x 2"	I

\*Includes output filter.



F



H



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K

*Products of Merit*



# IF-RF COILS

## BROADCAST (Cont.)

### IF TRANSFORMERS (Permeability Tuned)

Type No.	List Price	Description	Freq.	Mtg. Centers	Dimensions	Mtg.
BC-350	\$2.75	Input—Miniature	262 KC	3/4	3/4 x 3/4 x 2	K
BC-351	2.75	Output—Miniature	262 KC	3/4	3/4 x 3/4 x 2	K
BC-352	2.40	Input—Miniature	455 KC	3/4	3/4 x 3/4 x 2	K
BC-353	2.40	Output—Miniature	455 KC	3/4	3/4 x 3/4 x 2	K
BC-354	2.65	Output—Miniature*	262 KC	Clip	3/4 x 3/4 x 2	K
BC-355	2.35	Output—Miniature*	455 KC	Clip	3/4 x 3/4 x 2	K

\*Includes output filter.

### IF TRANSFORMERS—Special

Type No.	List Price	Description	Freq.	Mtg.	Dimensions	Mtg.
BC-375	\$1.95	Cartwheel	455 KC	6-32 Screw	1 1/8 x 1 1/2	
BC-376	2.75	Std. IF (Tweet Filter)	455 KC	1 1/8-Mtg. Center	1 1/8 x 1 1/2 x 2 1/2	A
BC-377	4.75	AM-FM	455 KC-10.7 MC	1 1/8-Mtg. Center	1 1/8 x 1 1/2 x 2 1/2	A

### RF—ANTENNA—OSCILLATOR (Permeability Tuned) Univ. Replac.

Type No.	List Price	Description	Mtg.	Cond. Max.	Dimensions	Mtg.
BC-380	\$2.20	Antenna	L Bracket	250-450-MMF	3/8 Dia. x 2	B
BC-381	2.20	Oscillator*	L Bracket	250-450-MMF	3/8 Dia. x 2	B
BC-382	2.20	RF	L Bracket	250-450-MMF	3/8 Dia. x 2	B
BC-383	2.75	Antenna (Shielded)	1 1/8 Centers	250-450-MMF	1 1/8 x 1 1/2 x 2 1/2	A
BC-384	2.75	Oscillator* (Shielded)	1 1/8 Centers	250-450-MMF	1 1/8 x 1 1/2 x 2 1/2	A
BC-385	2.75	RF (Shielded)	1 1/8 Centers	250-450-MMF	1 1/8 x 1 1/2 x 2 1/2	A

\*Used with any "IF" (100 to 550 KC) Tapped Pri. and Sec.

### MINIATURE (IRON CORE) TYPE K

Type No.	List Price	Description	Operating Freq. KC	Cond. Size	Dimensions	Mtg.
BC-390	\$1.65	Antenna†	540-1700	365 MMF	3/4 x 3/4 x 2	Spring Clips
BC-391	1.65	RF	540-1700	365 MMF	3/4 x 3/4 x 2	Spring Clips
BC-392	1.65	Oscillator†	540-1700	365 MMF	3/4 x 3/4 x 2	Spring Clips

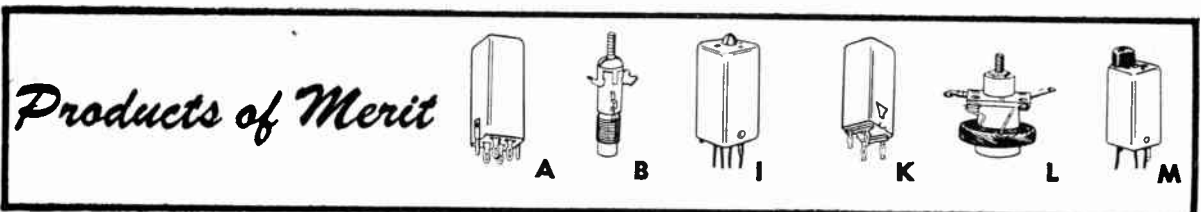
†Tapped Secondaries.

### MIDGET—OSCILLATORS (Screw Mounting) (For use with 365 MMF Cond.)

Type No.	List Price	Description	Operating Freq.	Dimensions	Mtg.
BC-395	\$1.10	Oscillator	175 KC	1" Dia. x 1" High	L
BC-396	1.10	Oscillator	262 KC	1" Dia. x 1" High	L
BC-397	1.10	Oscillator	455 KC	1" Dia. x 1" High	L
BC-398	1.10	Oscillator (Autoformer)	175 KC	1" Dia. x 1" High	L
BC-399	1.10	Oscillator (Autoformer)	262 KC	1" Dia. x 1" High	L
BC-400	1.10	Oscillator (Autoformer)	455 KC	1" Dia. x 1" High	L

### BEAT FREQUENCY OSCILLATORS (Capacity Tuned) Type M

Type No.	List Price	Frequency Range	IF Freq.	Dimensions	Mtg. Centers
BC-430	\$2.50	165-185 KC	175 KC	1 1/8 x 1 1/2 x 2 1/2	1 1/8
BC-431	2.50	250-275 KC	262 KC	1 1/8 x 1 1/2 x 2 1/2	1 1/8
BC-432	2.50	450-475 KC	455 KC	1 1/8 x 1 1/2 x 2 1/2	1 1/8
BC-433	2.50	500-550 KC	525 KC	1 1/8 x 1 1/2 x 2 1/2	1 1/8
BC-434	2.50	1500-1600 KC	1500 KC	1 1/8 x 1 1/2 x 2 1/2	1 1/8





# IF-RF COILS

## BROADCAST (Cont.)

### TRF UNITS

Type No.	List Price	Description	Freq. Range	Dimensions	Mtg.
BC-410	\$1.00	Antenna†	540-1700 KC	1 1/8 Dia. x 2	N
BC-411	1.00	RF†	540-1700 KC	1 1/8 Dia. x 2	N
BC-412	.95	Antenna†	540-1700 KC	5/8 Dia. x 2 1/8	N
BC-413	.95	RF†	540-1700 KC	5/8 Dia. x 2 1/8	N
BC-414	.95	Band—Pass†	540-1700 KC	5/8 Dia. x 2 1/8	N
BC-415	1.25	Antenna (Shielded)	540-1700 KC	1 3/8 x 1 3/8 x 2 1/2	A
BC-416	1.25	RF (Shielded)	540-1700 KC	1 3/8 x 1 3/8 x 2 1/2	A
BC-417	1.25	Band—Pass (Shielded)	540-1700 KC	1 3/8 x 1 3/8 x 2 1/2	A

### OSCILLATOR—Special

Type No.	List Price	Description	Freq.	Mtg. Center	Dimensions	Mtg.
BC-460	\$3.30	Phono—Osc.	540-700 KC	1 7/16	1 7/8 x 1 7/8 x 2 1/2	A

### FILTERS

Type No.	List Price	Description	Voltage	Watts	Dimensions	Mtg.
BC-450	\$7.70	Appliance Type	115	550	2 1/4 x 2 1/4 x 4	O
BC-451	1.65	Fluorescent Light	220	20	1 1/4 Dia. x 1 1/2	P
BC-452	1.65	Fluorescent Light	220	40	1 1/4 Dia. x 1 1/2	P
BC-453	1.65	Fluorescent Light	220	80	1 1/4 Dia. x 1 1/2	P
BC-454	1.65	Fluorescent Light	220	160	1 1/4 Dia. x 1 1/2	P
BC-455	7.70	All-Wave Filter	115	150	2 1/4 x 2 1/4 x 4	O

## CHOKES

### UNSHIELDED AIR CORE\*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-500	\$0.45	.25	125	8	R
BC-501	.45	.75	125	17	R
BC-502	.45	1.50	125	21	R
BC-503	.55	2.50	125	28	R
BC-504	.55	5.0	125	41	R
BC-505	.55	7.5	125	53	R
BC-506	.65	10.0	125	64	R
BC-507	.65	12.5	125	74	R
BC-508	.65	15.0	125	83	R
BC-509	.85	20.0	125	97	R
BC-510	.85	30.0	125	120	R
BC-511	1.10	60.0	100	175	R
BC-512	1.40	80.0	100	230	R

\*Single Bolt Mtg. Dimen.—1 1/8 Dia. x 5/8.

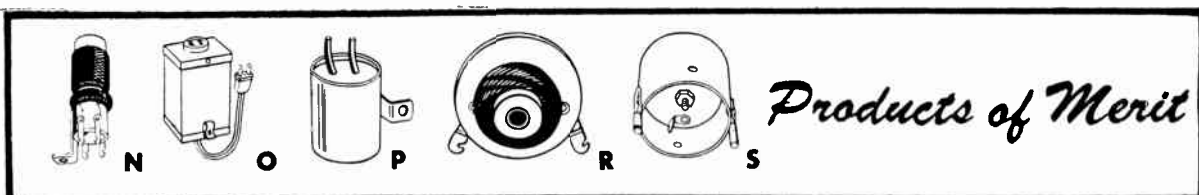
### SHIELDED AIR CORE\*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-515	\$0.85	.5	125	10	S
BC-516	.85	1.0	125	17	S
BC-517	.95	2.5	125	30	S
BC-518	.95	5.0	125	49	S
BC-519	.95	7.5	125	61	S
BC-520	1.05	10.0	125	75	S
BC-521	1.20	25.0	125	125	S
BC-522	1.50	50.0	125	186	S

\*1 1/4 Mtg. Centers Dimen.—1 1/4 Dia. x 1 1/8.

### RF TYPE

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-549	\$ 0.85	2.5	200	26	E
BC-550	66.00	100—BC-549 Bulk Packed			







# IF-RF COILS

## CHOKES (Cont.)

### UNSHIELDED IRON CORE\*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-525	\$1.00	.5	125	6.8	R
BC-526	1.10	1.0	125	10.9	R
BC-527	1.15	2.5	125	19.5	R
BC-528	1.30	5.0	125	23.0	R
BC-529	1.40	7.5	125	37.0	R
BC-530	1.45	10.0	125	45.0	R
BC-531	1.75	25.0	100	78.0	R
BC-532	1.95	50.0	100	130.0	R
BC-533	2.20	75.0	100	172.0	R
BC-534	2.50	100.0	100	210.0	R
BC-535	2.75	150.0	100	268.0	R

\*Single Bolt Mtg. Dimen. 1 1/4 Dia. x 5/8.

### SHIELDED IRON CORE\*

Type No.	List Price	Inductance MH	Current M.A.	Resistance Ohms	Mtg.
BC-538	\$1.40	.5	125	8.6	S
BC-539	1.50	1.0	125	11.5	S
BC-540	1.55	2.5	125	22.0	S
BC-541	1.70	5.0	125	31.0	S
BC-542	1.75	7.5	125	42.0	S
BC-543	1.80	10.0	125	47.0	S
BC-544	2.15	25.0	125	100.0	S
BC-545	2.30	50.0†	100	160.0	S
BC-546	2.60	75.0†	100	222.0	S
BC-547	2.85	100.0†	100	348.0	S
BC-548	3.15	150.0†	100	520.0	S

\*1 1/4 Mtg. Centers Dimen. 1 1/4 Dia. x 1 1/8.

†1 1/8 Mtg. Centers Dimen. 1 1/8 Dia. x 1 1/8.

### FILAMENT

Type No.	List Price	Inductance UH	Current Amps	Resistance Ohms	Mtg.
BC-537	\$0.70	10.0	8	.02	E

## SHORT WAVE

### IF TRANSFORMERS

Type No.	List Price	Description	Freq.	Mtg. Center	Dimensions	Mtg.
SW-600	\$2.20	Input	1400-1600	1 3/8	1 3/8 x 1 3/8 x 2 5/8	I
SW-601	2.20	Interstage	1400-1600	1 3/8	1 3/8 x 1 3/8 x 2 5/8	I
SW-602	2.20	Interstage (Miniature)	1400-1600	3/4	3/4 x 3/4 x 2	K
SW-603	2.20	Output (Miniature)	1400-1600	3/4	3/4 x 3/4 x 2	K
SW-604	2.20	Input Midget	1400-1600	1 1/8	1 1/8 x 1 1/8 x 2	I
SW-605	2.20	Interstage Midget	1400-1600	1 1/8	1 1/8 x 1 1/8 x 2	I
SW-606	2.20	Full Wave Output	1400-1600	1 1/8	1 1/8 x 1 1/8 x 2	I
SW-607	2.20	Half Wave Output	1400-1600	1 1/8	1 1/8 x 1 1/8 x 2	I

### SW CHOKES

Type No.	List Price	Description	Ohms	Micro Henries	Dimensions	M.A.	Mtg.
SW-630	\$0.65	Choke	.07	2.5	1/4 Dia. x 1 1/2	200	P
SW-631	.65	Choke	.25	5.0	1/4 Dia. x 1 1/2	200	P

### RF—ANTENNA—OSCILLATORS—Miniature Type

Type No.	List Price	Description	Freq.	Mtg.	Dimensions	Mtg.
SW-620	\$1.65	Antenna	2.1-6.3 MC	Clip	3/4 x 3/4 x 2	K
SW-621	1.65	RF	2.1-6.3 MC	Clip	3/4 x 3/4 x 2	K
SW-622	1.65	Oscillator*	2.1-6.3 MC	Clip	3/4 x 3/4 x 2	K

\*1600 MMF Series pad.

*Products of Merit*

E      R      S      P



# TRANSFORMERS

## For Electronic Equipment

MILITARY, INDUSTRIAL, & COMMERCIAL

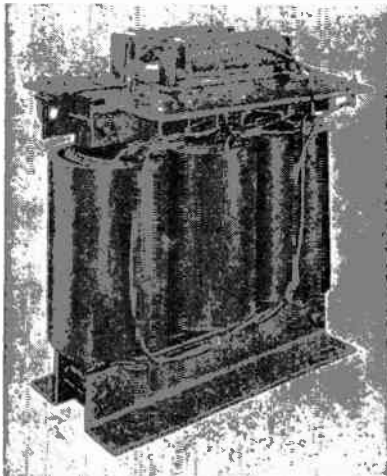
Plate  
Filament  
Plate and Filament  
Filter Reactors  
Pulse  
Audio

in

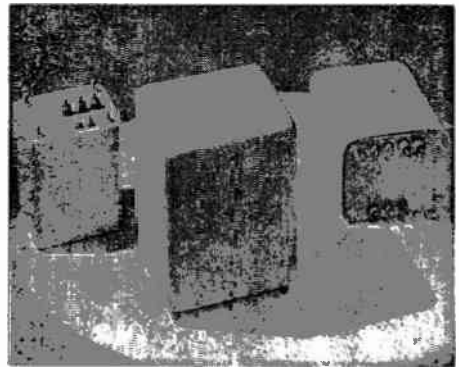
Core-and-coil  
Permafil  
Compound-filled  
Hermetic  
Construction

for

Radar  
Communication  
Television and Radio  
Transmitters  
and Similar Equipment



Core-and-coil assembly for plate transformer for use w/Rh rectifier, 33.3 kva

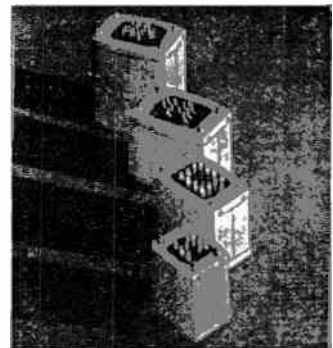


Hermetically sealed transformers

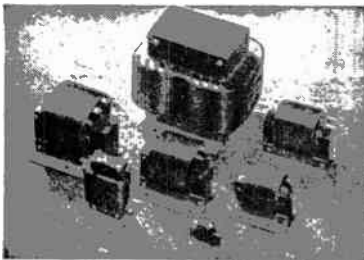
Details on transformers for electronic equipment can be obtained from the nearest G-E Apparatus Sales Office, or by writing General Electric Company, Section 640-306, Schenectady 5, N. Y., for Bulletin GEC-481.



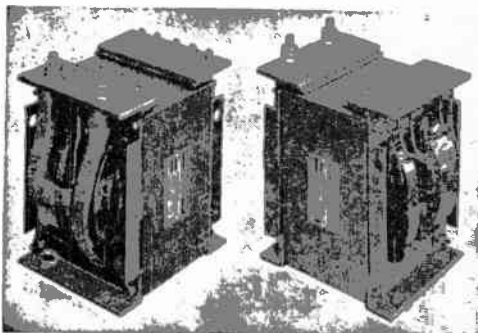
Core-and-coil-type units



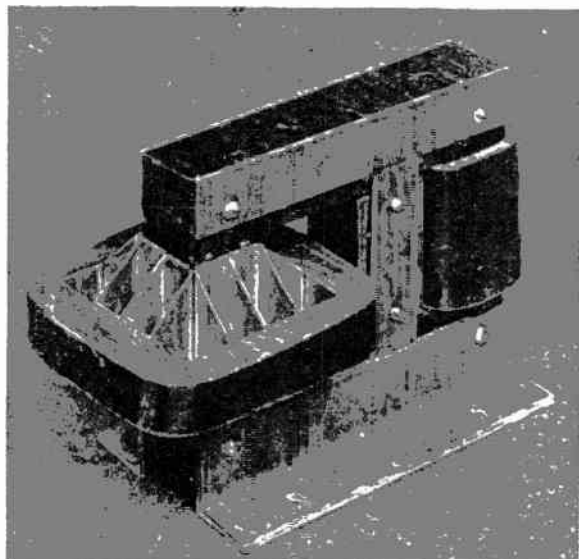
Standard compound filled transformers



Permafil-type transformer



Heavy duty, high reactance filament transformers



Special magnetron filament transformer

for  
PRECISION

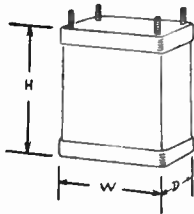
# FREED TRANSFORMERS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGWOOD) 27, N. Y.

## HIGH FIDELITY COMPONENTS INPUT TRANSFORMERS

### CASE DIMENSIONS NO. DC-2AT



Mtg. Centers		Dimensions		
		W	D	H
2" x 1 3/4"		2 5/8"	2 1/4"	3"
Knockout	Mtg. Studs	Wgt.		
1 1/2" x 1 3/8"	8-32	1		

L after case number indicates leads.  
T after case number indicates terminals.

Modern high fidelity broadcasting and transcription apparatus require the utmost performance and reliability in the audio transformers used in their circuitry. The Freed "Quality Grade" audio transformers are wide band, high fidelity components featuring astatic construction, longitudinal balance, low harmonic distortion, uniform response, high efficiency, and constant impedance match throughout the audio frequency spectrum. Maximum neutralization of stray fields is accomplished by use of humbalanced coil structures and multiple alloy shielding. High fidelity is achieved on every tap of universal impedance winding without line reflection of transverse coupling.

All Quality Grade Components are thoroughly impregnated in a special non-hygroscopic varnish, and fully encapsulated in a moisture proof, high-melting point compound.

#### U-60 IMPEDANCES IN OHMS

2.5, 5, 10, 15, 20, 30, 40, 60

#### U-500 IMPEDANCES IN OHMS

50, 125, 200 (T), 250, 330, 500 (T).

125 and 500 ohms can be used for 150 and 600 ohms.

Catalog No.	Application	Impedance Ohms		Level	Maximum Power Level V.U.*	Ratio	Equiv- alent Shield- ing D.B.	Max. Pri. D.C. per Side Ma.	D.C. Un- bal- ance Ma.	Freq. Response C.P.S.	Case Number
		Primary	Secondary								
QGA 1	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 2	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	90	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 3	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 4	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	90	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 5	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 6	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	90	0	0	±1.0 DB 20-20,000	DC-2AT	

## HYBRID AND REPEAT COILS

### CASE DIMENSIONS

Same as Input Transformers above

Catalog No.	Application	Impedance Ohms		Level	Maximum Power Level V.U.*	Ratio	Equiv- alent Shield- ing D.B.	Max. Pri. D.C. per Side Ma.	D.C. Un- bal- ance Ma.	Freq. Response C.P.S.	Case Number
		Primary	Secondary								
QGA 7	Hybrid. Unbalanced 500/600 ohm lines to 600 ohms.	Total Pri 1200/1000 split 300/250 300/250	600/150 or 500/125 split	+10	1.41:1	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 8	Hybrid. Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB	Total Pri 1200/1000 split 300/250C.T. 300/250C.T.	600/150 or 500/125 split	+10	1.41:1	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 9	Hybrid. Unbalanced 500/600 ohm lines to triode plate. No D.C. in secondary.	Total Pri 1200/1000 split 300/250 300/250	15,000 or 12,500	+10	1:3.54	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 10	Hybrid. Balanced 500/600 ohm lines to triode plate. No D.C. in secondary. Longitudinal balance 70 DB.	Total Pri 1200/1000 split 300/250C.T. 300/250C.T.	15,000 or 12,500	+10	1:3.54	70	0	0	±1.0 DB 20-20,000	DC-2AT	
QGA 11	Repeat coil for low frequency ringing. Longitudinal balance 70 DB.	600/500 split	600/500 split Balanced	+10	1:1	90	0	0	±1.0 DB 20-20,000	DC-2AT	

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

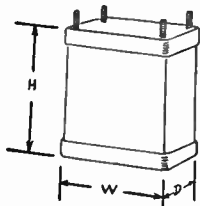
for  
PRECISION

# FREED TRANSFORMERS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## HIGH FIDELITY COMPONENTS INTERSTAGE TRANSFORMERS



### CASE DIMENSIONS

Case #	Mtg. Centers	Dimensions			Knockout	Mtg. Studs	Wgt.
		W	D	H			
DC-2AT	2" x 1 3/4"	2 5/8"	2 1/4"	3"	1 1/2" x 1 3/8"	8-82	2 3/4
DC-4AT	2 1/2" x 2 1/2"	3 1/8"	3"	3 3/4"	2" x 1 3/4"	8-82	4 1/2

L after case number indicates leads.  
T after case number indicates terminals.

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level V.U.*	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case Number
		Primary	Secondary							
QGA 12	Bridging line to single or push-pull grids.	10,000	60,000 split	+10	1:2.45	70	0	0	±1.0 DB 20-20,000	DC-2AT
QGA 13	Single 6C4, 6J5, 1/2 6SN7 triode to push-pull grids. Shunt feed.	15,000	60,000 split	+18	1:2	45	0	0	±1.0 DB 20-20,000	DC-2AT
QGA 14	Single 6C4, 6J5, 1/2 6SN7 triode to push-pull grids.	15,000	60,000 split	+18	1:2	45	8	8	±1.0 DB 50-20,000	DC-2AT
QGA 15	Push-pull triode plates to push-pull class A grids.	20,000 split	45,000 split	+25	1:1.5	30	8	0.5	±1.0 DB 20-20,000	DC-4AT

## LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS

CASE DIMENSIONS  
See DC-2AT above

U-500 IMPEDANCES IN OHMS  
50, 125, 200 CT, 250, 330, 500C.T.  
125 and 500 ohms can be used for 150 and 600 ohms

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level V.U.*	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case Number
		Primary	Secondary							
QGA 16	Single plate or bridging line to Universal 500 ohm line. Shunt feed.	15,000	U-500	+18	5.5:1	70	0	0	±1.0 DB 20-20,000	DC-2AT
QGA 17	Single plate to Universal 500 ohm line.	15,000	U-500	+18	5.5:1	70	8	8	±1.0 DB 50-20,000	DC-2AT
QGA 18	Push-pull triode plates to Universal 500 ohm line.	20,000 C.T.	U-500	+25	6.3:1	70	8	0.5	±1.0 DB 20-20,000	DC-2AT
QGA 19	Mixing, low impedance microphone or line to Universal 500 ohm line.	U-500	U-500	+12	1:1	70	0	0	±1.0 DB 20-20,000	DC-2AT
QGA 20	Line level mixing and matching.	U-500	U-500	+30	1:1	70	0	0	±1.0 DB 20-20,000	DC-2AT
QGA 21	High mu triode photo-cell to Universal 500 ohm line.	100,000	U-500	+12	14.1:1	70	0	0	±1.0 DB 20-20,000	DC-2AT

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

for  
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# FREED TRANSFORMERS

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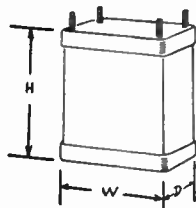
FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGWOOD) 27, N. Y.

## HIGH FIDELITY COMPONENTS DRIVER TRANSFORMERS

Catalog No.	Application	Primary Impedance Ohms	Maximum Power Level V.U.*	Turn Ratio Pri: 1/2 Sec.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
QGA 22	Universal 500 ohm line to Class B grids.	U-500	+40	1:1	0	0	±1.0 DB 20-20,000	DC-4AT
QGA 23	Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc.	20,000 C.T.	+30	3.2:1	8	0.5	±1.0 DB 20-20,000	DC-2AT
QGA 24	Push-pull 2A3, 6B4 to push-pull 809, T2-40, 4/125A.	5,000 C.T.	+40	3.1:1	50	5	±1.0 DB 20-20,000	DC-4AT

## HIGH LEVEL OUTPUT TRANSFORMERS TUBES TO LINE, TUBES TO VOICE COIL, LINE TO LINE, LINE TO VOICE COIL

Catalog No.	Application	Impedance Ohms Primary	Level Secondary	Maximum Power Level V.U.*	Ratio	Max. D.C. per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
QGA 25	PP 2A3, 6B4, 6L6, 300A, 275A to Universal 500 ohm line.	5,000 split	U-500	+42 (15 watts)	3.16:1	50	5	±0.5 DB 20-30,000	DC-5BT
QGA 26	As above to Universal voice coil.	5,000 split	U-16	+42	17.7:1	50	5	±0.5 DB 20-30,000	DC-5BT
QGA 27	Push-pull 6V6, 6AQ5, 7C5, 6N7 to Universal 500 ohm line.	8,000 split	U-500	+42	4:1	50	5	±0.5 DB 20-30,000	DC-5BT
QGA 28	As above to Universal voice coil.	8,000 split	U-16	+42	22.4:1	50	5	±0.5 DB 20-30,000	DC-5BT
QGA 29	P.P. 6F6, 6V6, 6AQ5, 7C5, 7B5, 6AR5, 6K6, 6L6 to Universal 500 ohm line.	10,000 split	U-500	+42	4.47:1	40	4	±0.5 DB 20-30,000	DC-5BT
QGA 30	As above to Universal voice coil.	10,000 split	U-16	+42	25:1	40	4	±0.5 DB 20-30,000	DC-5BT
QGA 31	PP. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line.	10,000 split	U-500	+45.5 (36 watts)	4.47:1	50	5	±0.5 DB 20-30,000	DC-6AT
QGA 32	As above to Universal voice coil.	10,000 split	U-16	+45.5	25:1	50	5	±0.5 DB 20-30,000	DC-6AT
QGA 33	P.P. Parallel 2A3, 6A5G, 300A to Universal 500 ohm line.	2,500 split	U-500	+45.5	2.24:1	100	10	±0.5 DB 20-30,000	DC-6AT
QGA 34	As above to Universal voice coil.	2500 split	U-16	+45.5	12.5:1	100	10	±0.5 DB 20-30,000	DC-6AT
QGA 35	P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line.	3800 split	U-500	+47 (50 watts)	2.75:1	130	13	±0.5 DB 20-30,000	DC-7BT
QGA 36	As above to Universal voice coil.	3800 split	U-16	+47	15.4:1	130	13	±0.5 DB 20-30,000	DC-7BT
QGA 37	High level multiple line to Universal voice coil.	U-500	U-16	+42	5.6:1	0	0	±0.5 DB 20-30,000	DC-5BT
QGA 38	High level multiple line to Universal voice coil.	U-500	U-16	+47	5.6:1	0	0	±0.5 DB 20-30,000	DC-7BT



### CASE DIMENSIONS

Case #	Mtg. Centers	Dimensions			Knockout	Mtg. Studs	Wgt.
		W	D	H			
DC-2AT	2" x 1 3/4"	2 5/8"	2 1/4"	3"	1 1/2" x 1 3/8"	8-32	2 1/2
DC-4AT	2 1/2" x 2 1/2"	3 1/8"	3"	3 3/4"	2" x 1 3/4"	8-32	4 1/2
DC-5BT	3 1/2" x 2 5/8"	4 1/8"	3 1/2"	4 1/2"	2 1/2" x 2"	10-32	10
DC-6AT	3 3/4" x 3"	5"	4 1/8"	4 7/8"	3" x 2 1/2"	10-32	15
DC-7BT	4 3/8" x 3 3/4"	5 1/2"	5"	6 3/4"	3" x 2 1/2"	1/4-20	22

When supplied with leads: DC-L  
When supplied with terminals: DC-T

U-16 IMPEDANCE IN OHMS  
2, 4, 8, 12, 16

U-500 IMPEDANCES IN OHMS  
50, 125, 200CT, 250, 330, 500CT.  
125 and 500 ohms can be used for 150 and 600 ohms.

A 70 volts level can be obtained for the following impedances:

500 ohms	—	10 watts	+ 40 VU
330 ohms	—	15 watts	+ 42 VU
250 ohms	—	20 watts	+ 43 VU
200 ohms	—	25 watts	+ 44 VU
125 ohms	—	40 watts	+ 46 VU
50 ohms	—	100 watts	+ 50 VU

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

for  
PRECISION

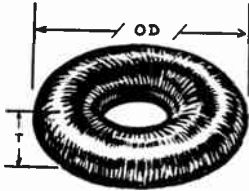
# FREED TRANSFORMERS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGWOOD) 27, N. Y.

## FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE  $\pm 2\%$



UNCASED DIMENSIONS		
Type	T	OD
TI-1	1 1/8"	1 1/8"
TI-2	1 1/8"	1 9/16"
TI-3	3/4"	1 5/8"
TI-3A	1"	2 1/8"

### TYPE TI-1 DC CASE

Frequency Range — Up to 15 KC  
Non-stabilized

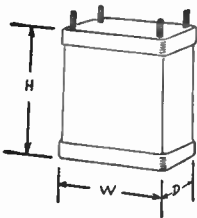
Maximum Inductance — 20 MHY  
Maximum "Q" 185 @ 7.5 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-800	5 MHY	F-811	1000 MHY	F-822	4500 MHY
F-801	10 MHY	F-812	1250 MHY	F-823	5000 MHY
F-802	15 MHY	F-813	1500 MHY	F-824	6000 MHY
F-803	30 MHY	F-814	1750 MHY	F-825	7000 MHY
F-804	50 MHY	F-815	2000 MHY	F-826	8000 MHY
F-805	75 MHY	F-816	2250 MHY	F-827	9000 MHY
F-806	100 MHY	F-817	2500 MHY	F-828	10000 MHY
F-807	150 MHY	F-818	2750 MHY	F-829	15000 MHY
F-808	200 MHY	F-819	3000 MHY	F-830	20000 MHY
F-809	500 MHY	F-820	3500 MHY		
F-810	750 MHY	F-821	4000 MHY		

### TYPE TI-2s DC CASE

Frequency Range — Up to 75 KC  
Stabilized

Maximum Inductance — 500 MHY  
Maximum "Q" 270 @ 23 KC



DC CASE

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1800	1 MHY	F-1806	15 MHY	F-1812	200 MHY
F-1801	2 MHY	F-1807	30 MHY	F-1813	300 MHY
F-1802	3 MHY	F-1808	50 MHY	F-1814	400 MHY
F-1803	4 MHY	F-1809	75 MHY	F-1815	500 MHY
F-1804	5 MHY	F-1810	100 MHY		
F-1805	10 MHY	F-1811	150 MHY		

### TYPE TI-3s DC CASE

Frequency Range — Up to 200 KC  
Stabilized

Maximum Inductance — 10 MHY  
Maximum "Q" 280 @ 75 KC

CASED DIMENSIONS		
<b>TYPE TI-1</b>		
H	W	D
2 1/2"	2 1/8"	1 1/8"
Mtg. Centers 1 1/2" x 1 1/4"		
<b>TYPE TI-2</b>		
H	W	D
2 1/2"	2 1/8"	1 1/8"
Mtg. Centers 1 1/2" x 1 1/4"		
<b>TYPE TI-3</b>		
H	W	D
2 1/2"	2 1/8"	1 1/8"
Mtg. Centers 1 1/2" x 1 1/4"		
<b>TYPE TI-3A</b>		
H	W	D
3"	2 5/8"	2 1/4"
Mtg. Centers 2" x 1 3/4"		

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1846	.1 MHY	F-1850	.5 MHY	F-1854	4 MHY
F-1847	.2 MHY	F-1851	1 MHY	F-1855	5 MHY
F-1848	.3 MHY	F-1852	2 MHY	F-1845	7.5 MHY
F-1849	.4 MHY	F-1853	3 MHY	F-1844	10 MHY

### TYPE TI-3As DC CASE

Frequency Range — Up to 200 KC  
Stabilized

Maximum Inductance — 100 MHY  
Maximum "Q" 300 @ 37 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1856	10 MHY	F-1859	30 MHY	F-1862	75 MHY
F-1857	15 MHY	F-1860	40 MHY	F-1863	100 MHY
F-1858	20 MHY	F-1861	50 MHY		

NOTE: When ordering Freed Inductors in Commercial Type Cases, add "C" to Catalog Number. When ordering Hermetically Sealed units, add "H."

Freed Toroidal Inductors can also be supplied on special order to tolerances of  $\pm 1\%$ .

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

for  
**PRECISION**

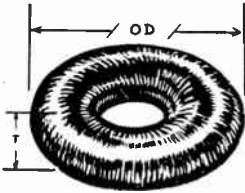
# FREED TRANSFORMERS

for  
**QUALITY**

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## FREED TOROIDAL INDUCTORS

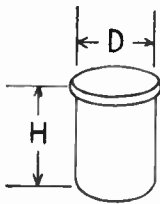
STANDARD TOLERANCE  $\pm 2\%$



### UNCASED DIMENSIONS

Type	T	OD
TI-4	5/8"*	1 1/8"
TI-5	3/8"	1"
TI-6	5/8"*	1 1/8"
TI-7	3/8"	1"

\*Wedding Ring Size



### CASED DIMENSIONS

TYPE TI-4*	
H	D
1 1/2"	1 3/8"
Mtg. Centers 7/8"	
TYPE TI-5*	
H	D
1"	1 1/8"
Mtg. Centers 5/8"	
TYPE TI-6*	
H	D
1 1/2"	1 3/8"
Mtg. Centers 7/8"	
TYPE TI-7*	
H	D
1"	1 1/8"
Mtg. Centers 5/8"	

\*Commercial type cases have Bakelite cover with solder lugs.

### TYPES TI-4 & 4<sup>s</sup> DM CASE

#### TYPE TI-4

Frequency Range — Up to 15 KC  
Non-stabilized  
Maximum Inductance — 5 HY  
Maximum "Q" 175 @ 7.5 KC

Cat. No. Uncased	Inductance Value
F-850	5 MHY
F-851	10 MHY
F-852	15 MHY
F-853	30 MHY
F-854	50 MHY
F-855	75 MHY
F-856	100 MHY
F-857	150 MHY
F-858	200 MHY
F-859	300 MHY

#### TYPE TI-4<sup>s</sup>

Frequency Range — Up to 15 KC  
Stabilized  
Maximum Inductance — 5 HY  
Maximum "Q" 175 @ 7.5 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-860	400 MHY	F-870	2.00 HY		
F-861	500 MHY	F-871	2.25 HY		
F-862	600 MHY	F-872	2.50 HY		
F-863	700 MHY	F-873	2.75 HY		
F-864	800 MHY	F-874	3.00 HY		
F-865	900 MHY	F-875	3.50 HY		
F-866	1.00 HY	F-876	4.00 HY		
F-867	1.25 HY	F-877	4.50 HY		
F-868	1.50 HY	F-878	5.00 HY		
F-869	1.75 HY				

### TYPES TI-5 & 5<sup>s</sup> DM CASE

#### TYPE TI-5

Frequency Range — Up to 15 KC  
Non-stabilized  
Maximum Inductance — 2 HY  
Maximum "Q" 115 @ 10 KC

Cat. No. Uncased	Inductance Value
F-1700	5 MHY
F-1701	10 MHY
F-1702	15 MHY
F-1703	30 MHY
F-1704	50 MHY
F-1705	75 MHY
F-1706	100 MHY

#### TYPE TI-5<sup>s</sup>

Frequency Range — Up to 15 KC  
Stabilized  
Maximum Inductance — 2 HY  
Maximum "Q" 115 @ 10 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1707	150 MHY	F-1714	800 MHY		
F-1708	200 MHY	F-1715	900 MHY		
F-1709	300 MHY	F-1716	1.00 HY		
F-1710	400 MHY	F-1717	1.25 HY		
F-1711	500 MHY	F-1718	1.50 HY		
F-1712	600 MHY	F-1719	1.75 HY		
F-1713	700 MHY	F-1720	2.00 HY		

### TYPES TI-6 & 6<sup>s</sup> DM CASE

#### TYPE TI-6

Frequency Range — Up to 75 KC  
Non-stabilized  
Maximum Inductance — 1 HY  
Maximum "Q" 250 @ 17 KC

Cat. No. Uncased	Inductance Value
F-1726	1 MHY
F-1727	2 MHY
F-1728	3 MHY
F-1729	4 MHY
F-1730	5 MHY
F-1731	7.5 MHY

#### TYPE TI-6<sup>s</sup>

Frequency Range — Up to 75 KC  
Stabilized  
Maximum Inductance — 1 HY  
Maximum "Q" 250 @ 17 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1732	10 MHY	F-1738	100 MHY		
F-1733	15 MHY	F-1739	150 MHY		
F-1734	20 MHY	F-1740	200 MHY		
F-1735	30 MHY	F-1741	250 MHY		
F-1736	50 MHY	F-1742	300 MHY		
F-1737	75 MHY	F-1743	500 MHY		

### TYPE TI-7 DM CASE

Frequency Range — Up to 75 KC  
Non-stabilized

Maximum Inductance — 200 MHY  
Maximum "Q" 170 @ 30 KC

Cat. No. Uncased	Inductance Value
F-1781	.5 MHY
F-1782	1 MHY
F-1783	2 MHY
F-1784	3 MHY
F-1785	5 MHY
F-1786	7.5 MHY

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1787	10 MHY	F-1793	50 MHY
F-1788	15 MHY	F-1794	75 MHY
F-1789	20 MHY	F-1795	100 MHY
F-1790	25 MHY	F-1796	150 MHY
F-1791	30 MHY	F-1797	200 MHY
F-1792	40 MHY		

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

for  
**PRECISION**

# FREED TRANSFORMERS

for  
**QUALITY**

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE  $\pm 2\%$

### TYPES TI-8 & 8<sup>s</sup>

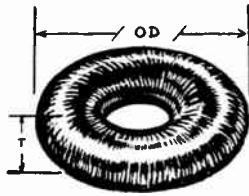
DM CASE

#### TYPE TI-8<sup>s</sup>

**TYPE TI-8**  
Frequency Range — Up to 60 KC  
Non-stabilized  
Maximum Inductance — 100 MHY  
Maximum "Q" 150 @ 50 KC

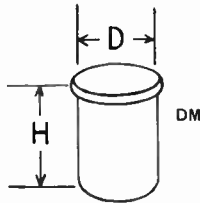
Frequency Range — Up to 60 KC  
Stabilized  
Maximum Inductance — 100 MHY  
Maximum "Q" 150 @ 50 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1821	.1 MHY	F-1828	3 MHY	F-1835	25 MHY
F-1822	.2 MHY	F-1829	4 MHY	F-1836	30 MHY
F-1823	.3 MHY	F-1830	5 MHY	F-1837	40 MHY
F-1824	.4 MHY	F-1831	7.5 MHY	F-1838	50 MHY
F-1825	.5 MHY	F-1832	10 MHY	F-1839	75 MHY
F-1826	1 MHY	F-1833	15 MHY	F-1840	100 MHY
F-1827	2 MHY	F-1834	20 MHY		



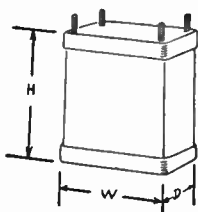
UNCASED DIMENSIONS		
Type	T	OD
TI-8	3/8"	1"
TI-9	1"	2 1/8"
TI-10	3/4"	1 5/8"
TI-11	1 1/4"	2 5/8"

\*Wedding Ring Size



CASED DIMENSIONS		
<b>TYPE TI-8<sup>s</sup></b>		
H	D	
1"	1 1/8"	
Mtg. Centers 5/8"		
<b>TYPE TI-9</b>		
H	W	D
3"	2 5/8"	2 1/4"
Mtg. Centers 2" x 1 3/4"		
<b>TYPE TI-10</b>		
H	W	D
2 1/2"	2 1/8"	1 1/8"
Mtg. Centers 1 1/2" x 1 1/4"		
<b>TYPE TI-11 (Commercial Case)</b>		
H	W	D
3 1/2"	2 5/8"	2 1/4"
Mtg. Centers 2" x 1 3/4"		
<b>TYPE TI-11 (Hermetically Sealed Case)</b>		
H	W	D
3 3/8"	1 1/8"	3 1/8"
Mtg. Centers 2 1/2" x 1"		

\*Commercial type cases have Bakelite cover with solder lugs.



DC

### TYPE TI-9<sup>s</sup>

DC CASE

Frequency Range — Up to 60 KC  
Stabilized

Maximum Inductance — 500 MHY  
Maximum "Q" 270 @ 17.5 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1554	1 MHY	F-1560	10 MHY	F-1566	150 MHY
F-1555	2 MHY	F-1561	15 MHY	F-1567	200 MHY
F-1556	3 MHY	F-1562	30 MHY	F-1568	300 MHY
F-1557	4 MHY	F-1563	50 MHY	F-1569	400 MHY
F-1558	5 MHY	F-1564	75 MHY	F-1570	500 MHY
F-1559	7.5 MHY	F-1565	100 MHY		

### TYPE TI-10<sup>s</sup>

DC CASE

Frequency Range — Up to 60 KC  
Stabilized

Maximum Inductance — 200 MHY  
Maximum "Q" 180 @ 40 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1579	1 MHY	F-1584	7.5 MHY	F-1589	75 MHY
F-1580	2 MHY	F-1585	10 MHY	F-1590	100 MHY
F-1581	3 MHY	F-1586	15 MHY	F-1591	150 MHY
F-1582	4 MHY	F-1587	30 MHY	F-1592	200 MHY
F-1583	5 MHY	F-1588	50 MHY		

### TYPE TI-11<sup>s</sup>

DC CASE

Frequency Range — Up to 15 KC  
Stabilized

Maximum Inductance — 50 HY  
Maximum "Q" 255 @ 4 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1747	1 MHY	F-1759	200 MHY	F-1771	4.50 HY
F-1748	2 MHY	F-1760	300 MHY	F-1772	5.00 HY
F-1749	3 MHY	F-1761	400 MHY	F-1773	7.50 HY
F-1750	4 MHY	F-1762	500 MHY	F-1774	10.00 HY
F-1751	5 MHY	F-1763	750 MHY	F-1775	15.00 HY
F-1752	10 MHY	F-1764	1.00 HY	F-1776	20.00 HY
F-1753	15 MHY	F-1765	1.50 HY	F-1777	25.00 HY
F-1754	30 MHY	F-1766	2.00 HY	F-1778	30.00 HY
F-1755	50 MHY	F-1767	2.50 HY	F-1779	40.00 HY
F-1756	75 MHY	F-1768	3.00 HY	F-1780	50.00 HY
F-1757	100 MHY	F-1769	3.50 HY		
F-1758	150 MHY	F-1770	4.00 HY		

NOTE: When ordering Freed Toroidal Inductors in Commercial Type Cases, add "C" to catalog number. When ordering Hermetically Sealed units, add "H."

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86



for  
PRECISION

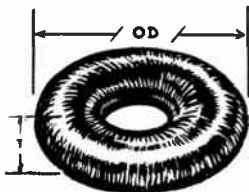
# FREED TRANSFORMERS

for  
QUALITY

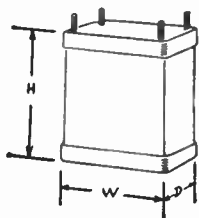
FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## FREED TOROIDAL INDUCTORS

STANDARD TOLERANCE  $\pm 2\%$



UNCASED DIMENSIONS		
Type	T	OD
TI-12	$\frac{1}{8}$ "	$2\frac{1}{8}$ "
TI-13	1"	$2\frac{1}{8}$ "



DC

CASED DIMENSIONS			
TYPE TI-12			
H	W	D	
8"	$2\frac{5}{8}$ "	$2\frac{1}{4}$ "	Mtg. Centers $2" \times 1\frac{3}{4}"$
TYPE TI-13			
H	W	D	
3"	$2\frac{5}{8}$ "	$2\frac{1}{4}"$	Mtg. Centers $2" \times 1\frac{3}{4}"$

All Freed Toroidal Inductors can be supplied in tolerances of  $\pm 1\%$  on special order. . . . Complete Toroid Catalog with curves for each unit is available on request. . . . Jobbers and Engineers are urged to send for it.

### TYPES TI-12 & 12<sup>s</sup> DC CASE

TYPE TI-12	TYPE TI-12 <sup>s</sup>
Frequency Range — Up to 15 KC Non-stabilized	Frequency Range — Up to 15 KC Stabilized
Maximum Inductance — 30 MHY	Maximum Inductance — 30 MHY
Maximum "Q" 200 @ 5 KC	Maximum "Q" 200 @ 5 KC

Cat. No. Uncased	Inductance Value	Cat. No.	Value Inductance
F-1655	1 MHY	F-1675	1.50 HY
F-1656	2 MHY	F-1676	2.00 HY
F-1657	3 MHY	F-1677	2.50 HY
F-1658	4 MHY	F-1678	3.00 HY
F-1659	5 MHY	F-1679	3.50 HY
F-1660	7.5 MHY	F-1680	4.00 HY
F-1661	10 MHY	F-1681	4.50 HY
F-1662	15 MHY	F-1682	5.00 HY
F-1663	30 MHY	F-1683	6.00 HY
F-1664	50 MHY	F-1684	7.00 HY
F-1665	75 MHY	F-1685	8.00 HY
F-1666	100 MHY	F-1686	9.00 HY
F-1667	150 MHY	F-1687	10.00 HY
F-1668	200 MHY	F-1688	12.00 HY
F-1669	300 MHY	F-1689	15.00 HY
F-1670	400 MHY	F-1690	17.00 HY
F-1671	500 MHY	F-1691	20.00 HY
F-1672	600 MHY	F-1692	25.00 HY
F-1673	750 MHY	F-1693	30.00 HY
F-1674	100 MHY		

### TYPE TI-13<sup>s</sup> DC CASE

Frequency Range — Up to 75 KC Non-stabilized
Maximum Inductance — 500 MHY
Maximum "Q" 340 @ 15 KC

Cat. No. Uncased	Inductance Value	Cat. No. Uncased	Inductance Value
F-1629	1 MHY	F-1638	50 MHY
F-1630	2 MHY	F-1639	75 MHY
F-1631	3 MHY	F-1640	100 MHY
F-1632	4 MHY	F-1641	150 MHY
F-1633	5 MHY	F-1642	200 MHY
F-1634	7.5 MHY	F-1643	300 MHY
F-1635	10 MHY	F-1644	400 MHY
F-1636	15 MHY	F-1645	500 MHY
F-1637	30 MHY		

NOTE: When ordering Freed Toroidal Inductors in Commercial Type cases, add "C" to catalog number.

When ordering Hermetically Sealed units, add "H."

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

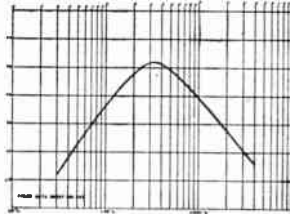
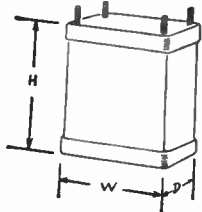
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# FREED TRANSFORMERS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## QUALITY GRADE HIGH Q REACTORS



### HIGH Q, LOW FREQUENCY REACTORS

Whenever there is need for a stable reactor with high Q at the lower audio frequencies, these reactors will be ideally suited. Units up to 400 henries can be supplied with inductance tolerance of  $\pm 2\%$ .

#### CASE DIMENSIONS

Case #	Mtg. Centers		Dimensions		
	W	D	H		
DC-2AT	2" x 1 3/4"	2 5/8" x 2 1/4" x 3"			
Knockout		Mtg.	Wgt.		
1 1/2" x 1 3/8"		8-32's	2 3/4"		

#### Catalog Number

QGC-1  
QGC-2  
QGC-3  
QGC-4  
QGC-5  
QGC-6  
QGC-7

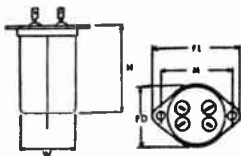
#### Inductance in Henries

100  
75  
50  
25  
10  
5  
1

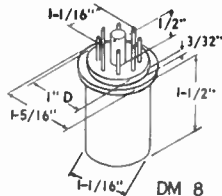
#### Case Size

DC-2AT  
DC-2AT  
DC-2AT  
DC-2AT  
DC-2AT  
DC-2AT  
DC-2AT

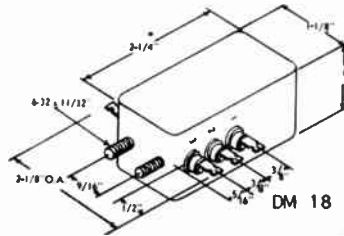
## MILITARY PULSE TRANSFORMERS



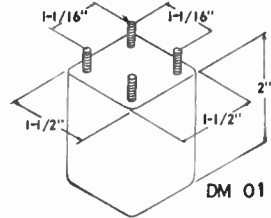
DM-12



DM-8



DM-18



DM-01

#### CASE DIMENSIONS

CASE #	FL	FD	W	H	M	Screws	Cutout	Wgt.
DM-12	1 1/2	1 3/2	1 3/8	1 3/8	1 3/5	4-40	7/8	1.5 oz.
DM-8	Dimensions shown on drawing.							
DM-18	Dimensions shown on drawing.							
DM-01	Dimensions shown on drawing (knockout 1 1/4" diam.)							

**HERMETICALLY SEALED PULSE TRANSFORMERS** for use in blocking oscillators, low level interstage coupling, and modulator outputs. Made in accordance with MIL-T-27 specifications. These pulse transformers are designed for maximum power, efficiency and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon interconnections made.

Catalog Number	Application	Pulse Voltage Kilovolts	Pulse Duration Microseconds	Duty Ratio	Test Voltage KV., RMS	Characteristic Impedance Ohms	Case Size
MPT-1	Blocking oscillator or interstage coupling.	0.25/0.25/0.25	0.2-1.0	.004	0.7	250	DM-12
MPT-2	Blocking oscillator or interstage coupling.	0.25/0.25	0.2-1.0	.004	0.7	250	DM-12
MPT-3	Blocking oscillator or interstage coupling.	0.5/0.5/0.5	0.2-1.5	.002	1.0	250	DM-18
MPT-4	Blocking oscillator or interstage coupling.	0.5/0.5	0.2-1.5	.002	1.0	250	DM-18
MPT-5	Blocking oscillator or interstage coupling.	0.5/0.5/0.5	0.5-2.0	.002	1.0	500	DM-12
MPT-6	Blocking oscillator or interstage coupling.	0.5/0.5/0.5	0.5-2.0	.002	1.0	500	DM-12
MPT-7	Blocking oscillator, interstage coupling or low power output.	0.7/0.7/0.7	0.5-1.5	.002	1.5	200	DM-18
MPT-8	Blocking oscillator, interstage coupling or low power output.	0.7/0.7	0.5-1.5	.002	1.5	200	DM-18
MPT-9	Blocking oscillator, interstage coupling or low power output.	1.0/1.0/1.0	0.7-3.5	.002	2.0	200	DM-18
MPT-10	Blocking oscillator, interstage coupling or low power output.	1.0/1.0	0.7-3.5	.002	2.0	200	DM-18
MPT-11	Blocking oscillator, interstage coupling or low power output.	1.0/1.0/1.0	1.0-5.0	.002	2.0	500	DM-01
MPT-12	Blocking oscillator, interstage coupling or low power output.	0.15/0.15/0.15 0.15/0.3	0.2-1.0	.004	0.7	700	DM-8

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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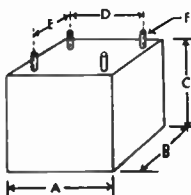
# FREED TRANSFORMERS

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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## STANDARD MILITARY AUDIO TRANSFORMERS

A group of hermetically sealed audio transformers designed in accordance with MIL-T-27 specifications. The functional characteristics of these transformers were established by a standardization committee of the A.S.E.S.A. These are the "Standard Military Audio Components" for use in new communication equipment for the Armed Services.



#AJ CASE DIMENSIONS

A	B	C	D	E	F
1 5/8"	1 5/8"	2 3/8"	1 1/8"	1 1/8"	6-32

Cat. No.	Application	Military Standard #	Type Designation	Impedance Level in Ohms		Ratio	Max. Power Level V.U.	Pri. D.C. Per Side in MA	Max. D.C. Unbalance	Frequency Response	Case
				Primary	Secondary						
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grids	MS90000	TF1A15AJ001	10,000 CT	90,000 split and CT	1:3 overall	+15	10	10	±1 DB 300-10,000	AJ
MGA 2	Transformer; matching, 600 ohm line to voice coil	MS90001	TF1A16AJ002	600 split	4, 8, 16	6.12:1 overall	+33	0	0	±1 DB 300-10,000	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids	MS90002	TF1A10AJ001	600 split	135,000 CT	1:15	+15	0	0	±2 DB 300-10,000	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line	MS90003	TF1A16AJ001	600 split	600 split	1:1	+15	0	0	±1 DB 300-10,000	AJ
MGA 5	Transformer; output, single plate 7600 ohm, 4800 ohm to 600 ohm line	MS90004	TF1A18AJ001	7600 tap @ 4800	600 split	3.56:1	+33	40	40	±2 DB 300-10,000	AJ
MGA 6	Transformer; output, single plate 7600 ohm, 4800 ohm to voice coil	MS90005	TF1A18AJ002	7600 tap @ 4800	4, 8, 16	21.8:1	+33	40	40	±2 DB 300-10,000	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line	MS90006	TF1A18AJ003	15,000 CT	600 split	5:1	+33	10	10	±1 DB 300-10,000	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line	MS90007	TF1A18AJ004	24,000 CT	600 split	6.32:1	+30	10	1	±1 DB 300-10,000	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line	MS90008	TF1A18AJ005	60,000 CT	600 split	10:1	+27	10	1	±2 DB 300-10,000	AJ

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

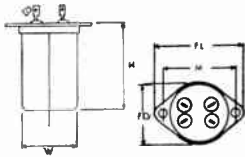
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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGWOOD) 27, N. Y.

## PROFESSIONAL GRADE COMPONENTS MINIATURE AUDIO TRANSFORMERS



DM-12 CASE DIMENSIONS

FL — 1 1/2"
FD — 1 1/4"
W — 1 1/8"
H — 1 3/8"
M — 1 3/2"

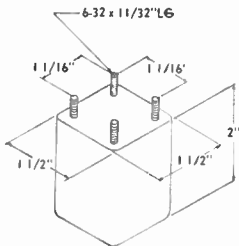
These high quality, miniature transformers feature hermetic sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27 Specifications.

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level V.U.*	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
		Primary	Secondary							
PMA 1	Line or microphone to single or push-pull grids.	50/200/500	60,000 C.T.	+8	1:11		0	0	±2.0 DB 30-20,000	DM-12
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	4/8	60,000 C.T.	+8	1:86.6		0	0	±2.0 DB 30-20,000	DM-12
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	50/200/500	60,000 C.T.	+8	1:11	30	0	0	±2.0 DB 30-20,000	DM-12
PMA 4	Single triode plate to single or push-pull grids.	15,000	60,000 C.T.	+8	1:2		0	0	±2 DB 30-10,000	DM-12
PMA 5	Single triode plate to push-pull grids.	15,000	60,000 C.T.	+8	1:2		2	2	±2 DB 200-10,000	DM-12
PMA 6	Single triode plate to multiple line.	15,000	50/200/500	+8	5.48:1		0	0	±2 DB 20-20,000	DM-12
PMA 7	Single triode plate to multiple line.	15,000	50/200/500	+8	5.48:1		2	2	±1 DB 200-10,000	DM-12
PMA 8	Push-pull triode plates to multiple line.	30,000 C.T.	50/200/500	+8	7.75:1		2	0.25	±2 DB 30-20,000	DM-12
PMA 9	Crystal mike or pickup to multiple line.	60,000	50/200/500	+8	11:1		0	0	±2 DB 30-20,000	DM-12
PMA 10	Mixing or matching.	50/200	50/200/500	+8	1:1.50		0	0	±2 DB 20-20,000	DM-12
PMA 11	Parallel Feed Reactor.	40 hy, 3 ma dc, 3500 ohms d.c. resistance								DM-12

\*1 mw. reference level.

## PROFESSIONAL GRADE AUDIO TRANSFORMERS

For popular priced high fidelity amplifiers, professional equipment and receivers, for home and public address service. Freed has developed this series of audio transformers using the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current, the frequency response is better than ±1 DB from 30 to 15,000 cycles. All units feature excellent performance characteristics with minimum size and weight.



### INPUT TRANSFORMERS

Mtg. Centers	DM-01 CASE DIMENSIONS			Knockout	Mtg. Studs	Wgt. 1/2	U-500 IMPEDANCES IN OHMS	
	Dimensions	W	H				50, 125, 200CT, 250, 330, 500 CT.	125 and 500 ohms can be used for 150 and 60 ohms.
1 1/8" x 1 1/8"	1 1/2"	1 1/2"	2"	1 3/8" diam.	6-32	1/2		

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level V.U.*	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
		Primary	Secondary							
PGA 1	Universal 500 ohm line to single grid.	U-500	50,000	+12	1:10	50	0	0	±1.0 DB 30-15,000	DM-01
PGA 2	Universal 500 ohm line to push-pull grids.	U-500	60,000 split	+12	1:11	50	0	0	±1.0 DB 30-15,000	DM-01
PGA 3	Universal 500 ohm line to push-pull grids.	U-500	100,000 split	+12	1:14.1	50	0	0	±1.0 DB 30-15,000	DM-01
PGA 4	Bridging line to single grid.	10,000	60,000	+12	1:2.45	50	0	0	±1.0 DB 30-15,000	DM-01
PGA 5	Bridging line to push-pull grids.	10,000	60,000 split	+12	1:2.45	50	0	0	±1.0 DB 30-15,000	DM-01
PGA 6	Low level line matching.	U-500	U-500	+18	1:1	50	0	0	±1 DB 30-15,000	DM-01

\*1 mw. reference level.

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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# FREED TRANSFORMERS

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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## PROFESSIONAL GRADE COMPONENTS LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Cat. No.	Application	Impedance Level Ohms		Maximum Power Level V.U.* or Power in Watts	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
		Primary	Secondary						
PGA 7	Single triode plate to Universal 500 ohm line. Shunt feed.	15,000	U500	+18	5.48:1	0	0	±1.0 DB 30-15,000	DM-01
PGA 8	Single triode plate to Universal 500 ohm line.	15,000	U500	+18	5.48:1	8	8	±1.0 DB 100-15,000	DM-01
PGA 9	Push-pull triode plate to Universal 500 ohm line.	20,000 CT	U500	+30	6.32:1	8	0.5	±1.0 DB 30-15,000	DM-01
PGA 10	Low level line matching.	U500	U500	+18	1:1	0	0	±1.0 DB 30-15,000	DM-01

\*1 mw. reference level.

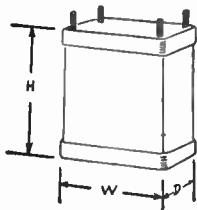
U-500 IMPEDANCES IN OHMS 50, 125, 200 CT, 250, 330, 500 CT — 125 and 500 ohms can be used for 150 and 600 ohms

## DRIVER TRANSFORMERS

Cat. No.	Application	Primary Impedance Ohms	Turn Ratio Pri: 1/2 Sec.	Max. Level V.U.*	Max. Pri. D.C. Per Side Ma.	Max. D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
PGA 12	Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids.	20,000 C.T.	3.0:1	+30	10	0	±1.0 DB 30-15,000	DM-01
PGA 13	Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4/125A	5,000 C.T.	3.2:1	+40	50	5	±1.0 DB 30-15,000	DC-2AL

U-500 IMPEDANCES IN OHMS 50, 125, 200 CT, 250, 330, 500 CT — 125 and 500 ohms can be used for 150 and 600 ohms

## HIGH LEVEL OUTPUT TRANSFORMERS



### CASE DIMENSIONS

Case #	Mtg. Cent.	Dimensions			Knockout	Mtg. Studs	Wgt.
		W	D	H			
DC2AL	2 x1 3/4	2 3/8	2 1/4	3	1 1/2 x1 3/8	8-32	2 3/4
DC2BL	2 x1 3/4	2 3/8	2 1/4	3 1/2	1 1/2 x1 3/8	8-32	3
DC4AL	2 1/2 x2 1/2	3 3/8	3	3 3/4	2 x1 3/8	8-32	4 1/2
DC5AL	3 1/8 x2 5/8	4 1/8	3 1/2	3 7/8	2 1/2 x2	10-32	9
DC6AL	3 3/4 x3	5	4 1/8	4 7/8	3 x2 1/2	10-32	15

L after case number indicates Leads.  
T after case number indicates Terminals.

### U-16 IMPEDANCES IN OHMS

2, 4, 8, 12, 16

### U-500 IMPEDANCES IN OHMS

50, 125, 200CT, 250, 330, 500CT. 125 and 500 ohms can be used for 150 and 600 ohms.

A 70 volts level can be obtained for the following impedances:

500 ohms — 10 watts + 40 VU  
330 ohms — 15 watts + 42 VU  
250 ohms — 20 watts + 43 VU  
200 ohms — 25 watts + 44 VU  
125 ohms — 40 watts + 46 VU  
50 ohms — 100 watts + 50 VU

Cat. No.	Application	Impedance Level Ohms		Maximum Power Level V.U.* or Power in Watts	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
		Primary	Secondary						
PGA 14	P.P. 6K6, 6AR5, 7B5 Class A to Universal voice coil.	12,000 C.T.	U16	+40 (10 watts)	27.4:1	40	4	±1.0 DB 30-15,000	DC-2BL
PGA 15	P.P. 6F6 Cl. AB <sub>2</sub> , P.P. 6V6, 6AQ5, 7C5, 6L6 Cl. AB <sub>1</sub> to Universal voice coil.	10,000 C.T.	U16	+43 (20 watts)	25:1	50	5	±1.0 DB 30-15,000	DC-4AL
PGA 16	P.P. 6L6 Cl. AB <sub>1</sub> , self bias to Universal 500 ohm line.	9,000	U500	+44.8	4.23:1	50	5	±1.0 DB 30-15,000	DC-4AL
PGA 17	As above to Universal voice coil.	9,000	U16	+44.8	23.7:1	50	5	±1.0 DB 30-15,000	DC-4AL
PGA 18	P.P. 6N7 Cl. B, P.P. 6V6, 6AQ5, 7C5 Cl. AB <sub>1</sub> to Universal voice coil.	8,000 C.T.	U16	+41.8 (15 watts)	22.3:1	45	5	±1.0 DB 30-15,000	DC-4AL
PGA 19	P.P. 6L6, fixed bias, Cl. AB <sub>1</sub> to Universal 500 ohm line.	6,600 C.T.	U500	+44.8 (30 watts)	3.63:1	70	7	±1.0 DB 30-15,000	DC-4AL

\*1 mw. reference level.

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## PROFESSIONAL GRADE COMPONENTS HIGH LEVEL OUTPUT TRANSFORMERS

Continued from previous page — See same for case sizes

Cat. No.	Application	Impedance Level Ohms		Maximum Power Level V.U.* or Power in Watts Maximum	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Frequency Response C.P.S.	Case Number
		Primary	Secondary						
PGA 20	As above to Universal voice coil.	6600	U16	+44.8	20.3:1	70	7	±1.0 DB 30-15,000	DC-4AL
PGA 21	P.P. 6L6 Cl. A, P.P. 2A8, 6A5G, 6B4 self bias Par. 6V6 Cl. AB <sub>1</sub> to Universal voice coil.	5000 C.T.	U16	+43	17.7:1	80	8	±1.0 DB 30-15,000	DC-4AL
PGA 22	P.P. Par 6L6 Cl. AB <sub>1</sub> self bias P.P. 6L6 Cl. AB <sub>2</sub> fixed bias PP807 Cl. AB <sub>2</sub> to Universal 500 ohm line.	4000 C.T.	U500	+47 (50 watts)	2.83:1	100	10	±1.0 DB 30-15,000	DC-5AL
PGA 23	As above to Universal voice coil.	4000 C.T.	U16	+47	15.8:1	100	10	±1.0 DB 30-15,000	DC-5AL
PGA 24	P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil.	3000 C.T.	U16	+41.8	13.7:1	75	7.5	±1.0 DB 30-15,000	DC-4AL
PGA 25	P.P. Par. 807 Cl. AB <sub>2</sub> to Universal 500 ohm line.	2100 C.T.	U500	+51.8 (150 watts)	2.05:1	120	12	±1.0 DB 30-15,000	DC-6A
PGA 26	P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB <sub>1</sub> , P.P. Par 6L6 Cl. A to Universal 500 ohm line.	1500 C.T.	U500	+44.8	1.73:1	150	15	±1.0 DB 30-15,000	DC-4AL
PGA 27	As above to Universal voice coil.	1500 C.T.	U16	+44.8	9.7:1	150	15	±1.0 DB 30-15,000	DC-4AL
PGA 28	Matching line to Universal voice coil.	U500	U16	+44.8	5.6:1	0	0	±1.0 DB 30-15,000	DC-4AL
PGA 29	Matching line to Universal voice coil.	U500	U16	+47	5.6:1	0	0	±1.0 DB 30-15,000	DC-5AL
PGA 30	Matching line to Universal voice coil.	U500	U16	+50 (100 watts)	5.6:1	0	0	±1.0 DB 30-15,000	DC-6AL

\*1 mw. reference level.

### U-16 IMPEDANCES IN OHMS

2 ohms, 4 ohms, 8 ohms, 12 ohms, 16 ohms

### U-500 IMPEDANCES IN OHMS

50, 125, 200 CT, 250, 330 500 CT

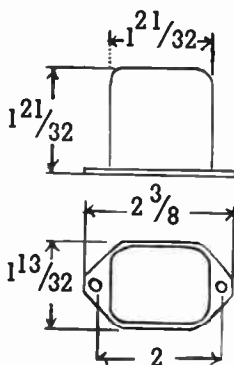
125 and 500 ohms can be used for 150 and 600 ohms

A 70 volts level can be obtained for the following impedances:

500 ohms —	10 watts + 40 VU
380 ohms —	15 watts + 42 VU
250 ohms —	20 watts + 43 VU
200 ohms —	25 watts + 44 VU
125 ohms —	40 watts + 46 VU
50 ohms —	120 watts + 51 VU

## HIGH Q REACTORS

High Q Reactors for use in resonant wave traps and dynamic noise suppression circuits.



DM-02

Cat. No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (Mf)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	20 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	20 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	20 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	20 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	20 @ 4 KC		DM-02

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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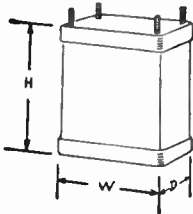
# FREED TRANSFORMERS

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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## REACTORS—PROFESSIONAL GRADE COMPONENTS

### CASE DIMENSIONS



Case #	Mtg. Cent.	Dimensions			Knockout	Mtg. Studs	Wgt.
		W	D	H			
DM-01	1 1/8 x 1 1/8	1 1/2	1 1/2	2	1 3/8 diam.	6-32	1/2
DC1AL	1 1/2 x 1 1/4	2 1/8	1 1/8	2 1/2	1 3/8 diam.	8-32	1
DC2AL	2 x 1 3/4	2 5/8	2 1/4	3	1 1/2 x 1 3/8	8-32	2 3/4
DC2BL	2 x 1 3/4	2 5/8	2 1/4	3 1/2	1 1/2 x 1 3/8	8-32	3
DC4AL	2 1/2 x 2 1/2	3 1/8	3	3 3/4	2 x 1 3/4	8-32	4 1/2
DC5BL	3 1/2 x 2 3/4	4 1/8	3 1/2	4 1/2	2 1/2 x 2	10-32	10

Inductance measured at 50V, 60 cycles with rated direct current in the winding.

Cat. No.	Inductance in Hy.	Rated Current D.C. Ma.	D.C. Resistance	Dielectric Test Voltage	Case Number
PGC 1	40	15	2000	1000	DM-01
PGC 2	12	40	400	1000	DC-1AL
PGC 3	8	50	300	1000	DC-1AL
PGC 4	20	50	425	1500	DC-2AL
PGC 5	10	70	250	1500	DC-2AL
PGC 6	6	100	160	1500	DC-2AL
PGC 7	6	150	115	1500	DC-2BL
PGC 8	10	150	160	1500	DC-4AL
PGC 9	7	200	95	1500	DC-4AL
PGC 10	10	200	150	1500	DC-4AL
PGC 11	10	250	135	1500	DC-5BL
PGC 12	8	300	95	1500	DC-5BL
PGC 13	7	400	60	1500	DC-5BL
Parallel Feed Audio Chokes					
PGC 14	100	10	3500	1000	DM-01
PGC 15	40	50	650	1500	DC-2AL
PGC 16	400	1	6000	1000	DM-01

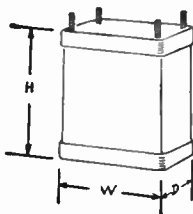
## SWINGING INPUT REACTORS

Cat. No.	Inductance in Hy.*	Rated Current D.C. Ma.	D.C. Resistance	Dielectric Test Voltage	Case Number
PGC 17	5 - 20	150	160	1500	DC-4AL
PGC 18	5 - 20	200	135	1500	DC-5BL
PGC 19	3 - 15	300	95	1500	DC-5BL
PGC 20	3 - 15	400	60	1500	DC-5BL

\* Inductance values for 100% and 10% of rated Direct Current.

## PROFESSIONAL GRADE POWER TRANSFORMERS

### CASE DIMENSIONS



Case #	Mtg. Cent.	Dimensions			Knockout	Mtg.	Wgt.
		W	D	H			
DC2BL	2 x 1 3/4	2 5/8	2 1/4	3 1/2	1 1/2 x 1 3/8	8-32s	3
DC4AL	2 1/2 x 2 1/2	3 1/8	3	3 3/4	2 x 1 3/4	8-32s	4 1/2
DC5AL	3 1/2 x 2 3/4	4 1/8	3 1/2	3 7/8	2 1/2 x 2	10-32s	9
DC5BL	3 1/2 x 2 3/4	4 1/8	3 1/2	4 1/2	2 1/2 x 2	10-32s	10
DC6AL	3 3/4 x 3	5	4 1/8	4 7/8	3 x 2 1/2	10-32s	15
DC7BL	4 3/4 x 3 3/4	5 1/2	5	6 3/4	3 x 2 1/2	1/4 - 20s	22

Fully impregnated and sealed in heavy gauge cases. Temperature rises range from 45° to 50°C.

Cat. No.	Pri. Va	HI Volt	Choke Input D.C. V.	D.C. Ma.	Cond. Input D.C. V.	D.C. Ma.	Rectifier	Fil. #1	Fil. #2	Case Number
PGP 1	15	440V. C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	270	15	6X4	6.3 CT @ 0.6A.	6.3 @ 0.3A.		DC-2BL
PGP 2	30	550V. C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	310	35	6X4	6.3 CT @ 0.6A.	6.3 CT @ 0.9A.		DC-4AL
PGP 3	45	500V. C.T.		270	40	6X4, 5Y3	5/6.3V @ 2A.	6.3 @ 2A.		DC-4AL
PGP 4	57	600V. C.T.		330	50	6X4, 5Y3	5/6.3V @ 2A.	6.3 @ 2.5A.		DC-4AL
PGP 5	64	650V. C.T.		370	50	6X4, 5Y3	5/6.3V @ 2A.	6.3 @ 3A.		DC-4AL
PGP 6	73	600V. C.T.		320	70	6X4, 5Y3	5/6.3V @ 2A.	6.3 @ 3A.		DC-5AL

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

for  
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# FREED TRANSFORMERS

for  
**QUALITY**

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

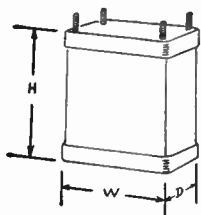
## PROFESSIONAL GRADE POWER TRANSFORMERS

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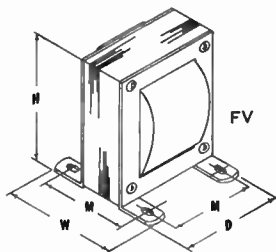
Cat. No.	Py Va	Hi Volt	Choke Input		Cond. Input		Bias Tap.	Rectifier	Fil. #1	Fil. #2	Fil. #3	Case Number
			D.C. V.	D.C. Ma.	D.C. V.	D.C. Ma.						
PGP 7	110	650V. C.T.	225	140	330	100		5Y3, 5U4	5 @ 3A.	6.3 @ 5A.		DC-5BI.
PGP 8	76	700V. C.T.	260	100	385	70		5Y3	5 @ 2A.	6.3 @ 2.5A.		DC-5AL.
PGP 9	108	700V. C.T.	250	125	370	90		5Y3, 5U4	5 @ 3A.	6.3 @ 5A.		DC-5BI.
PGP 10	127	700V. C.T.	260	170	350	120		5U4	5 @ 3A.	6.3 @ 5A.		DC-5BI.
PGP 11	146	700V. C.T.	260	210	350	150		5U4	5 @ 3A.	6.3 @ 5A.	6.3 @ 1A.	DC-6AI.
PGP 12	207	800V. C.T.	295	280	400	200		5U4, 2-5Y3	5 @ 4A.	6.3 @ 6A.		DC-6AL.
PGP 13	225	800V. C.T.	295	280	400	200	80	5U4, 2-5Y3	5 @ 4A.	6.3 @ 6A.	5/6.3 @ 2A.	DC-6AL.
PGP 14	268	840V. C.T.	330	350	450	250	80	2-5U4	5 @ 6A.	6.3 @ 6A.	5/6.3 @ 2A.	DC-6AL.
PGP 15	320	900V. C.T.	340	420	490	300	80	2-5U4	5 @ 6A.	6.3 @ 6A.	5/6.3 @ 2A.	DC-6AL.
PGP 16	127	900V. C.T.	360	150				5U4	5 @ 3A.	6.3 @ 5A.		DC-6AL.
PGP 17	150	900V. C.T.	350	200				5U4	5 @ 3A.	6.3 @ 5A.		DC-6AL.
PGP 18	203	1100V. C.T.	400	250				5R4GY	5 @ 3A.	6.3 @ 5A.		DC-6AL.
PGP 19	248	1100V. C.T.	420	300				2-5R4GY	5 @ 4A.	6.3 @ 7A.		DC-6AL.
PGP 20	310	1280V. C.T.	480	350				2-5R4GY	5 @ 1A.	6.3 @ 7A.		DC-7BI.

## FILAMENT TRANSFORMERS

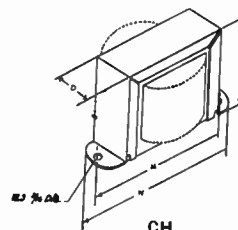
ALL PRIMARIES ARE FOR 115 V., 50/60 c.p.s.



DC



FV



CH

L after case number indicates Leads  
T after case number indicates Terminals

Cat. No.	Secondary Voltage	Secondary Current Amps.	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2BT
TF 4	2.5 (C.T.)	10	7500	DC4AT
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500v	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6AT
TF 11	6.3 (C.T.)	1.85	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	5	1500	CH70
TF 14	6.3 (C.T.)	7	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	10 (C.T.)	12 or 11 (tapped primary)	7500	DC5CT
TF 19	12.6 (C.T.)	2	1500	CH62

### CASE DIMENSIONS

Case #	Mtg. Cent.	Dimensions			Knockout	Mtg. Studs	Wgt.
		W	D	H			
DC2B2	2 x 1 3/4	2 5/8	2 1/4	3 1/2	1 1/2 x 1 3/8	8-32	3
DC4AT	2 1/2 x 2 1/2	3 1/8	3	3 3/4	2 x 1 3/4	8-32	4 1/2
DC5CT	3 1/8 x 2 5/8	4 1/8	3 1/2	4 7/8	2 1/2 x 2	10-32	12
DC6AT	3 3/4 x 3	5	4 1/8	4 7/8	3 x 2 1/2	10-32	15
FV10	2 x 2	2 1/2	2 1/2	3 7/8			2 1/2
FV12	2 x 2 1/8	2 1/2	2 5/8	3 7/8			2 3/4
FV22	2 1/4 x 2 1/4	2 1/8	2 7/8	3 7/8			4
FV30	2 1/2 x 2 1/4	3 1/8	3 1/4	3 1/8			5 1/2
CH50	2 3/8	2 1/8	1 3/4	1 1/8			3/4
CH60	2 1/8	3 1/4	2	2			1 1/2
CH62	2 1/8	3 1/4	2 3/8	2			1 3/4
CH70	3 1/8	3 1/8	2 3/4	2 5/8			2
CH80	3 7/8	4	2 5/8	2 5/8			2 3/4

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86



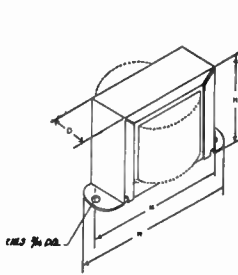
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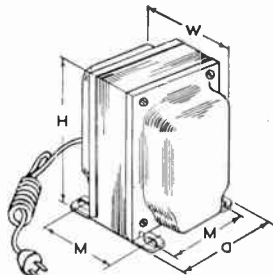
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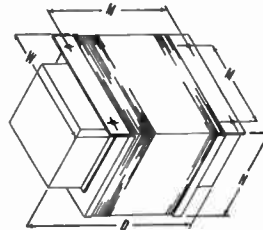
## AUTO TRANSFORMERS



CH



VS



HB

To be used as a step-down transformer. Equipped with standard receptacle and line cord.

CATALOG NUMBER	TRANSFORMATION	VA RATING	CASE SIZE
SDT 1	230/115 V. 50/60 c.p.s.	25	CH-60
SDT 2	230/115 V. 50/60 c.p.s.	50	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	VS-604
SDT 8	230/115 V. 50/60 c.p.s.	500	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	VS-718
SDT 11	230/115 V. 50/60 c.p.s.	1500	VS-728
SDT 12*	230/115 V. 50/60 c.p.s.	2000	HB-718
SDT 13*	230/115 V. 50/60 c.p.s.	2500	HB-728
SDT 14*	230/115 V. 50/60 c.p.s.	3000	HB-828
SDT 15*	230/115 V. 50/60 c.p.s.	5000	HB-920

\*Supplied without line cord and receptacle.

### CASE DIMENSIONS

Case #	Mtg. Cent.	Dimensions			Wgt. (lbs.)
		W	D	H	
CH60	2 1/8	3 1/4	2	2	1 1/2
CH62	2 1/8	3 1/4	2 1/8	2	1 3/4
HB718	4 3/4 x 4 3/4	6 3/8	8 1/2	6 1/4	36
HB728	4 3/4 x 6	6 3/8	9 3/4	6 1/4	45
HB828	5 5/8 x 5 7/8	7 1/4	9 3/8	6 3/8	54
HB920	5 3/8 x 4 3/4	7 1/4	8 5/8	10	75
VS300	2 x 1 1/8	2 1/8	2 3/8	3 3/8	2 3/4
VS401	2 1/4 x 1 3/4	2 3/8	3	3 1/8	4 1/2
VS501	2 1/2 x 2 7/8	3 5/8	3 7/8	3 3/8	6 1/4
VS503	2 1/2 x 2 7/8	3 5/8	3 5/8	3 3/8	5 1/4
VS601	3 x 2 7/8	3 3/8	3 5/8	4 1/8	7 1/4
VS604	3 x 2 1/8	3 3/8	3 5/8	4 1/8	7 3/8
VS611	3 x 3 1/8	3 3/8	4 7/8	4 1/8	12
VS700	3 1/2 x 3 7/8	4 1/2	4 3/4	5 1/8	14
VS706	3 1/2 x 3 1/8	4 1/2	5 1/4	5 1/8	16
VS714	3 1/2 x 4 1/8	4 1/2	6 1/4	5 1/8	25
VS718	3 1/2 x 5 7/8	4 1/2	6 3/4	5 1/8	29
VS728	3 1/2 x 6 7/8	4 1/2	8	5 1/8	36

## ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

CATALOG NUMBER	PRIMARY VOLTAGE 50/60 c.p.s.	SECONDARY VOLTAGE	VA RATING	CASE SIZE
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-508
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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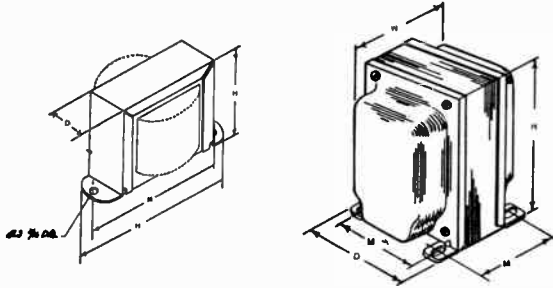
# FREED TRANSFORMERS

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FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## REPLACEMENT GRADE AUDIO TRANSFORMERS

### CASE DIMENSIONS



Case Number	Mtg. Centers	Dimensions			Wgt. (lbs.)
		W	D	H	
CH-40	2"	2 3/8"	1 1/8"	1 7/16"	1/2
CH-50	2 3/8"	2 1/8"	1 1/8"	1 1/8"	3/4
CH-60	2 1/8"	3 1/4"	2"	2"	1 1/2
CH-80	3 5/8"	4"	2 1/2"	2 1/2"	2 1/4
VS-100	1 1/2" x 1 7/16"	1 1/8"	2 1/4"	2 1/8"	1 1/2
VS-300	2" x 1 1/8"	2 1/8"	2 1/4"	3 3/8"	2 1/4

Catalog No.	Application	Impedance Level Ohms		Max. Power Level V.U.* or Power in Watts	Ratio	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case Number
		Primary	Secondary						
RGA 1	Input; multiple line or double button mike to single or push-pull grids.	500 CT 200 CT	100.000 CT	+20	1:14.1	50	5	±1 DB 200-5000 ±1 DB	CH-40
RGA 2	Input; single button mike to single or push-pull grids.	100	100.000 CT	+20	1:31.6	50		200-5000 ±1 DB	CH-40
RGA 3	Input; voice coil to grid.	3.2	100.000	+20	1:179			200-5000	CH-40
RGA 4	Mixing and matching line to line.	600 CT 500 CT 200 CT 150/125/50	600 CT 500 CT 200 CT 150/125/50	+20	1:1			±1 DB 100-5000	CH-40
RGA 5	Interstage; single triode plate to single or P.P. grids.	10.000	90.000	+30	1:3	10		±1 DB 200-5000	CH-40
RGA 6	Output; single plate to line or mixer.	10.000	600 CT 500 CT 200 CT 150/125/50	+30	4.8:1	10		±1 DB 200-5000	CH-40
RGA 7	Output; Push-pull plate to line or mixer.	20.000 CT	600 CT 500 CT 200 CT 150/125/50	+30	6.32:1	10	1	±1 DB 200-5000	CH-40
RGA 8	Output; plate to V.C. 6AL6, 6L6, 6Y6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117N7.	2500	3.2	5W		70		±1 DB 200-5000 ±1 DB	CH-40
RGA 9	Output; plate to V.C. 6V6, 6AQ5, 6AS5, 7C5.	5000	3.2	5W		50		200-5000	CH-40
RGA 10	Output; plate to V.C. 6AR5, 6K6, 6V6, 7B5, 14A5, 3S4, 3U4, 3Q4, 3Q5, 3C5, 3A4.	10.000 or 7500	3.2	5W		30		±1 DB 200-5000	CH-40
RGA 11	Output; P.P. plates to V.C. P.P. 6V6, PP6K6.	12.000 CT or 8000 CT	3.2	15W		50	5	±1 DB 50-5000	CH-60

## REPLACEMENT GRADE CHOKES

CATALOG No.	INDUCTANCE IN HENRIES	RATED CURRENT A.C. Ma.	D.C. RESISTANCE	DIELECTRIC TEST VOLTAGE	CASE No.
RGC 1	4	40	200	1000	CH-40
RGC 2	9	40	400	1000	CH-40
RGC 3	6	50	400	1000	CH-40
RGC 4	10	55	400	1500	CH-50
RGC 5	10	75	250	1500	CH-60
RGC 6	10	75	250	1500	VS-100
RGC 7	6	100	150	1500	CH-60
RGC 8	6	100	150	1500	VS-100
RGC 9	3.5	150	100	1500	CH-60
RGC 10	3.5	150	100	1500	VS-100
RGC 11	2	200	60	1500	CH-60
RGC 12	2	200	60	1500	VS-100
RGC 13	3.7	200	65	1500	CH-80
RGC 14	3.7	200	65	1500	VS-300
RGC 15	2.8	300	65	1500	CH-80
RGC 16	2.8	300	65	1500	VS-300

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86

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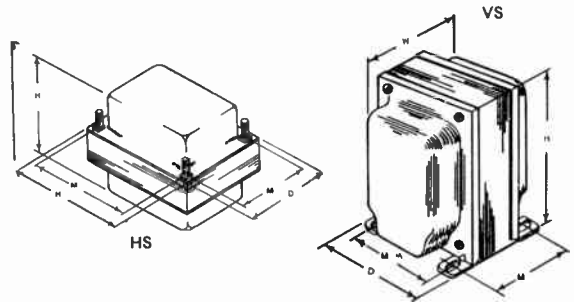
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## REPLACEMENT GRADE POWER TRANSFORMERS

### CASE DIMENSIONS

CASE #	MTG. CENTERS	DIMENSIONS			WGT. (lbs.)
		W	D	H	
VS-300	2" x 1 1/8"	2 1/8"	2 3/4"	3 3/8"	2 3/4
VS-303	2" x 1 1/8"	2 1/8"	3"	3 3/8"	3 1/2
VS-306	2" x 2 3/8"	2 1/8"	3 3/8"	3 3/8"	4 1/2
VS-307	2" x 2 1/8"	2 1/8"	3 3/4"	3 3/8"	4 3/4
VS-503	2 1/2" x 2 1/8"	3 3/8"	3 5/8"	3 3/8"	5 1/4
VS-505	2 1/2" x 2 3/8"	3 3/8"	3 7/8"	3 3/8"	6
VS-604	3" x 2 1/8"	3 3/8"	3 7/8"	4 1/8"	7 3/8
VS-605	3" x 2 1/8"	3 3/8"	4 1/8"	4 1/8"	8 3/4
VS-606	3" x 3 1/8"	3 3/8"	4 1/4"	4 1/8"	9 1/4
VS-609	3" x 3 1/8"	3 3/8"	4 5/8"	4 1/8"	11
VS-611	3" x 3 1/8"	3 3/8"	4 7/8"	4 1/8"	12
VS-612	3" x 3 1/8"	3 3/8"	5"	4 1/8"	13
VS-709	3 1/2" x 4 3/8"	4 1/2"	5 5/8"	5 1/2"	19
HS-300	2 1/2" x 2"	3"	2 1/2"	2 5/8"	2 3/4
HS-303	2 1/2" x 2"	3"	2 1/2"	2 7/8"	3 1/2
HS-306	2 1/2" x 2"	3"	2 1/2"	3 1/4"	4 1/2
HS-307	2 1/2" x 2"	3"	2 1/2"	3 3/4"	4 3/4
HS-503	3 1/8" x 2 1/2"	3 3/4"	3 1/8"	3 3/8"	5 1/4



### CASE DIMENSIONS

CASE #	MTG. CENTERS	DIMENSIONS			WGT. (lbs.)
		W	D	H	
HS-505	3 1/8" x 2 1/2"	3 3/4"	3 1/8"	3 5/8"	6
HS-604	3 3/4" x 3"	4 1/2"	3 3/4"	3 5/8"	7 3/8
HS-605	3 3/4" x 3"	4 1/2"	3 3/4"	3 7/8"	8 3/4
HS-606	3 3/4" x 3"	4 1/2"	3 3/4"	4"	9 1/4
HS-609	3 3/4" x 3"	4 1/2"	3 3/4"	4 3/8"	11
HS-611	3 3/4" x 3"	4 1/2"	3 3/4"	4 5/8"	12
HS-612	3 3/4" x 3"	4 1/2"	3 3/4"	4 3/4"	13
HS-709	4 3/8" x 3 1/2"	5 1/4"	4 3/8"	5 7/8"	19

Cat. No.	Py Va	Hi Volt	Choke Input		Cond. Input		Bias Tap.	Rectifier	Fil. #1	Fil. #2	Fil. #3	Case Number
			D.C. V.	D.C. Ma.	D.C. V.	D.C. Ma.						
RGP 1	45	500V. CT			270	40		6X4, 5Y3	5/6.3 @ 2A	6.3 @ 2A		VS300
RGP 2	"	"										HS300
RGP 3	57	600V. CT			330	50		6X4, 5Y3	5/6.3 @ 2A	6.3 @ 2.5A		VS303
RGP 4	"	"										HS303
RGP 5	64	650V. CT			370	50		6X4, 5Y3	5/6.3 @ 2A	6.3 @ 3A		VS303
RGP 6	"	"										HS303
RGP 7	73	600V. CT			320	70		6X4, 5Y3	5/6.3 @ 2A	6.3 @ 3A		VS306
RGP 8	"	"										HS306
RGP 9	110	650V. CT	225	140	330	100		5Y3, 5U4	5 @ 3A	6.3 @ 5A		VS503
RGP 10	"	"										HS503
RGP 11	76	700V. CT	260	100	385	70		5Y3	5 @ 2A	6.3 @ 8.5A		VS307
RGP 12	"	"										HS307
RGP 13	108	700V. CT	250	125	370	90		5Y3, 5U4	5 @ 3A	6.3 @ 5A		VS503
RGP 14	"	"										HS503
RGP 15	127	700V. CT	260	170	350	120		5U4	5 @ 3A	6.3 @ 5A		VS505
RGP 16	"	"										HS505
RGP 17	146	700V. CT	260	210	350	150		5U4	5 @ 3A	6.3 @ 5A	6.3 @ 1A	VS604
RGP 18	"	"										HS604
RGP 19	207	800V. CT	295	280	400	200		5U4, 2-5Y3	5 @ 4A	6.3 @ 6A		VS605
RGP 20	"	"										HS605
RGP 21	225	800V. CT	295	280	400	200	80V.	5U4, 2-5Y3	5 @ 4A	6.3 @ 6A	5/6.3 @ 2A	VS606
RGP 22	"	"										HS606
RGP 23	268	840V. CT	330	350	450	250	80V.	2-5U4	5 @ 6A	6.3 @ 6A	5/6.3 @ 2A	VS609
RGP 24	"	"										HS609
RGP 25	320	900V. CT	295	280	400	200	80V.	2-5U4	5 @ 6A	6.3 @ 6A	5/6.3 @ 2A	VS709
RGP 26	"	"										HS709
RGP 27	127	900V. CT	360	150				5U4	5 @ 3A	6.3 @ 5A		VS604
RGP 28	"	"										HS604
RGP 29	150	900V. CT	350	200				5U4	5 @ 3A	6.3 @ 5A		VS605
RGP 30	"	"										HS605
RGP 31	203	1100V. CT	400	250				5R4GY	5 @ 3A	6.3 @ 5A		VS611
RGP 32	"	"										HS611
RGP 33	248	1100V. CT	420	300				2-5R4GY	5 @ 4A	6.3 @ 7A		VS612
RGP 34	"	"										HS612
RGP 35	310	1280V. CT	480	350				2-5R4GY	5 @ 4A	6.3 @ 7A		VS709
RGP 36	"	"										HS709

For Freed Precision Laboratory Test Instruments see Section F Page F-82 to 86



for  
PRECISION

# FREED TEST INSTRUMENTS

for  
QUALITY

FREED TRANSFORMER CO., INC., 1718-36 WEIRFIELD ST., BROOKLYN (RIDGEWOOD) 27, N. Y.

## FREED TRANSFORMERS (CONT.)

PRO-FESSIONAL GRADE COMPONENTS		High Level Output Transformers		Catalog No. List Price†		FILAMENT TRANSFORMERS		ISOLATION TRANSFORMERS		Catalog No. List Price†	
<b>Miniature Audio Transformers</b>		Catalog No.	List Price†	PGC 6	7.50	Catalog No.	List Price†	Catalog No.	List Price†	RGA 6	4.75
Catalog No.	List Price†	PGA 14	22.50*	PGC 7	8.00	TF 1	4.00	IT 1	10.00	RGA 7	5.00
PMA 1	16.50	PGA 15	23.75*	PGC 8	9.00	TF 2	4.50	IT 2	14.30	RGA 8	2.25
PMA 2	13.50	PGA 16	25.00*	PGC 9	9.00	TF 3	15.00	IT 3	36.10	RGA 9	2.25
PMA 3	19.00	PGA 17	25.00*	PGC 10	9.50	TF 4	18.50	IT 4	44.00	RGA 10	2.75
PMA 4	13.50	PGA 18	22.50*	PGC 11	10.50	TF 5	4.00	<b>Power Transformers</b>			
PMA 5	13.50	PGA 19	25.00*	PGC 12	13.00	TF 6	5.50	Catalog No.	List Price†	RGP 1	7.50
PMA 6	16.50	PGA 20	25.00*	PGC 13	16.00	TF 7	6.00	RGP 2	7.50	RGP 2	7.50
PMA 7	16.50	PGA 21	23.75*	<b>Parallel Feed Audio Chokes</b>		TF 8	6.40	RGP 3	7.50	RGP 3	7.50
PMA 8	16.50	PGA 22	30.00*	Catalog No.	List Price†	TF 9	10.40	RGP 4	7.50	RGP 4	7.50
PMA 9	16.50	PGA 23	30.00*	PGC 14	10.00	TF 10	24.00	RGP 5	8.00	RGP 5	8.00
PMA 10	15.50	PGA 24	22.50*	PGC 15	11.00	TF 11	2.70	RGP 6	8.00	RGP 6	8.00
PMA 11	12.00	PGA 25	50.00*	PGC 16	10.50	TF 12	4.00	RGP 7	9.00	RGP 7	9.00
<b>Input Transformers</b>		PGA 26	25.00*	<b>Swinging Input Reactors</b>		TF 13	5.50	Catalog No.	List Price†	RGP 8	9.00
Catalog No.	List Price†	PGA 27	25.00*	Catalog No.	List Price†	TF 14	6.60	RGC 1	2.00	RGP 9	10.00
PGA 1	16.00	PGA 28	23.75*	PGC 17	9.00	TF 15	6.95	RGC 2	2.00	RGP 10	10.00
PGA 2	18.50	PGA 29	27.50*	PGC 18	10.50	TF 16	6.00	RGC 3	2.00	RGP 11	9.00
PGA 3	16.00	PGA 30	40.00*	PGC 19	13.00	TF 17	6.40	RGC 4	2.20	RGP 12	9.00
PGA 4	15.00	*5.00 off list price supplied in vertical shells.		PGC 20	16.00	TF 18	24.00	RGC 5	2.75	RGP 13	10.00
PGA 5	17.50	<b>High Q Reactors</b>		<b>Power Transformers</b>		TF 19	4.50	RGC 6	4.00	RGP 14	10.00
PGA 6	16.00	Catalog No.	List Price†	Catalog No.	List Price†	<b>STEP-DOWN TRANSFORMERS</b>					
<b>Low Level Output and Mixing Transformers</b>		PQC 1	10.00	PGP 1	12.50	Catalog No.	List Price†	SDT 1	3.25	RGC 7	2.75
Catalog No.	List Price†	PQC 2	10.00	PGP 2	18.50	SDT 2	3.75	RGC 8	4.00	RGC 8	4.00
PGA 7	16.00	PQC 3	10.00	PGP 3	4.00	SDT 3	7.50	RGC 9	2.75	RGC 9	2.75
PGA 8	17.00	PQC 4	10.00	PGP 4	9.50	SDT 4	10.20	RGC 10	4.00	RGC 10	4.00
PGA 9	16.00	PQC 5	10.00	PGP 5	10.00	SDT 5	11.55	RGC 11	2.75	RGC 11	2.75
PGA 10	16.00	PQC 6	10.00	PGP 6	11.00	SDT 6	14.70	RGC 12	4.00	RGC 12	4.00
<b>Driver Transformers</b>		PQC 7	10.00	PGP 7	12.50	SDT 7	18.40	RGC 13	4.25	RGC 13	4.25
Catalog No.	List Price†	PQC 8	10.00	PGP 8	11.75	SDT 8	20.05	RGC 14	5.50	RGC 14	5.50
PGA 11	22.50	PQC 9	10.00	PGP 9	12.50	SDT 9	26.75	RGC 15	4.25	RGC 15	4.25
PGA 12	16.00	<b>Filter Reactors</b>		PGP 10	14.00	SDT 10	37.60	RGC 16	5.50	RGC 16	5.50
PGA 13	22.50	Catalog No.	List Price†	PGP 11	19.00	SDT 11	55.00	<b>Audio Transformers</b>			
		PGC 1	6.50	PGP 12	22.50	SDT 12	66.00	Catalog No.	List Price†	RGA 1	5.00
		PGC 2	7.00	PGP 13	25.00	SDT 13	77.00	RGA 2	4.00	RGA 2	4.00
		PGC 3	7.00	PGP 14	30.00	SDT 14	89.35	RGA 3	4.00	RGA 3	4.00
		PGC 4	7.50	PGP 15	35.00	SDT 15	105.00	RGA 4	7.00	RGA 4	7.00
		PGC 5	7.50	PGP 16	16.00						
				PGP 17	18.50						
				PGP 18	25.00						
				PGP 19	30.00						
				PGP 20	37.50						

## FREED TEST INSTRUMENTS

See Radio's Master pages F-82 to F-86 for complete descriptions, illustrations and specifications.

Type No.	Description	Net Prices	Type No.	Description	Net Prices
1010	Comparison & Limit Bridge	\$ 185.00	1206-A	Frequency Standard	\$ 750.00
1020-B	Megohmmeter	225.00	1207	Frequency Standard	750.00
1030	Low Frequency "Q" Indicator	1050.00	1210	Null Detector & Vacuum Tube Voltmeter	325.00
1040	Vacuum Tube Voltmeter	195.00	1220	Decade Inductor	55.00
1060	Vacuum Tube Voltmeter	265.00	1230	Decade Inductor	51.00
1110-A	Incremental Inductance Bridge	345.00	1240	Decade Inductor	55.00
1140	Null Detector	234.00	1250	Condenser Decade	160.00
1150	Universal Bridge	275.00	1260	Decade Inductor	215.00
1160	Decade Inductor	172.00	1270	Decade Inductor	65.00
1161	Decade Inductor	191.00	1280	Decade Inductor	210.00
1162	Decade Inductor	197.00	1290	Decade Inductor	265.00
1163	Decade Inductor	172.00	1310	Decade Inductor	195.00
1164	Decade Inductor	210.00	1341	Decade Inductor	75.00
1170	DC Supply for No. 1110-A Bridge	294.00	1342	Decade Inductor	205.00
1180	AC Supply for No. 1110-A Bridge	108.00	1350	Condenser Decade	250.00
1195	Variable Condenser Decade	160.00			

All prices are F.O.B. Brooklyn, New York

# DRY ELECTROLYTIC CAPACITORS

## MALLORY

P.R. MALLORY & CO., INC. - INDIANAPOLIS

### Metal Tubular Dry Electrolytic Capacitors



For filter and audio by-pass circuits. Sealed aluminum tube with external insulating sleeve. 3" bare, tinned-copper leads at each end, except TCS styles which have solder lugs. For use up to 85°C except types designated (†).



#### Single Section

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size Dia. Length	List Price
TC310	1000	3	1 3/16 x 1 3/4	\$1.70
TC605	500	6	1 7/16 x 1 3/4	1.55
TC810	1000	6	1 7/16 x 2	1.90
TC1505	500	15	1 7/16 x 2	1.75
TC22	10	25	7/16 x 1 1/4	1.00
TC26	25	25	7/16 x 1 1/4	1.00
TC29	50	25	1 1/16 x 1 1/2	1.10
TC2501	100	25	1 1/16 x 1 3/4	1.35
TC2505	500	25	1 1/16 x 2 7/8	2.30
TC302	2	50	7/16 x 1 1/4	.90
TC30	5	50	7/16 x 1 1/4	1.00
TC31	1	50	7/16 x 1 1/4	.90
TC32	10	50	7/16 x 1 1/4	1.00
TC36	25	50	1 1/16 x 1 1/4	1.05
TC39	50	50	1 3/16 x 1 1/4	1.20
TC3501	100	50	1 3/16 x 2	1.40
TC40	5	150	7/16 x 1 1/4	1.00
TC41	8	150	1 1/16 x 1 1/4	1.05
TC42	10	150	1 1/16 x 1 1/4	1.05
TC43	12	150	1 1/16 x 1 1/2	1.10
TC44	16	150	1 1/16 x 1 1/2	1.15
TC45	20	150	1 3/16 x 1 1/2	1.20
TC47	30	150	1 3/16 x 1 1/2	1.30
TC48	40	150	1 3/16 x 1 3/4	1.35
TC49	50	150	1 3/16 x 1 3/4	1.40
TC492	80	150	1 3/16 x 2 1/4	1.60
TC495	150	150	1 1/16 x 2 7/8	1.90
TC50X	5	250	1 1/16 x 1 1/4	1.05
TC51	8	250	1 1/16 x 1 3/4	1.15
TC52	10	250	1 1/16 x 1 3/4	1.20
TC53	12	250	1 3/16 x 1 3/4	1.25
TC54	16	250	1 3/16 x 1 3/4	1.30
TC55	20	250	1 3/16 x 1 3/4	1.35
TC58	40	250	1 1/16 x 1 3/4	1.55
TC59	50	250	1 1/16 x 2	1.70
TC60	5	350	1 1/16 x 1 3/4	1.05
TC61	8	350	1 3/16 x 1 3/4	1.20
TC62	10	350	1 3/16 x 1 3/4	1.25
TC63	12	350	1 3/16 x 1 3/4	1.30
TC64	16	350	1 3/16 x 1 3/4	1.40
TC65	20	350	1 3/16 x 1 3/4	1.45
TC68	60	350	1 1/16 x 2 7/8	1.95
TC70	5	450	1 1/16 x 1 3/4	1.20
TC71	8	450	1 3/16 x 1 3/4	1.25
TC72	10	450	1 3/16 x 1 3/4	1.30
TC73	12	450	1 3/16 x 1 3/4	1.35
TC74	16	450	1 3/16 x 1 3/4	1.40
TC75	20	450	1 1/16 x 1 3/4	1.55
TC77	30	450	1 1/16 x 2 1/4	1.70
TC78	40	450	1 1/16 x 2 7/8	1.80
TC81	10	500	1 3/16 x 1 3/4	1.35
TC82	10	500	1 1/16 x 2 13/16	2.70
TC83	20	500	1 1/16 x 2 13/16	1.60
TC84	30	500	1 1/16 x 2 1/4	1.75
TC92	10	600	1 1/16 x 2 13/16	2.95
TC50025	250	50	1 1/16 x 2 7/8	1.75
TC308	.5Z @ 15750 Cycles	3 V.N.P.	1 1/16 x 2	2.20
TC420	1.5Z @ 60 Cycles 4 V		1 1/16 x 2 7/8	3.50
TC421	1.5Z @ 120 Cycles 6 V		1 1/16 x 2	3.00

#### Dual Common Negative

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size Dia. Length	List Price
TCD26	25-25	25	1 3/16 x 1 1/4	\$1.40
TCD45	20-20	150	1 3/16 x 2	1.65
TCD47	30-30	150	1 3/16 x 2	1.80
TCD48	40-40	150	1 1/16 x 2	1.85
TCD485	40-20	150	1 1/16 x 2	1.75
TCD49	50-50	150	1 1/16 x 3 1/16	2.10
TCD497	50-30	150	1 1/16 x 2 1/4	1.95
TCD498	80-50	150	1 1/16 x 2 1/4	2.35
TCD52	10-10	250	1 3/16 x 2	1.65
TCD55	20-20	250	1 1/16 x 2	1.85
TCD62	10-10	350	1 3/16 x 2	1.70
TCD65	20-20	350	1 1/16 x 3 1/16	2.25
TCD71	8-8	450	1 3/16 x 2	1.70
TCD72	10-10	450	1 1/16 x 2	1.85
TCD74	15-15	450	1 1/16 x 3 1/16	2.20
TCD75	20-20	450	1 1/16 x 3 1/16	2.50

#### Dual Separate Section

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size Dia. Length	List Price
TCS44	15-15	150	1 3/16 x 2 3/8	\$2.00
TCS45	20-20	150	1 3/16 x 2 3/8	2.10
TCS47	30-30	150	1 1/16 x 2 3/8	2.25
TCS48	40-40	150	1 1/16 x 2 3/8	2.35
TCS505	70-70	175	1 1/16 x 3 7/8	3.60
TCS52	10-10	250	1 3/16 x 2 3/8	2.10
TCS55	20-20	250	1 1/16 x 2 3/8	2.35
TCS61	8-8	350	1 3/16 x 2 3/8	2.10
TCS64	15-15	350	1 1/16 x 2 3/8	2.75
TCS71	8-8	450	1 1/16 x 2 3/8	2.15
TCS74	15-15	450	1 1/16 x 2 3/8	2.75
TCS75	20-20	450	1 1/16 x 3 1/2	3.15



### FP-WP Dry Electrolytic Capacitors

For use at ambient temperatures up to 85°C in filter and by-pass circuits in radio, TV and industrial electronics. Sealed in aluminum cans with twist-prong, lug construction. FP types have Mallory exclusive Fabricated Plates. WP have special etched plates. All feature low RF impedance and minimum coupling between sections. Separate anode terminals. Case is common cathode. For hardware, see page 11, Mallory Capacitors Section, of this catalog.

#### FP-WP—Singles

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
WP510	.5Z/15750 cycles	3V	1 x 2	\$2.20
WP540	1.0Z/60 cycles	3V	1 3/8 x 3	4.00
WP505	10Z/30 cycles	3V	3/8 x 2	2.00
WP032*	3000	10	1 3/8 x 2 1/2	3.20
WP039	1000	15	1 x 2 1/2	2.55
WP041	2000	15	1 3/8 x 2 1/2	3.45
WP042	3000	15	1 3/8 x 3	3.50
WP052	40	25	3/8 x 2	1.35
WP055	100	25	1 x 2	1.60
WP057	500	25	1 x 2 1/2	2.55
WP059	1000	25	1 3/8 x 2	3.55
WP063	4	50	3/8 x 2	1.25
WP065	500	50	1 3/8 x 2	2.65
WP068	1500	50	1 3/8 x 4	3.85
FP113	30	150	3/8 x 2	1.55
FP115	50	150	1 x 2	1.65
FP116	100	150	1 x 2 1/2	2.00
FP117	150	150	1 x 3	2.15
FP119	300	150	1 3/8 x 3	2.80
FP125	15	250	3/8 x 2	1.55
FP135	30	350	1 x 2	1.90
FP137	50	350	1 x 2 1/2	2.10
FP138	80	350	1 3/8 x 2 1/2	2.85
FP140	125	350	1 3/8 x 3	3.95
FP142	10	450	3/8 x 2	1.55
FP143	15	450	1 x 2	1.70
FP144	20	450	1 x 2	1.80
FP145	30	450	1 x 2 1/2	1.95
FP146	40	450	1 x 2 1/2	2.05
FP149	80	450	1 3/8 x 2 1/2	3.05

#### FP-WP—Duals

Catalog Number	Capacity Mfd.	Working Volts	Size	List Price
WP204	250-1000	10-6	1 3/8 x 2	\$2.85
WP205	.5Z-2.5Z/15750C-60C	12-6V	1 3/8 x 3	3.60
WP200	1000-1000	15-15	1 3/8 x 2 1/2	4.40
WP206	50-150	150-25	1 x 2 1/2	2.20
FP208	20-20	150-150	1 x 2	1.70
FP211	30-30	150-150	1 x 2	1.85
FP210	40-20	150-150	1 x 2	1.80
FP212	40-40	150-150	1 x 2 1/2	1.90
FP213	50-30	150-150	1 x 2 1/2	2.00
FP214	50-50	150-150	1 x 2 1/2	2.15
FP214.5	75-75	150-150	1 3/8 x 2	2.60
FP216	80-40	150-150	1 x 3	2.30
FP215	125-100	150-150	1 3/8 x 2 1/2	3.40
FP216.3	200-150	150-150	1 3/8 x 4	3.75
FP216.4	200-200	150-150	1 3/8 x 4	4.00
FP217	20-20	250-250	1 x 2	1.90
FP221	40-40	250-250	1 x 3	2.50
FP217.7	150-150	250-250	1 3/8 x 4	5.15
FP218	120-20	300-300	1 3/8 x 3	4.00
FP228*	30-30	350-300	1 x 3	2.65
FP225	15-15	350-350	1 x 2	2.25
FP227	20-20	350-350	1 x 2 1/2	2.30
FP227.3	30-30	350-350	1 x 3	2.90
FP227.6	80-80	350-350	1 3/8 x 4	4.70
FP229	35-100	400-50	1 x 3	2.60
FP229.3	75-75	400-400	1 3/8 x 4	4.85
FP229.6	50-100	450-50	1 3/8 x 2 1/2	3.00

See next page for additional values

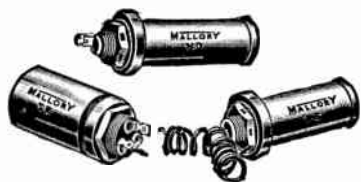
\* See Table of Recommended Replacements for Modified and Discontinued FP and WP Types, page 11, Mallory Capacitors section, this catalog.



# DRY ELECTROLYTIC CAPACITORS

**MALLORY**  
P. R. MALLORY & CO. INC.

P. R. MALLORY & CO., INC. · INDIANAPOLIS



## Aluminum Can Threaded Neck Dry Electrolytic Capacitors

For replacement of wet and dry electrolytic capacitors. RS, RM and HS have flexible, insulated leads. HD and SR have solder lug anode connections; cathodes are connected to case.

Catalog Number	Capacity Mfd.	Volts DC	Size Dia. Length	List Price
RS207	30	250	1 x 3 1/2	\$2.05
RS212	8	450	1 1/2 x 3	2.20
RS213	8	450	1 x 2 3/4	2.20
RS214	12	450	1 1/2 x 3	2.40
RS215	12	450	1 x 2 3/4	2.40
RS216	16	450	1 x 3 1/2	2.45
RS217	16	450	1 1/2 x 3	2.45
RS218	20	450	1 1/2 x 3	2.70
RS219	30	450	1 1/2 x 3	3.00
RS223	30	450	1 1/2 x 3	3.00
RS224	40	450	1 1/2 x 3	3.15
HD684	10	450	1 x 3	2.30
HS691	4	600	1 1/2 x 4	2.95
HS693	8	600	1 1/2 x 4	3.15
HS696	20	600	1 1/2 x 4 1/4	3.85
RM262	8-8	450	1 1/2 x 3	3.00
RM265	8-8-8	450	1 1/2 x 4 1/4	5.00
SR638	8-8	450	1 1/2 x 2 3/4	3.00
SR645	8-8	450	1 1/2 x 2 3/4	3.00

## Cardboard Tubular Dry Electrolytic Capacitors (Continued from Preceding Column)

Catalog Number	Capacity Mfd.	Volts DC	Size D L	List Price
<b>Triple Common Negative</b>				
3N527*	20-20-20	150-150-25	1 1/8 x 2 1/4	\$2.05
3N533*	30-30-20	150-150-25	1 x 2 3/4	2.20
3N529	50-30-200	150-150-25	1 x 2 3/4	2.75
TN125*	20-10-10	150-150-150	3/8 x 2 3/4	2.00
3N528	20-20-20	150-150-150	1 3/8 x 2 3/4	2.15
TN129†	40-20-20	150-150-150	1 3/8 x 2 3/4	2.25
3N534	30-30-30	150-150-150	3/8 x 2 3/4	2.35
3N536	40-40-40	150-150-150	1 x 3	2.45
3N538	80-40-20	150-150-150	1 x 3 3/4	2.75
3N535	40-30-40	350-250-150	1 1/8 x 3 3/4	3.30
3N537	30-50-100	450-150-25	1 1/4 x 3 3/4	3.30
3N539	30-30-30	450-350-250	1 1/8 x 3 3/4	3.75
3N541	40-20-10	450-450-450	1 1/8 x 3 3/4	3.55
<b>Triple Separate Section</b>				
3S579†	8-8-20	450-450-25	1 3/8 x 2 3/4	\$2.65
3S584†	8-8-8	450-450-450	1 3/8 x 2 3/4	2.85
<b>Quad Common Negative</b>				
4N723	10-10-10-10	450-450-450-50	1 1/8 x 3 3/4	\$3.60
4N727	10-10-10-10	450-450-450-450	1 1/8 x 3 3/4	3.25
<b>Quad Separate Section</b>				
4S715†	16-16-10-10	150-150-25-25	1 1/8 x 2 3/4	\$3.25

† Has bare tinned leads out both ends.



## Cardboard Tubular Dry Electrolytic Capacitors

Economical, cardboard tube, wax-sealed filter and by-pass units. Have flexible, insulated leads out one end except those marked (\*) which have negative leads out opposite ends. All units (except TN111) are supplied with mounting strap; in addition all units marked (†) have special feet for vertical mounting.

Catalog Number	Capacity Mfd.	Volts DC	Size D L	List Price
<b>Single Section</b>				
ST595†	8	450	1 3/8 x 2 1/2	\$1.25
ST597†	16	450	7/8 x 2 3/4	1.40
ST598†	20	450	1 x 2 3/4	1.55
ST599†	30	450	1 x 3 1/4	1.70
ST645	60	450	1 3/8 x 3 3/4	2.35
ST845	80	450	1 3/8 x 4 3/4	2.80
<b>Dual Common Negative</b>				
TN111‡	10-10	25-25	5/8 x 1 3/4	\$1.40
2N501	250-1000	10-6	1 1/4 x 2 3/4	2.80
2N509*	20-20	150-150	3/8 x 2 1/4	1.65
2N513*	30-30	150-150	3/8 x 2 3/4	1.80
2N514*	40-20	150-150	3/8 x 2 1/2	1.75
2N511*	40-40	150-150	1 5/8 x 2 1/2	1.85
2N520*	50-30	150-150	1 5/8 x 2 3/4	1.95
2N521†	50-50	150-150	1 x 2 1/2	2.10
2N523	100-100	150-150	1 1/8 x 3 3/4	3.20
2N525	30-30	200-200	1 x 2 3/4	2.20
2N527	50-75	250-50	1 1/4 x 2 3/4	2.40
2N529	100-150	250-50	1 1/8 x 3 3/4	3.60
2N518*	8-8	250-250	3/8 x 2 1/4	1.60
2N531	40-40	300-300	1 1/8 x 3 3/4	2.95
2N533	40-50	450-50	1 1/8 x 3 3/4	2.50
2N535	30-60	450-300	1 1/4 x 3 3/4	3.20
2N518†	8-8	450-450	1 5/8 x 2 3/4	1.70
2N537	40-40	450-450	1 1/8 x 3 3/4	3.40
<b>Dual Separate Section</b>				
2S566†	30-30	150-150	1 x 2 3/4	\$2.25
2S567†	8-8	450-450	1 1/8 x 2 3/4	2.15
2S569†	16-16	450-450	1 1/4 x 3 3/4	2.80

## Plastic Cased High Capacity and Non-Polarized Electrolytic Capacitors



HC types are for use with dry disc rectifiers, in such applications as; movie equipment and electric fence power supplies. NP types are non-polarized for intermittent AC service.

Catalog Number	Capacity Mfd.	DC Wkg. Volts	Size D L	List Price
HC1020	2000	10	1 7/8 x 3 3/4	\$5.15
HC1040	4000	10	1 13/16 x 3 3/4	7.25
HC1060A*	6000	10	1 1/2 x 4 1/4	7.50
HC1520	2000	15	1 7/8 x 3 3/4	5.80
HC1540	4000	15	1 13/16 x 3 3/4	8.10
HC1560	6000	15	1 13/16 x 4 3/4	10.00
HC2510	1000	25	1 7/8 x 3 3/4	4.85
HC2520	2000	25	1 13/16 x 3 3/4	7.20
HC2540	4000	25	1 13/16 x 4 3/4	9.85
HC5005	500	50	1 7/8 x 3 3/4	4.80
HC5010	1000	50	1 13/16 x 3 3/4	7.00
HC5020	2000	50	1 13/16 x 4 3/4	9.10
HC15010	1000	150	2 1/8 x 4 3/4	10.50
HC20005	500	200	2 1/8 x 4 3/4	9.80
HC45003**	300	450	2 1/8 x 4 3/4	12.00
NP1225	200	125	1 13/16 x 4 3/4	5.00
NP1235	300	125	2 1/8 x 4 3/4	5.75
NP1255	500	125	2 1/8 x 4 3/4	7.50
NP3003	15	300	1 7/8 x 3 3/4	3.75
NP3014	100	300	1 13/16 x 4 3/4	6.75
NP3025	200	300	2 1/8 x 4 3/4	8.50
NP4505	50	450	1 13/16 x 3 3/4	7.50
NP4510	100	450	2 1/8 x 4 3/4	11.60

\* This unit in Aluminum Case

\*\* Designed for Photoflash Application



## Capacitor Selector

For determining correct capacity to use in making replacements of defective motor starting capacitors which have lost their identity. For checking capacity ranges from 25 to 645 mfd. 110-125 VAC.

Catalog No. MSS-101 \$15.00 Net



# DRY ELECTROLYTIC AND PLASTIC TUBULAR CAPACITORS

P. R. MALLORY & CO., INC. · INDIANAPOLIS



## Bathtub Dry Electrolytic Capacitors



Hermetically sealed for marine, aircraft and geophysical service. Will operate, without derating, from -40°F to 185°F. Have mounting flanges and solder lugs.

Catalog Number	Cap. Mfd.	DC Wkg. Volts	Size*				List Price
			H	W	L	Y	
BS26	25	25	3/4 x 1	x 1 3/4	x 2 1/2	\$4.50	
BS29	50	25	3/4 x 1	x 1 3/4	x 2 1/2	4.60	
BS36	25	50	3/4 x 1	x 1 3/4	x 2 1/2	4.55	
BS39	50	50	3/4 x 1	x 1 3/4	x 2 1/2	4.70	
BS45	20	150	7/8 x 1	x 1 3/4	x 2 1/2	4.70	
BS48	40	150	1 x 1 1/4	x 1 3/4	x 2 1/2	4.85	
BS62	10	300	7/8 x 1	x 1 3/4	x 2 1/2	4.75	
BS65	20	300	1 1/8 x 1 1/4	x 1 3/4	x 2 1/2	4.90	
BS81	8	500	1 x 1 3/4	x 2	x 2 3/4	5.75	
BS91	8	600	1 x 1 3/4	x 2	x 2 3/4	5.85	

\*H—Height; W—Width; L—Length; Y—Mounting Centers

## Plascap®—Plastic Tubular Paper Capacitors



Have moisture-proof, plastic cases. Mallocene-sealed leads, low power-factor and high insulation resistance. For use in bypass, coupling and auto set buffer circuits.

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
<b>400 Volts DC</b>			
PT411	.01	3/8 x 1	\$0.25
PT412	.02	3/8 x 1 1/4	
PT4122	.022	3/8 x 1 1/4	
PT413	.03	7/16 x 1 1/4	
PT4133	.033	7/16 x 1 1/4	
PT4147	.047	1/2 x 1 1/4	
PT415	.05	1/2 x 1 1/4	
PT401	.1	1/2 x 1 1/2	
PT4025	.25	5/8 x 1 3/8	
PT405	.5	3/4 x 2 1/4	
PT41	1.0	1 3/16 x 2 1/16	

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
<b>600 Volts DC</b>			
PT621	.001	5/16 x 1	\$0.25
PT622	.002	5/16 x 1	
PT6222	.0022	5/16 x 1	
PT623	.003	5/16 x 1	
PT6233	.0033	5/16 x 1	
PT624	.004	3/8 x 1	
PT6247	.0047	3/8 x 1	
PT625	.005	3/8 x 1	
PT626	.006	3/8 x 1	
PT611	.01	3/8 x 1 1/4	
PT612	.02	7/16 x 1 1/4	
PT6122	.022	7/16 x 1 1/4	
PT613	.03	1/2 x 1 1/4	
PT6133	.033	1/2 x 1 1/4	
PT614	.04	1/2 x 1 1/2	
PT6147	.047	1/2 x 1 1/2	
PT615	.05	1/2 x 1 1/2	
PT616	.06	1/2 x 1 1/2	
PT601	.1	3/4 x 1 3/8	
PT6025	.25	3/4 x 2 1/4	
PT605	.5	1 3/16 x 2 1/16	
PT61	1.0	1 x 3	

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
<b>1600 Volts DC</b>			
PT1621	.001	3/8 x 1	\$0.55
PT1622	.002	3/8 x 1	
PT16222	.0022	3/8 x 1 1/4	
PT1623	.003	3/8 x 1 1/4	
PT16233	.0033	3/8 x 1 1/4	
PT1624	.004	3/8 x 1 1/4	
PT16247	.0047	3/8 x 1 1/4	
PT1625	.005	3/8 x 1 1/4	
PT1626	.006	7/16 x 1 1/4	
PT1627	.007	7/16 x 1 1/4	
PT16275	.0075	7/16 x 1 1/4	
PT1628	.008	7/16 x 1 1/4	
PT1611	.01	1/2 x 1 1/4	
PT16115	.015	1/2 x 1 1/4	
PT1612	.02	1/2 x 1 1/2	
PT16122	.022	1/2 x 1 1/2	
PT1613	.03	5/8 x 1 3/8	
PT1614	.04	5/8 x 1 3/8	
PT1615	.05	5/8 x 1 3/8	
PTD16115	.015-.015	5/8 x 1 3/8	

## AC Motor Starting Capacitors

PS type—round, moisture-proof, plastic case. For mounting accessories, see page 11, Mallory Capacitors section, this catalog.



Catalog Number	Mfd. New	Rating Old	Volts AC	Size		List Price
				D	L	
PS2010*	20	20-24	110	1 7/16	x 2 3/4	\$2.05
PS2610*	26	26-30	110	1 7/16	x 2 3/4	2.10
PS3210*	32	32-36	110	1 7/16	x 2 3/4	2.10
PS3810*	38	38-42	110	1 7/16	x 2 3/4	2.10
PS4310*	43	43-48	110	1 7/16	x 2 3/4	2.10
PS5310	53	53-60	110	1 7/16	x 3 3/8	2.15
PS6410	64	64-72	110	1 7/16	x 3 3/8	2.25
PS7010	70	70-78	110	1 7/16	x 3 3/8	2.40
PS7510	75	75-84	110	1 7/16	x 3 3/8	2.55
PS8610	86	86-96	110	1 7/16	x 3 3/8	2.65
PS9710	97	97-107	110	1 7/16	x 3 3/8	2.80
PS10810	108	108-120	110	1 7/16	x 3 3/8	2.85
PS12410	124	124-138	110	1 7/16	x 3 3/8	2.95
PS13010	130	130-157	110	1 7/16	x 3 3/8	2.95
PS14510	145	145-152	110	1 7/16	x 3 3/8	3.20
PS16110	161	161-180	110	1 7/16	x 3 3/8	3.25
PS19410	194	194-216	110	1 7/16	x 3 3/8	3.90
PS20010*	200	200-220	110	1 7/16	x 4 3/8	3.90
PS21610	216	216-240	110	1 7/16	x 3 3/8	4.05
PS24310	243	243-270	110	1 7/16	x 3 3/8	4.70
PS27010	270	270-300	110	1 7/16	x 4 3/8	4.75
PS32410	324	324-360	110	1 7/16	x 4 3/8	5.40
PS34010	340	340-412	110	1 7/16	x 4 3/8	5.55
PS37810	378	378-420	110	2 1/16	x 4 3/8	6.00
PS40010	400	400-450	110	2 1/16	x 4 3/8	6.05
PS43010	430	430-485	110	2 1/16	x 4 3/8	6.95
PS48510	485	485-540	110	2 1/16	x 4 3/8	7.80
PS2520	25	25-30	220	1 13/16	x 3 3/8	4.60
PS3220	32	32-36	220	1 13/16	x 3 3/8	4.90
PS3620	38	38-42	220	1 13/16	x 3 3/8	5.30
PS4320	43	43-48	220	1 13/16	x 3 3/8	5.55
PS5320	53	53-60	220	1 13/16	x 3 3/8	5.75
PS6420	64	64-72	220	1 13/16	x 4 3/8	6.75
PS7020	70	70-78	220	2 1/16	x 4 3/8	7.00
PS7520	75	75-84	220	2 1/16	x 4 3/8	7.35
PS8620	86	86-96	220	2 1/16	x 4 3/8	7.65

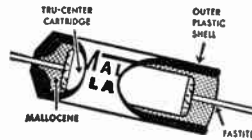
\* Cases will not accommodate PL caps and HB brackets.

## AC Motor Running Capacitors

Have sealed metal cases. Non-inflammable oil impregnation. All welded terminals. For continuous AC duty. Not suitable for DC.



Catalog Number	Cap. Mfd.	Volts AC	Size Dia. Length	List Price
RP-3301	1	330	1 3/8 x 1 1/16	\$4.20
RP-3302	2	330	1 3/8 x 3 3/16	
RP-3303	3	330	2 x 2 7/8	
RP-3304	4	330	2 x 2 1/16	
RP-3305	5	330	2 x 3 3/8	
RP-3306	6	330	2 x 3 3/8	
RP-3307	7	330	2 x 4 3/8	
RP-3308	8	330	2 1/8 x 5 3/8	
RP-3310	10	330	2 1/2 x 4 3/8	
RP-3312	12	330	2 3/4 x 5 3/8	
RP-3315	15	330	2 1/2 x 6 1/4	



## The Secret of Malloccene†

There is only one logical way to build a molded type plastic tubular capacitor . . . with a plastic that sticks to the metal leads! But with ordinary construction methods, this has been impossible for such a plastic would stick to the mold!

Mallory engineers refused to put an inferior plastic tubular on the market. Instead, they set in motion the vast Mallory research facilities and called in top consulting specialists. The final result . . . Malloccene, the one perfect plastic for capacitors, exclusive with the Mallory Plascap!

Here's the secret. First, an extremely tough plastic shell is molded. The cartridge is carefully centered within this shell. Then, the cartridge is surrounded with Malloccene! When Malloccene hardens, it actually becomes part of the outer shell, and sticks to the metal leads! Thus, Malloccene provides a solid plastic tubular capacitor with the first moisture-proof construction!

† Trademark

# Paper, Oil, Wax Impregnated and Wax Filled Capacitors

**P. R. MALLORY & CO., INC.**  
**MALLORY**

P. R. MALLORY & CO., INC. · INDIANAPOLIS



## Wax-Impregnated, Cardboard Cased Tubular Paper Capacitors

For use in by-pass and coupling circuits where temperature is not a problem.

Cap. Mfd.	400 Volts DC			600 Volts DC			1000 Volts DC			*Type TP Size Chart		
	Catalog Number	S*	List Price	Catalog Number	S*	List Price	Catalog Number	S*	List Price	S	Size Dia. Length	
.0001				TP401	1	\$0.23						
.00025				TP402	1	.23						
.0005				TP403	1	.23						
.001				TP404	19	.23	TP455	19	\$0.45			
.002				TP405	19	.23	TP456	19	.45			
.003				TP406	19	.23	TP457	20	.45	1	1 1/2 x 1	
.004				TP407	19	.23	TP458	20	.45	2	7/16 x 1	
.005				TP408	19	.23	TP459	3	.45	3	7/16 x 1 1/4	
.006				TP409	19	.23	TP460	3	.45	4	1/2 x 1 1/8	
.007				TP445	2	.27	TP461	5	.45	5	1/2 x 1 1/4	
.008				TP450	2	.27	TP462	5	.45	6	9/16 x 1 1/4	
.01	TP421	19	\$0.23	TP410	2	.27	TP434	3	.45	7	1/2 x 1 1/2	
.015	TP400	2	.23	TP411	3	.27	TP463	7	.45	8	17/32 x 1 1/2	
.02	TP423	3	.23	TP412	5	.27	TP435	8	.45	9	5/8 x 1 1/8	
.025				TP451	5	.32				10	5/8 x 1 1/8	
.03	TP424	5	.27	TP413	6	.32	TP464	9	.45	11	1 1/16 x 1 1/8	
.04	TP425	5	.27	TP414	8	.32	TP465	9	.54	12	3/4 x 1 1/8	
.05	TP426	7	.27	TP415	8	.36	TP437	10	.54	13	13/16 x 1 1/8	
.06	TP427	7	.32	TP416	8	.36	TP466	10	.54	14	7/8 x 1 1/8	
.075				TP452	9	.41	TP467	11	.63	15	7/8 x 2	
.1	TP428	8	.32	TP418	9	.41	TP439	12	.68	16	1 x 2 1/4	
.15				TP417	11	.45				17	1 x 2 1/2	
.2	TP429	10	.36	TP419	12	.50				18	1 1/4 x 2 1/2	
.25	TP430	11	.41	TP420	13	.50				19	.390 x 1	
.3	TP444	11	.45	TP453	14	.59				20	.390 x 1 1/4	
.4	TP442	12	.50	TP454	15	.68						
.5	TP431	14	.54	TP432	16	.72						
1.0	TP422	17	.81	TP433	18	1.13						



## Metal Cased Oil Impregnated Paper Capacitors

For vibrator buffer, coupling and other electronic circuits where highest quality, tubular-type capacitors are required. Mineral oil-impregnated, hermetically sealed, aluminum-cased tubulars with external insulating sleeves. 2 3/4" leads. For operation at 85°C.

Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia. Length	List Price
OT101	.01	600	5/8 x 1 1/8	\$0.95
OT103	.02	600	5/8 x 1 1/8	1.05
OT106	.05	600	1 1/8 x 1 3/8	1.10
OT110	.1	600	1 1/8 x 1 1/2	1.25
OT113	.25	600	5/8 x 2 1/8	1.70
OT116	.5	600	1 1/8 x 2 1/4	2.20
OT301	.01	1000	1 1/8 x 1 3/8	1.10
OT303	.02	1000	1 1/8 x 1 3/8	1.20
OT306	.05	1000	1 1/8 x 2 1/8	1.30
OT310	.1	1000	1 1/8 x 2 1/8	1.50
OT370	.002	1600	5/8 x 1 1/8	1.20
OT377	.003	1600	5/8 x 1 1/8	1.20
OT371	.005	1600	5/8 x 1 3/8	1.20
OT372	.008	1600	5/8 x 1 3/8	1.20
OT373	.01	1600	1 1/8 x 1 1/4	1.25
OT375	.015	1600	1 1/8 x 1 1/4	1.25
OT376	.02	1600	1 1/8 x 1 1/4	1.30
OT378	.03	1600	1 1/8 x 2 3/8	1.30
OT379	.04	1600	1 1/8 x 2 3/8	1.30
OT380	.05	1600	1 1/8 x 2 7/8	1.40
OT458	.0025	2000	1 1/8 x 1 3/8	1.25
OT459	.005	2000	1 1/8 x 1 1/2	1.25
OT460	.0075	2000	1 1/8 x 1 1/2	1.25
OT461	.01	2000	1 1/8 x 1 1/2	1.25
OT462	.0125	2000	1 1/8 x 1 3/8	1.30
OT463	.015	2000	1 1/8 x 1 3/8	1.30
OT464	.02	2000	1 1/8 x 2	1.35
OT465	.03	2000	3/4 x 2	1.40
OT466	.04	2000	3/4 x 2 1/8	1.40
OT467	.05	2000	1 1/8 x 2 1/8	1.45



## Oil Impregnated Cardboard Cased Tubular Paper Capacitors

Ideal for auto set buffer circuits.

Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia. Length	List Price
OW340	.0005	1600	1/2 x 1 1/8	\$0.55
OW341	.001	1600	1/2 x 1 1/8	.55
OW351	.002	1600	5/16 x 1 1/8	.55
OW342	.003	1600	5/16 x 1 1/8	.55
OW343	.004	1600	5/16 x 1 1/8	.55
OW332	.005	1600	5/16 x 1 1/8	.55
OW344	.006	1600	5/16 x 1 1/8	.55
OW345	.007	1600	5/16 x 1 1/8	.55
OW346	.0075	1600	5/16 x 1 1/8	.60
OW348	.008	1600	5/16 x 1 1/8	.60
OW333	.01	1600	5/16 x 1 1/8	.60
OW334	.015	1600	1 1/8 x 1 1/8	.60
OW335	.02	1600	3/8 x 1 1/8	.60
OW336	.03	1600	3/8 x 2	.70
OW337	.04	1600	1 1/8 x 2	.70
OW338	.05	1600	7/8 x 2	.70
OW339	.05	1600	7/8 x 2	.70
OWD335*	.05	1600	3/4 x 2	.80
	.015			
OW635*	.0005	6000	5/16 x 1 3/8	1.10
OW621*	.001	6000	1 1/8 x 1 3/8	1.10
OW622*	.002	6000	7/32 x 1 3/8	1.10
OW623*	.003	6000	1 x 1 3/8	1.15
OW625*	.005	6000	7/32 x 2 1/2	1.15
OW6275*	.0075	6000	1 1/8 x 2 1/2	1.20
OW611*	.01	6000	1 1/2 x 2 1/2	1.20
OW612*	.02	6000	1 3/4 x 3	1.25
OW613*	.03	6000	1 1/4 x 3 3/4	1.25
OW615*	.05	6000	1 3/8 x 4 3/8	1.75

\* Packaged in Individual Display Carton with Mounting Strap. All others packed 25, 50 or 100 capacitors per display carton.



## Special Vibrator Buffer Capacitors

Intended for replacement of original vibrator buffer and hash suppressor capacitors of similar design.

Catalog Number	Capacity Mfd.	Working Volts DC	W	Size* L H	List Price
VB470	.0075	1600	5/8	5/8 x 5/8 x 7/8	\$1.10
VB471	.01	1600	5/8	5/8 x 5/8 x 7/8	1.15
VD491	.0008	1600	5/8	5/8 x 5/8 x 1 1/8	.65
	.0008				
VO480	.5	120	7/8	3/4 x 3/4 x 2 1/2	.65

\* H—Height; W—Width; L—Length.

**Miniature Metal Tubular Capacitors**

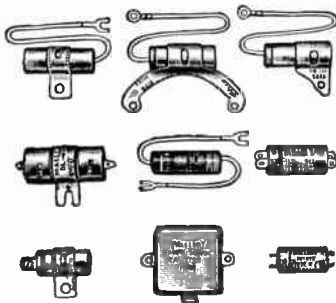


For hearing aid, personal radio, and other uses where very small size tubulars are desirable. Wax impregnated (100 volt units) or oil impregnated (600 volt units) tubular capacitors in minute hermetically sealed metal tubes with insulating sleeve. Tinned copper leads.

Catalog Number	Capacity Mfd.	Working Volts DC	Size Dia. Length	List Price
MT105*	.001	100	3/32 x 1/2	<b>\$0.90</b>
MT107*	.002	100	3/32 x 1/2	<b>.90</b>
MT115*	.005	100	3/32 x 1/2	<b>.90</b>
MT125*	.01	100	1/8 x 1/2	<b>.90</b>
MT127*	.02	100	1/8 x 1 1/16	<b>.95</b>
MT135*	.05	100	1/8 x 1 1/16	<b>.95</b>
MT145*	.1	100	7/16 x 1 3/4	<b>1.00</b>
MT605†	.001	600	3/32 x 13/16	<b>.95</b>
MT607†	.002	600	3/32 x 15/16	<b>.95</b>
MT615†	.005	600	3/32 x 15/16	<b>.95</b>
MT625†	.01	600	2 1/4 x 1 9/16	<b>.95</b>

\* Wax impregnated  
† Oil impregnated

**Automotive Noise Suppression Capacitors**



For suppressing radio interference emanating from auto generators, oil gauges, ammeters and other automotive, aircraft or marine equipment.

- AM—For ammeter and gauge suppression.
- FM—For Ford generator suppression.
- DL—For domelight suppression.
- RF—For vibrator hash suppression.
- CA—For general suppression in aircraft and marine applications.

Top Row: AG Types; FM442; FM441  
Center Row: DL445X; AM454; RF482  
Bottom Row: AS types; CA275X; RF481

AS, AG—For generator, ammeter and contact spark suppression.

Wax impregnated cartridges assembled in various style housings. Type AG is hermetically sealed, provides low impedance and is ideal for extreme climatic conditions.

Catalog Number	Cap. Mfd.	Working Volts DC	Size D L	Signal Corps No.	List Price
RF481	.5	50	3/4 x 1 3/4		<b>\$0.90</b>
RF482	1.0	50	7/8 x 1 3/4		<b>1.15</b>
CA275X	4.0	50	2 x 2 x 1		<b>3.00</b>
AS125†	.01	100	.675 x 1 1/16	CA-432	<b>1.20</b>
AG442*	.05	100	3/8 x 1 1/4		<b>.80</b>
AG443	.05	100	7/16 x 1 3/16		<b>1.00</b>
AS145†	.1	100	.675 x 1 3/8	CA-442	<b>1.40</b>
AS165†	.25	100	3/4 x 1 1/2	CA-452	<b>1.50</b>
AS185†	.5	100	1 x 1 1/2	CA-462	<b>1.75</b>
FM441	.5	100	.675 x 1 7/8		<b>.85</b>
RF480	.5	100	1 3/16 x 1 3/16		<b>.80</b>
AG450	.5-.5	100	7/8 x 2		<b>1.50</b>
FM442	.5	160	.675 x 1 3/8		<b>.65</b>
AG444	.25	200	3/8 x 1 3/4		<b>.60</b>
DL445X	.4	200	1 x 2 3/8		<b>2.25</b>
AM454	.5	200	1 1/16 x 2		<b>.65</b>
AG451	.5	200	3/4 x 2		<b>.65</b>
AG453†	.5	200	3/4 x 2		<b>1.50</b>
AG452	1.0	200	1 x 2 3/16		<b>.90</b>
AS525†	.01	500 AC-DC	.675 x 1	CA-472	<b>1.35</b>
AS545†	.1	500 AC-DC	1 x 2 1/2	CA-482	<b>1.60</b>
AS565†	.25	500 AC-DC	1 x 2 1/2	CA-502	<b>2.00</b>

\* For Midget Aircraft Motors.  
† Has shielded lead.  
‡ Also marked with Signal Corps Number as shown.

**Steel-Cased, Oil-Filled Capacitors**



For general use in aircraft, marine, geophysical and industrial electronic equipment where extreme dependability under severe conditions

is desired. Oil impregnated, single, dual, and triple section units housed in rugged, hermetically sealed, hot-tinned steel cases. Single sections have two terminals. Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common ground to case. All terminals protrude in a row on one long side of case.

Catalog Number	Cap. Mfd.	Working Volts DC	Size*				List Price
			H	W	L	X	
CB403	.25	400	3/4 x 7/8 x 1 3/4	x 2 1/2		<b>\$2.25</b>	
CB404	.5	400	3/4 x 1 x 1 3/4	x 2 1/2		<b>2.40</b>	
CB405	1.0	400	3/4 x 1 3/4 x 2	x 2 3/4		<b>2.85</b>	
CB406	2.0	400	1 1/8 x 2 x 2	x 2 3/4		<b>3.60</b>	
CB602	.1	600	3/4 x 7/8 x 1 3/4	x 2 1/2		<b>2.65</b>	
CB603	.25	600	3/4 x 1 x 1 3/4	x 2 1/2		<b>2.80</b>	
CB604	.5	600	3/4 x 1 1/4 x 1 3/4	x 2 1/2		<b>3.00</b>	
CB605	1.0	600	3/4 x 1 3/4 x 2	x 2 3/4		<b>3.40</b>	
CB1002	.1	1000	3/4 x 7/8 x 1 3/4	x 2 1/2		<b>2.85</b>	
CB1003	.25	1000	3/4 x 1 1/4 x 1 3/4	x 2 1/2		<b>2.95</b>	
CB1004	.5	1000	3/4 x 1 3/4 x 2	x 2 3/4		<b>3.20</b>	
CBD403	.25-.25	400	3/4 x 1 1/4 x 1 3/4	x 2 1/2		<b>3.25</b>	
CBD404	.5-.5	400	3/4 x 1 3/4 x 2	x 2 3/4		<b>3.75</b>	
CBD602	.1-.1	600	3/4 x 7/8 x 1 3/4	x 2 1/2		<b>3.35</b>	
CBT403	3X .25	400	3/4 x 1 3/4 x 2	x 2 3/4		<b>4.00</b>	
CBT404	3X .5	400	1 x 1 3/4 x 2	x 2 3/4		<b>4.75</b>	
CBT602	3X .1	600	3/4 x 1 x 1 3/4	x 2 1/2		<b>3.80</b>	

\* H—Height; W—Width; L—Length; X—Mounting Centers.

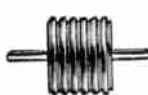
**Uncased Wax Impregnated Capacitors**

Designed for replacement of defective sections in large paper capacitor blocks.

Catalog Number	Cap. Mfd.	Working Volts DC	Size*			List Price
			W	L	H	
UB351	1	200	1/2 x 1 3/8	x 2 1/2		<b>\$1.00</b>
UB352	2	200	3/4 x 1 1/16	x 2 1/2		<b>1.50</b>
UB353	4	200	1 1/16 x 2 1/16	x 2 1/2		<b>2.60</b>
UB364	1	400	7/16 x 1 3/8	x 2 1/2		<b>1.15</b>
UB355	2	400	1 x 1 3/4	x 2 1/2		<b>1.80</b>
UB356	4	400	1 1/16 x 1 3/8	x 4 3/4		<b>3.00</b>
UB357	.5	600	1/2 x 1 3/8	x 2 1/2		<b>1.05</b>
UB358	1	600	3/4 x 1 1/16	x 2 1/2		<b>1.40</b>
UB359	2	600	1 1/2 x 2 1/16	x 2 1/2		<b>2.10</b>
UB364	4	600	1 1/16 x 1 3/8	x 4 3/4		<b>3.90</b>
UB362	1	1000	1 1/16 x 1 1/2	x 4 3/4		<b>2.30</b>
UB363	2	1000	1 1/2 x 1 3/8	x 4 3/4		<b>3.80</b>

\* W—Width; L—Length; H—Height.

**High Voltage Ceramic Capacitor**



With a rating of 500 micromicrofarads at 20,000 volts, this capacitor may be used as an exact replacement in the high voltage power circuit of many TV sets. A rigid case and built-in corona shield give an added safety factor. The capacitor is supplied with No. 6 copper terminals 1/2" long.

Interconnecting leads may be soldered or clipped to these terminals without damage to the capacitor. Two spring clips furnished for alternate mounting. Overall dimensions are 1 1/8" diameter by 7/8" long, excluding terminals. Each capacitor is packaged in an individual display carton.

Catalog No. HV-20035

List Price \$2.25

# CERAMIC CAPACITORS

P. R. MALLORY & CO. INC.  
**MALLORY**

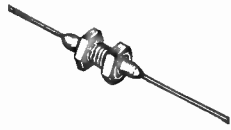
P. R. MALLORY & CO., INC. · INDIANAPOLIS



\*Fig. 1



\*Fig. 2



\*Fig. 3

## Mallory Ceramic Tubular Trimmers

Have high quality, silvered, steatite tubes; screw adjustment; low minimum capacitance and tinned-copper leads. 500 wkg. V. DC.

Cat. No.	mmf	Length of Body	Fig. No.*	List Price
CT565A	.5-3	3/8"	1	\$0.50
CT565	.5-3	3/8"	1	.50
CT551	1-4	3/8"	1	.50
CT552	2-6	3/8"	1	.50

## Stand-Off Ceramic Capacitors

Recommended for the dual purpose of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for VHF and UHF applications because of their low inductance and high resonant frequency.

Cat. No.	Cap. mmfd	Tolerance	Fig. No.*	List Price
SC-521	1000	20%	2	\$1.00
SC-535	500	20%	2	1.00

## Feed-Thru Ceramic Capacitor

A well built, sturdy, feed-thru capacitor used to by-pass R.F. to ground in feed-thru applications. Wire terminals are rugged and will serve as tie points for several connections for supporting other circuit elements, and are sufficiently long for point-to-point wiring.

Cat. No.	Cap. mmfd	Tolerance	Fig. No.*	List Price
FC5215	1500	20%	3	\$1.00

## Ceramic Trimmer Capacitors



Small, electrically stable capacitors for use in high frequency FM-TV circuits. Each capacitor consists of fired silver electrodes on a ceramic rotor and base. They have a 360° rotor with a substantially constant capacity change and are completely sealed from dust and dirt. Single or dual units are available.

Solder type lugs at each end of capacitor.

Two clearance holes are provided in each capacitor for screw mounting.

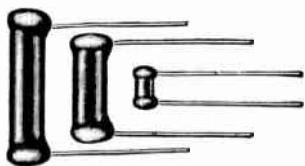
Single Units—Overall size 2 1/2" x 2 7/32" x 3/8" thick.  
Voltage Rating—600 VDC

Catalog No.	Cap. Range (mmfd)	Temperature Coefficient	List Price
ST-5515-Z	1.5 to 7	Zero	\$1.50
ST-553-Z	3 to 12	Zero	1.50
ST-554-N	4 to 30	Neg. 500 Parts/Million/°C.	1.50
ST-557-N	7 to 45	Neg. 500 Parts/Million/°C.	1.50

Dual Units—Overall size 1 1/4" x 3/8" x 3/8" thick.  
Voltage Rating—600 VDC

Catalog No.	Cap. Range Each Section (mmfd)	Temperature Coefficient	List Price
DT-5515-Z	1.5 to 7	Zero	\$2.50
DT-553-Z	3 to 12	Zero	2.50
DT-554-N	4 to 30	Neg. 500 Parts/Million/°C.	2.50
DT-557-N	7 to 45	Neg. 500 Parts/Million/°C.	2.50

## Fixed Ceramic Capacitors



Mallory tubular, fixed, ceramic capacitors are manufactured in 3 types. UC is general purpose type for by-passing, coupling and other applications where a moderate capacitance change with temperature change can be tolerated. ZT is zero temperature type, the nominal capacitance of which remains substantially constant over a temperature variation from -55°C to 85°C. NT is negative temperature type with a negative coefficient of 750 parts/million/degrees C. These capacitors are supplied with a dipped phenolic insulation for protection against moisture and have radially placed bare, tinned-copper leads approximately 1 1/4" long.

Voltage Rating—600VDC.

General Purpose ±20% Tolerance				Zero Temperature Coefficient ±10% Tolerance			
Cat. No.	Capacity (mmfd)	Size*	List Price	Cat. No.	Capacity (mmfd)	Size*	List Price
UC-541	10	1	\$0.25	ZT-5675	.75	1	\$0.75
UC-5412	12	1	.25	ZT-5615	1.5	1	.50
UC-5415	15	1	.25	ZT-563	3	1	.50
UC-5418	18	1	.25	ZT-5633	3.3	1	.50
UC-5422	22	1	.25	ZT-5647	4.7	1	.50
UC-5425	25	1	.25	ZT-565	5	1	.50
UC-5427	27	1	.25	ZT-5668	6.8	1	.50
UC-5433	33	1	.25	ZT-541	10	1	.50
UC-5439	39	1	.25	ZT-542	20	1	.50
UC-5447	47	1	.25	ZT-5425	25	2	.50
UC-545	50	1	.25	ZT-5433	33	2	.50
UC-5456	56	1	.25	ZT-545	50	3	.55
UC-5468	68	1	.25	ZT-5475	75	3	.55
UC-5475	75	1	.25	ZT-531	100	3	.55
UC-531	100	1	.25	ZT-5315	150	4	.60
UC-5312	120	1	.25	ZT-53175	175	4	.60
UC-5315	150	1	.25				
UC-532	200	1	.25				
UC-5322	220	1	.25				
UC-5325	250	1	.25				
UC-5327	270	1	.25				
UC-533	300	1	.25				
UC-5333	330	1	.25				
UC-5339	390	1	.25				
UC-5347	470	1	.25				
UC-535	500	1	.25				
UC-5356	560	1	.25				
UC-5368	680	1	.25				
UC-5375	750	2	.25				
UC-521	1000	2	.25				
UC-5212	1200	2	.25				
UC-5215	1500	2	.25				
UC-5218	1800	3	.25				
UC-522	2000	3	.25				
UC-5222	2200	3	.25				
UC-5225	2500	3	.25				
UC-5227	2700	3	.25				
UC-523	3000	3	.25				
UC-5233	3300	3	.25				
UC-5240	4000	3	.25				
UC-5247	4700	3	.25				
UC-525	5000	3	.30				

Negative Temperature Coefficient 750 Parts/Million/°C ±10% Tolerance			
Cat. No.	Capacity (mmfd)	Size*	List Price
NT-555	5	1	\$0.50
NT-541	10	1	.50
NT-5447	47	2	.50
NT-5475	75	3	.50
NT-531	100	3	.50

* SIZE CHART		
Sizes	Diameter	Length
1	.240	.460
2	.240	.710
3	.315	1.250
4	.415	1.213

# NOISE FILTERS • CERAMIC CAPACITORS • CHOKE COILS

P. R. MALLORY & CO., INC. • INDIANAPOLIS



## Mallory Noise Filters



Type X



Type W



Type Z



Type Z8A



Type LC



Type LB

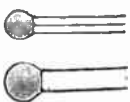
For reducing or eliminating radio frequency interference caused by various electrical appliances.

Type W has dual capacitors housed in metal tubes. Common lead of capacitors connected to case, except WSP type which has shock-limiting capacitor from common lead to case. Designed for direct mounting. Type X has single and dual capacitors housed in round metal case, except X6 which is housed in rectangular plastic case. Designed for plug-in mounting. Type Z—Single and dual inductance-capacity filters housed in round metal container and designed for

insertion between appliance and electrical outlet. Types Z6 and Z8 have terminal for return lead to ground of appliance. Type Z8A designed for direct mounting and is equipped with 5" flexible leads. Type LC—combination inductance-capacity filter housed in rectangular metal case. Equipped with line cord and plug as well as outlet for appliance. Type LB—heavy duty choke-capacity, combination filters sealed in rectangular, standard, heavy-gauge metal cut-out boxes. Equipped with heavy, flexible insulated wire leads for splicing with house or motor wiring.

Catalog Number	Amps	Volts	Size	Intensity or Degree of Interference	Source of Interference	List Price
W7		110-220 AC-DC	7/8 x 2	Light	Compressors, Sewing Machines, Vacuum Cleaners	\$1.35
W9		115-220 AC-DC	1 x 3	Medium	Air-Conditioners, Dental Equipment, Fans, Signs	1.75
W11		115-220 AC-DC	1 1/2 x 3	Severe	Grinders, Thermostats, Motors	2.10
W7SP		115-220 AC-DC	7/8 x 2	Light	Adding Machines, Cash Registers, Dishwashers	1.80
W9SP		115-220 AC-DC	1 x 2 1/2	Medium	Vacuum Cleaners, Washing Machines	2.20
X1	5	110	1 1/2 x 1 1/2	Slight	Heating Pads, Radio Receivers	1.60
X3	5	110-220	1 1/2 x 2 1/8	Medium	Barber Clippers, Hair Dryers (small)	1.80
X5	5	110-220	1 1/2 x 2 1/8	Medium	Floor Polishers, Refrigerators	2.70
X6	15	125 AC-DC	1 1/4 x 2 x 1	Light	Electric Razors, Food Mixers and Grinders	1.60
X6D	15	125 AC-DC	1 1/4 x 2 x 1	Light	Electric Razors, Food Mixers and Grinders	9.60
Z2	3	110-220	1 1/2 x 2 1/8	Medium	Violet Ray, Radio Receivers, Barber Clippers	2.20
Z4	3	110-220	1 1/2 x 2 1/8	Severe	Heating Pads, Humidifiers (plug type)	2.50
Z6	3	110-220	1 1/2 x 3 1/4	Severe	Electric razors, Radio Receivers	3.60
Z8	3	110-220	1 1/2 x 3 1/4	Severe	Sewing Machines, Hair Dryers (small)	3.60
Z8A	3	115-220 AC-DC	1 7/8 x 2 3/4	Severe	Fans (plug type) Vacuum Cleaners	3.60
LC5	5	115-220 AC-DC	2 1/8 x 3 1/8 x 3 3/8	Heavy	Air Conditioners, Cash Registers	11.25
LC10	10	115-220 AC-DC	2 1/8 x 3 1/8 x 3 3/8	Heavy	Dictating Machines, Ironing Machines	15.00
LB10	10	220	6 1/2 x 6 1/2 x 4	Heavy	Sign Flashers, Oil Burners, Neon Signs	17.50
LB20	20	220	10 1/4 x 10 1/4 x 6	Heavy	Stokers, Garbage Grinders, Fans, Compressors	47.50
LB40	40	220	12 x 10 1/4 x 6	Heavy	Motors, Sign Flashers	58.75
NF1-115	1	115 AC—500 DC	1 1/4 x 1 1/4 x 1/2		NF type filters are designed for professional-industrial noise filtering problems. May be used in such applications as; electric motors, lighting systems, make and break relay systems and fans. Should be installed and used exactly as suggested on applicable instruction sheets.	8.90
NF3-220	3	220 AC	2 x 1 1/4 x 1			13.20
NF5-115	5	115 AC—500 DC	2 x 1 1/4 x 1/2			7.30
NF10-115	10	115 AC—500 DC	2 x 2 x 1 1/2			9.75
NF15-220	15	220 AC	2 1/8 x 2 1/2 x 1 1/8			27.10
NF25-230	25	230 AC	2 x 2 x 1 1/4			12.10

## Disc Ceramic Capacitors



Small physical size, rugged construction, and excellent electrical characteristics. These unique capacitors are particularly suitable for replacement of molded mica and paper tubular units. They have dipped phenolic coating for maximum protection from moisture.

600 Working Volts DC

Catalog Number	Capacity (mfd)	Size Dia. Thickness	List Price
DC-521	.001	1 1/32 x 5/32	\$0.25
DC-5215	.0015	1 1/32 x 5/32	.25
DC-522	.002	1 1/32 x 5/32	.30
DC-525	.005	1 1/32 x 1/2	.25
DC-511	.01	3/4 x 1/2	.25
DCD-521	.001-.001	1 1/32 x 5/32	.40
DCD-5215	.0015-.0015	1 1/32 x 5/32	.40
DCD-522	.002-.002	1 1/32 x 5/32	.40
DCD-524	.004-.004	3/4 x 5/32	.45

## Radio Frequency Choke Coil



General purpose radio frequency choke coils for all circuits. Hour-glass wound for low distributed capacity. Housed in compact insulating tubes. Two bare tinned copper wire leads, one at each end.

Catalog Number	Turns	Wire	Inductance Microhenries	Size Dia. Length	List Price
RF581	90	16	25*	1 x 1 1/2	\$0.60
RF582	55	16	12*	1 x 1 1/8	.60
RF583	55	12	12*	1 1/8 x 1 1/8	1.25

\* Measured at 2.5 mc.

## MALLORY PLASCAP!

Plastic tubular capacitor with Moisture-Proof Construction.

For complete description and listing see page 4, Mallory Capacitor section, this catalog.

Mallory Page 8

**Mica Receiver Capacitors**



Designed for use in radio, TV and industrial electronic circuits. Made with carefully selected mica and foil. Phenolic case with RTMA color coding for identification.

Case Size— $\frac{7}{16}$ " x  $2\frac{5}{32}$ " x  $\frac{7}{32}$ "  
with  $\frac{1}{8}$ " Wire Leads

Voltage Rating  
=500 VDC Working—1000 VDC Test

Capacity Mfd.	Standard Mica $\pm 20\%$ Cap. Tolerance		Silver Mica $\pm 10\%$ Cap. Tolerance		Silver Mica $\pm 2\%$ Cap. Tolerance	
	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
.000005	MC205	\$0.25	MCB205	\$0.45		
.00001	MC215	.25	MCB215	.40	MCE215	\$0.50
.000025	MC220	.25	MCB220	.40	MCE220	.50
.00004	MC223	.20	MCB223	.40	MCE223	.50
.00005	MC225	.20	MCB225	.40	MCE225	.50
.000075	MC230	.20	MCB230	.40	MCE230	.50
.0001	MC235	.20	MCB235	.40	MCE235	.50
.00015	MC236	.20	MCB236	.45	MCE236	.55
.0002	MC237	.20	MCB237	.45	MCE237	.55
.00025	MC240	.25	MCB240	.45	MCE240	.55
.0003	MC241	.25	MCB241	.55	MCE241	.70
.0004	MC243	.25	MCB243	.65	MCE243	.80
.0005	MC245	.25	MCB245	.70	MCE245	.85
.0008	MC251	.25	MCB251	.95	MCE251	1.10
.001	MC255	.30	MCB255	1.10	MCE255	1.35
.0015	MC256	.30				
.0005	MC445	.30	MCB445	.70	MCE445	.85
.0008	MC451	.30	MCB451	.95	MCE451	1.15
.0015			MCB456	1.35	MCE456	1.65
.002	MC457	.40	MCB457	1.35	MCE457	1.65
.0025	MC460	.45	MCB460	1.80	MCE460	2.20
.003	MC461	.50	MCB461	2.05	MCE461	2.45
.004	MC463	.55	MCB463	2.15	MCE463	2.60
.005	MC465	.60	MCB465	2.25	MCE465	2.70
.006	MC467	.75	MCB467	2.60	MCE467	3.15
.007	MC469	.90	MCB469	2.90	MCE469	3.50
.008	MC471	1.00	MCB471	3.20	MCE471	3.85
.01	MC475	1.20	MCB475	3.50	MCE475	4.20

Case Size— $\frac{13}{16}$ " x  $\frac{13}{16}$ " x  $\frac{5}{16}$ "  
with  $\frac{1}{8}$ " Wire Leads

Voltage Rating  
=500 VDC Working—1000 VDC Test

**High-Voltage Mica Capacitors for TV Replacement**

Catalog Number	Capacity mmfd	Working Volts DC	Size	List Price
MCP550	5	3000	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	\$0.35
MCP410	10	3000	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	.35
MCM422	22	2500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.30
MCM433	33	2500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.35
MCL447	47	2000	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.30
MCL468	68	2000	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.35
MCK475	75	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.30
MCK310	100	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.35
MCK315	150	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.35
MCK318	180	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.35
MCK322	220	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.40
MCK327	270	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.45
MCK333	330	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.50
MCK347	470	1500	$2\frac{5}{32}$ x $\frac{7}{16}$ x $\frac{7}{32}$	.60
MCK368	680	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	.65
MCK382	820	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	.75
MCK210	1000	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	.80
MCK215	1500	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	1.10
MCK220	2000	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	1.35
MCK224	2400	1500	1 x $\frac{5}{8}$ x $1\frac{1}{32}$	1.55

**THE MALLORY TV-101 UHF CONVERTER**

Offers Outstanding Features for Increased TV Reception

- ✓ Reception of all UHF channels
- ✓ No loss of VHF channels
- ✓ Built-in UHF antenna
- ✓ Fast, easy installation
- ✓ Constructed with Mallory UHF Inductuner®
- ✓ Adaptable to all TV sets

For complete description and listing see page 1, Mallory Television Accessories section, this catalog.

**Mica Transmitting Capacitors (Type MH)**



For use in transmitting and power amplifier circuits. Made with accurately gauged, high-quality, India mica in molded phenolic case.

Test volts are 200% of WVDC. Case size  $1\frac{1}{8}$ " x  $1\frac{1}{4}$ " (minus terminals).

Catalog Number	Cap. Mfd.	Working Volts DC	Test Volts DC	Thickness	List Price
MH535	.0001	600	1200	$2\frac{3}{64}$	\$0.70
MH635	.0001	1200	2500	$2\frac{3}{64}$	1.00
MH735	.0001	2500	5000	$2\frac{3}{64}$	1.25
MH545	.0005	600	1200	$2\frac{3}{64}$	.70
MH645	.0005	1200	2500	$2\frac{3}{64}$	1.00
MH745	.0005	2500	5000	$2\frac{3}{64}$	1.70
MH555	.001	600	1200	$2\frac{3}{64}$	.70
MH655	.001	1200	2500	$2\frac{3}{64}$	1.25
MH755	.001	2500	5000	$2\frac{3}{64}$	2.05
MH557	.002	600	1200	$2\frac{3}{64}$	.80
MH657	.002	1200	2500	$2\frac{3}{64}$	1.90
MH757	.002	2500	5000	$2\frac{3}{64}$	3.10
MH565	.005	600	1200	$2\frac{3}{64}$	1.00
MH665	.005	1200	2500	$2\frac{3}{64}$	2.40
MH765	.005	2500	5000	$2\frac{3}{64}$	4.70
MH575	.01	600	1200	$2\frac{3}{64}$	3.10
MH675	.01	1200	2500	$2\frac{3}{64}$	3.90
MH577	.02	600	1200	$2\frac{3}{64}$	2.20

**You can depend on  
MALLORY CAPACITORS  
Ask for them by name!**

# MICA, OIL FILLED AND IMPREGNATED CAPACITORS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



## Mica Transmitting Capacitors (Type MX)

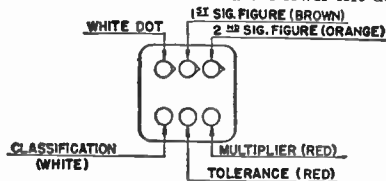
Ideal for amateur transmitting equipment. May also be used in coupling, tank and by-pass circuits at currents within specified rating.

Catalog Number	Cap. Mfd.	Test Volts DC	Max. Amps.	Freq. KC.	List Price
MX855	.001	12,500	9.0	15000	\$8.00
			10.0	7500	
			11.0	3750	
			12.0	1875	
MX857	.002	12,500	9.0	15000	11.00
			12.0	7500	
			13.0	3750	
			15.0	1875	
MX865	.005	10,000	10.0	15000	14.50
			13.0	7500	
			14.0	3750	
			15.0	1875	
MX875	.01	7,000	10.0	15000	15.25
			13.0	7500	
			15.0	3750	
			15.0	1875	
MX877	.02	3,500	10.0	15000	16.00
			13.0	7500	
			17.0	3750	
			17.0	1875	
MX885	.05	3,500	11.0	15000	18.50
			14.0	7500	
			16.0	3750	
			18.0	1875	
MX895	.1	2,000	11.0	15000	18.50
			14.0	7500	
			16.0	3750	
			18.0	1875	

Case Size: 4 1/16" x 2 3/4" x 2 1/8" (Minus Terminals).

## Instructions for use of RTMA Color Code

Hold capacitor with arrow pointing to right. From left to right, the first dot shall always be white to indicate standard RTMA molded mica capacitor. The second and third dots become the first two significant figures in the capacitance. The second row is read from right to left. The lower right dot should be the multiplier. The lower second dot indicates the tolerance and the lower left dot indicates the class.



Example shown above = 1300 mmfd.  $\pm 2\%$ , 500 V.W.

Note: When any Mallory mica capacitor has a white dot in the upper left hand corner (when the arrows point to the right) that capacitor is coded under the new RTMA color code, as shown above. Any other color in the upper left hand corner indicates the old color code, which may be found in Catalogue No. 467-A.

The key to color significance is as follows:

Color	Sig. Fig.	Mult.	Tol.	Class. *
Black	0	1		A
Brown	1	10	$\pm 20\%$	B
Red	2	100		C
Orange	3	1000	$\pm 2\%$	D
Yellow	4	10000	$\pm 3\%$	
Green	5		$\pm 5\%$	
Blue	6			
Violet	7			
Gray	8			
White	9			I
Gold		0.1		J
Silver		0.01	$\pm 10\%$	

\* Denotes various electrical characteristics.

Voltage ratings vary with capacitance as shown in RMA Specification—April, 1946.



## Transmitting Capacitors (Type TX)

For radio, television, transmitting and all circuits requiring high voltage capacitors. Compact rectangular oil filled capacitors of sturdy construction.

Catalog Number	Cap. Mfd.	Working Volts DC	Size*			List Price
			W	L	H	
TX801	1	600	1	1 3/4	2 1/2	\$5.20
TX802	2	600	1	1 3/4	2 5/8	6.50
TX803	4	600	1	1 3/4	4 1/4	8.50
TX816	6	600	1 3/16	2 1/2	4 5/8	10.50
TX817	10	600	1 1/4	3 3/8	4 5/8	14.00
TX822	.5	1000	1	1 3/4	2 1/2	4.55
TX804	1	1000	1	1 3/4	2 5/8	5.70
TX805	2	1000	1	1 3/4	3 3/8	7.80
TX806	4	1000	1 3/16	2 1/2	4 5/8	9.60
TX824	6	1000	1 1/4	3 3/8	4 5/8	12.75
TX825	10	1000	1 3/4	3 3/8	4 5/8	15.50
TX807	1	1500	1	1 3/4	4 1/4	6.85
TX808	2	1500	1 3/16	2 1/2	4 5/8	9.50
TX809	4	1500	1 1/2	3 3/8	4 5/8	12.75
TX829	6	1500	1 3/4	3 3/8	4 5/8	15.75
TX830	10	1500	3 3/16	3 3/8	4 5/8	23.00
TX831	.25	2000	1	1 3/4	2 1/2	6.50
TX832	.5	2000	1	1 3/4	2 5/8	6.90
TX810	1	2000	1 3/16	2 1/2	3 3/8	8.40
TX811	2	2000	1 1/4	3 3/8	4 1/4	9.95
TX823	4	2000	2 1/4	3 3/8	4 3/4	13.75
TX833	6	2000	3 3/16	3 3/8	4 5/8	18.00
TX834	10	2000	4 9/16	3 3/8	4 5/8	28.50
TX812	1	2500	1 3/16	2 1/2	4 1/4	12.25
TX813	2	2500	1 1/4	3 3/8	4 7/8	20.00
TX835	.1	3000	1 3/16	2 1/2	2 3/8	12.75
TX836	.25	3000	1 3/16	2 1/2	3 3/8	14.00
TX837	.5	3000	1 3/16	2 1/2	4 5/8	15.50
TX814	1	3000	1 3/4	3 3/8	4 5/8	18.75
TX815	2	3000	3 3/16	3 3/8	4 5/8	23.25
TX838	4	3000	4 9/16	3 3/8	5 1/2	34.00
TX839	1	4000	2 1/4	3 3/8	4 3/4	34.00
TX827	2	4000	4 9/16	3 3/8	4 3/4	43.00
TX818	1	5000	5 1/4	3 3/8	5 5/8	39.00
TX819	2	5000	5 1/4	3 3/8	9	50.00
TX820	.5	6000	4 3/4	5 1/4	3 3/2	62.00
TX821	1	6000	3 1/16	4 1/16	6 1/16	77.00

\* W—Width; L—Length; H—Height.



## Transmitting Capacitors (Type TZ)

For filter and by-pass circuits in power amplifiers, television and transmitting equipment where compact round can units are desired.

Catalog Number	Capacity Mfd.	Working Volts DC	Size	Height	List Price
TZ382	2.0	600	1 x 2 3/8		\$4.65
TZ383	4.0	600	1 1/8 x 4 1/8		6.20
TZ384	1.0	1000	1 3/8 x 2 3/8		4.30
TZ385	2.0	1000	1 3/8 x 4 1/8		5.45
TZ389	4.0	1000	2 x 4		7.25
TZ386	.5	1500	1 3/8 x 3 3/8		5.05
TZ387	1.0	1500	1 3/8 x 4 1/8		5.45
TZ388	2.0	1500	2 x 4		7.25
TZ390	1.0	2000	2 x 3 3/4		6.85
TZ391	2.0	2000	2 x 4 1/2		7.60

## TERMINAL HEIGHTS

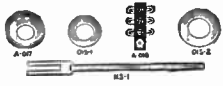
TX Capacitors	TZ Capacitors
600 through 2500V—1 1/4"	600V—5/16"
3000 through 4000V—1 3/8"	1 and 2 mfd at 1000V—5/16"
5000 through 6000V—2 1/8"	.5 and 1 mfd at 1500V—3/8"
	4 mfd at 1000V—1 1/8"
	2 mfd at 1500V—1 3/8"
	1 mfd at 2000V—1 3/8"
	2 mfd at 2000V—1 3/8"

# CAPACITOR HARDWARE

P. R. MALLORY & CO. INC.  
**MALLORY**

P. R. MALLORY & CO., INC. INDIANAPOLIS

## Capacitor Hardware



**Type MS-1**—Adjustable metal strap for horizontal mounting tubular types up to 1 3/8" diameter.

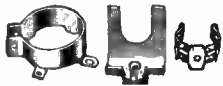
**Type A-016**—Terminal connector or anchor strap for general use where required.

**Type 015-1**—Washer for RS type 5/8" neck when used in over-size chassis hole.

**Type 015-2**—Washer for use with RS, RM, or HS units where chassis hole is too large for regular mounting. Use two washers, one above and one below chassis.

**Type A-017**—Special washer with turned-over edge for ring clamp mounting 1" RS type in 1 3/8" ring clamp.

Cat. No.	Description	Size	List Price
015-1	Washer for 5/8" neck in 7/8" hole.....	Var.	\$0.05
015-2	Washer for 3/4" neck in 1" hole.....	Var.	.05
MS-1	Adjustable mounting strap.....	Var.	.05
A-016	Terminal connector.....	Var.	.10
A-017	Washer for clamp mounting neck cans	Var.	.10



**Type TH**—Special clips for horizontal mounting of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment; they may also be attached to chassis with 5-32 screw and nut in any 1/2" hole.

**Type VR**—Brackets for vertical mounting round units.

**Type 104-1**—Special bracket with spade bolt for mounting RS and RM units where spade bolt mounting was used.

Cat. No.	Description	Size	List Price
TH-13	Spring clip for TC.....	3/8"	\$0.05
TH-15	Spring clip for TC.....	1/2" to 9/16"	.05
TH-17	Spring clip for TC.....	5/8" to 1 1/16"	.05
TH-19	Spring clip for TC and FP.....	3/4" to 1 3/16"	.05
TH-21	Spring clip for TC.....	7/8" to 1 5/16"	.05
TH-23	Spring clip for TC and FP.....	1" to 1 1/4"	.05
TH-25	Spring clip for TC and FP.....	1 1/8" to 1 7/16"	.10
VR-1	Clamp for vertical mounting	1" to 1 1/4"	.15
VR-3	Clamp for vertical mounting	1 1/8" to 1 7/16"	.15
VR-4	Clamp for vertical mounting	1 1/2" to 1 9/16"	.20
VR-6	Clamp for vertical mounting	1 3/4" to 1 11/16"	.25
VR-8	Clamp for vertical mounting	2" to 2 1/4"	.30
VR-10	Clamp for vertical mounting	2 1/2"	.35
104-1*	Spade bolt mounting for neck type cans.....	Variable	.20

\* Will be discontinued when present stocks are exhausted.



## Type "P" Hardware

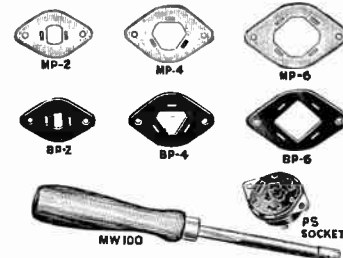
**Types PL and PL-A**—Plastic end cap to protect terminals on HC, NP or P units when desired.

**Type HB**—Horizontal bracket for mounting HC, NP or P units, using end cap type PL or PLA.

Cat. No.	Description	Size	List Price
PL-3	Plastic end cap For "On Motor" mounting	1 7/16"	\$0.20
PL-6	Plastic end cap	1 13/16"	.25
PL-8	Plastic end cap	2 1/16"	.30
PL-3A	Plastic end cap For "Off Motor" mounting	1 7/16"	.20
PL-6A	Plastic end cap	1 13/16"	.25
PL-8A	Plastic end cap	2 1/16"	.30
HB-4	Horizontal bracket (plastic cases)	3 3/8"	.30
HB-8	Horizontal bracket (plastic cases)	4 3/8"	.35

## Type "MSU," P, HC and NP Hardware

Catalog Number	Description	Size	List Price
115-1	Top Cap.....	1 3/8"	\$0.20
116-1	Top Cap.....	2"	.20
118-1	Bottom Cap.....	1 3/8"	.20
119-1	Bottom Cap.....	2"	.20
121-1	Bracket.....	1 3/8" x 3 3/4"	.35
122-1	Bracket.....	1 3/8" x 4 1/4"	.35
123-1	Bracket.....	2" x 3 3/8"	.35
124-1	Bracket.....	2" x 4 1/8"	.35



**Type MP**—Metal plates for grounded mounting of FP and WP capacitors.

**Type BP**—Phenolic plates for insulated mounting of FP and WP capacitors.

**Type PS**—Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)

**Type MW-100**—Special wrench for twisting mounting ears on FP or WP capacitors.

Cat. No.	Description	Size	List Price
MP-2	Metal mounting wafer for FP.....	3/4"	\$0.05
MP-4	Metal mounting wafer for FP.....	1"	.05
MP-6	Metal mounting wafer for FP.....	1 1/8"	.05
BP-2	Phenolic mounting wafer for FP.....	3/4"	.05
BP-4	Phenolic mounting wafer for FP.....	1"	.05
BP-4A	Phenolic mounting wafer for FP. (To mount 1" FP in chassis punched for 1 3/8" wafer)	1"	.05
BP-6	Phenolic mounting wafer for FP.....	1 1/8"	.05
PS-4	Plug-in socket for FP.....	1"	.70
PS-6	Plug-in socket for FP.....	1 1/8"	.90
PSC-4	Retainer clamp for PS-4 socket.....		.10
MW-100	Mounting wrench for FP.....		1.75

## Recommended Replacements for Modified and Discontinued FP and WP Types

(as listed on pages 1 and 2, Mallory Capacitor Section, this catalog)

Old Catalog Number	Recommended Replacement	Old Catalog Number	Recommended Replacement
FP228*	FP227.3	FP371*	FP330.7
FP236*	FP260	FP373*	FP385
FP246X*	FP266	FP376*	FP396.2
FP313*	FP330	FP379*	FP385
FP316*	FP343.1	FP380	FP343.4†
FP318*	FP319.5	FP387*	FP387.1
FP332	FP345.2†	FP389	FP375.8†
FP334*	FP333.8	FP390	FP376.1†
FP339	FP345.8†	FP391*	FP391.1
FP342*	FP342.5	FP393	FP376.8†
FP344*	FP344.5	FP395	FP369.1†
FP345	FP370†	FP416*	FP419.3
FP352	FP341.5†	FP418*	FP418.3
FP353*	FP343.6	FP420*	FP447
FP354	FP311.2†	FP422*	FP423.4
FP355	FP311.4†	FP423*	FP430.6
FP356	FP311.7†	FP425*	FP432.4
FP357	FP311.5†	FP427	FP422.1†
FP358	FP311.9†	FP457*	FP476
FP360*	FP343.1	FP465*	FP467
FP363	FP320†	FP471*	FP476
FP367	FP330.5†	FP550*	FP245
FP369	FP330.3†	WP032*	WP042
		WP302*	WP302.1

\* Will be deleted from line when present stocks are exhausted.  
† Change in catalog number only. No change in rating.





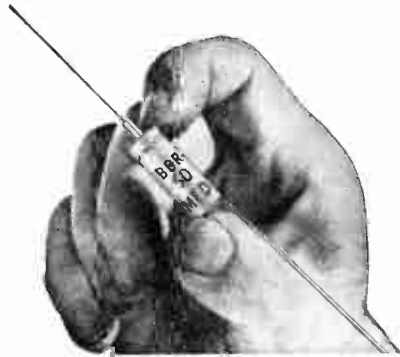
## "BLUE BEAVER" ELECTROLYTIC TUBULARS



TYPE BR



TYPE BRD



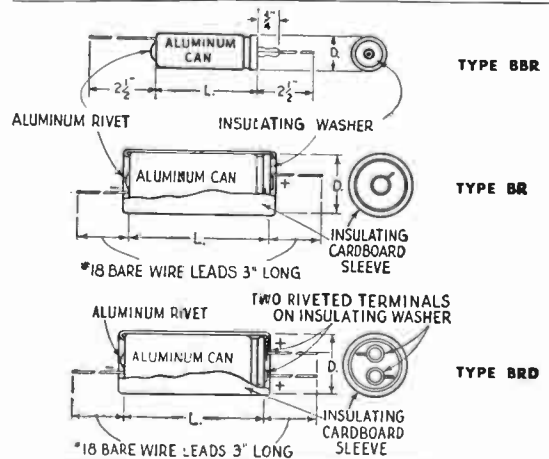
TYPE BBR

Types BR and BRD "BLUE BEAVERS" are the most popular can-type electrolytic tubulars employed for all applications where capacitors are required for convenient mounting in small spaces beneath a chassis or connected directly in the wiring assembly. They are small in physical size and self-supporting by means of strong, bare tinned-copper wire leads. Larger sizes may be mounted with a metal strap.

Type BBR "BLUE BEAVERS" — especially popular for those cramped and limited space installations in television receivers, hearing aids, miniature radios and other small assemblies. They are hermetically sealed in tubular aluminum containers and ideally suited to meet requirements in low voltage circuits.

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
<b>25 V. D.C.</b>				
BR 102A	10	5/8 x 1 1/16	1.00	.60
BR 202A	20	5/8 x 1 1/16	1.00	.60
BR 252A	25	5/8 x 1 1/16	1.00	.60
BR 502A	50	5/8 x 1 1/16	1.10	.66
<b>50 V. D.C.</b>				
BR 550	5	5/8 x 1 1/16	1.00	.60
BR 105	10	5/8 x 1 1/16	1.00	.60
BR 205A	20	5/8 x 1 1/16	1.00	.60
BR 255A	25	5/8 x 1 1/16	1.05	.63
BR 505	50	5/8 x 1 1/16	1.20	.72
<b>150 V. D.C.</b>				
BR 415	4	5/8 x 1 1/16	1.00	.60
BR 815	8	5/8 x 1 1/16	1.05	.63
BR 1015	10	5/8 x 1 1/16	1.05	.63
BR 1215	12	5/8 x 1 1/16	1.10	.66
BR 1615	16	5/8 x 1 1/16	1.15	.69
BR 2015A	20	5/8 x 1 1/16	1.20	.72
BR 2515	25	5/8 x 1 1/16	1.25	.75
BR 3015A	30	5/8 x 1 1/16	1.30	.78
BR 4015A	40	5/8 x 1 1/16	1.35	.81
BR 5015A	50	5/8 x 1 1/16	1.40	.84
BR 6015	60	7/8 x 2	1.50	.90
BR 8015A	80	7/8 x 2	1.60	.96
BR 10015	100	1 x 2 1/2	1.75	1.05
BR 15015	150	1 x 3	1.90	1.14
<b>250 V. D.C.</b>				
BR 425	4	5/8 x 1 1/16	1.00	.60
BR 825	8	5/8 x 1 1/16	1.15	.69
BR 1225A	12	5/8 x 1 1/16	1.25	.75
BR 1625	16	5/8 x 1 1/16	1.30	.78
BR 2025	20	5/8 x 1 1/16	1.35	.81
BR 3025A	30	5/8 x 1 1/16	1.45	.87
BR 4025A	40	7/8 x 2	1.55	.93
BR 5025	50	1 x 2	1.70	1.02
<b>350 V. D.C.</b>				
BR 435	4	5/8 x 1 1/16	1.05	.63
BR 835A	8	5/8 x 1 1/16	1.20	.72
BR 1235A	12	5/8 x 1 1/16	1.30	.78
BR 1635A	16	5/8 x 1 1/16	1.40	.84
BR 2035A	20	5/8 x 1 1/16	1.45	.87
BR 3035A	30	1 x 2	1.65	.99
BR 4035	40	1 x 2 1/2	1.75	1.05
<b>450 V. D.C.</b>				
BR 145	1	5/8 x 1 1/16	1.10	.66
BR 245	2	5/8 x 1 1/16	1.10	.66
BR 445	4	5/8 x 1 1/16	1.15	.69
BR 845A	8	5/8 x 1 1/16	1.25	.75
BR 1045A	10	5/8 x 1 1/16	1.30	.78
BR 1245A	12	5/8 x 1 1/16	1.35	.81
BR 1645A	16	5/8 x 1 1/16	1.40	.84
BR 2045A	20	5/8 x 1 1/16	1.55	.93
BR 3045A	30	1 x 2 1/2	1.70	1.02
BR 4045A	40	1 x 2 1/2	1.80	1.08
<b>500 V. D.C.</b>				
BR 450A	4	5/8 x 1 1/16	1.20	.72
BR 850A	8	5/8 x 1 1/16	1.30	.78
BR 1650A	16	1 x 2	1.50	.90
BR 2050A	20	1 x 2	1.60	.96
BR 3050A	30	1 x 2 1/2	1.75	1.05

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
BBR 50-3	50	3	3/8 x 1 1/16	\$ .95	\$.57
BBR 25-3	25	3	3/8 x 1 1/16	.85	.51
BBR 50-6	50	6	3/8 x 1 1/16	.95	.57
BBR 25-6	25	6	3/8 x 1 1/16	.85	.51
BBR 5-6	5	6	3/8 x 1 1/16	.80	.48
BBR 20-25	20	25	3/8 x 1 1/16	1.00	.60
BBR 10-25	10	25	3/8 x 1 1/16	1.00	.60
BBR 10-50	10	50	3/8 x 1 1/16	1.00	.60
BBR 5-50	5	50	3/8 x 1 1/16	1.00	.60
BBR 10-90	10	90	1/2 x 1 1/16	1.10	.66
BBR 16-90	16	90	1/2 x 1 1/16	1.10	.66



Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
BRD 202B	20-20	25	3/4 x 1 1/16	\$1.40	\$.84
BRD 105	10-10	50	3/4 x 1 1/16	1.40	.84
BRD 16815	16-8	150	3/4 x 1 1/16	1.55	.93
BRD 2215A	20-20	150	3/4 x 1 1/16	1.65	.99
BRD 3315A	30-30	150	7/8 x 1 1/16	1.80	1.08
BRD 4215A	40-20	150	7/8 x 1 1/16	1.75	1.05
BRD 4415A	40-40	150	1 x 1 1/16	1.85	1.11
BRD 5315A	50-30	150	1 x 1 1/16	1.95	1.17
BRD 5515A	50-50	150	1 x 2 1/2	2.10	1.26
BRD 8415	80-40	150	1 x 2 1/2	2.25	1.35
BRD 2125	20-10	250	3/4 x 1 1/16	1.75	1.05
BRD 2225A	20-20	250	1 x 1 1/16	1.85	1.11
BRD 4225	40-20	250	1 x 2 1/2	2.15	1.29
BRD 8D35	8-8	350	3/8 x 1 1/16	1.65	.99
BRD 2235A	20-20	350	1 x 2 1/2	2.25	1.35
BRD 8D45	8-8	450	1 x 1 1/16	1.70	1.02
BRD 1145B	10-10	450	1 x 1 1/16	1.85	1.11
BRD 16845	16-8	450	1 x 2	2.10	1.26
BRD 1645A	16-16	450	1 x 2 1/2	2.25	1.35
BRD 2245	20-20	450	1 x 3	2.50	1.80
BRD 1150	10-10	500	1 x 2	1.90	1.14

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## UP, UPT & UPE TWIST-PRONG BASE ELECTROLYTICS



TYPE UP

Type UP capacitors are small, conveniently-mounted, round can-type electrolytic units furnished with bakelite and metal mounting washers. Terminals are tinned for soldering.

They are dependable in operation over wide temperature variations with minimum capacity change.

Type UPT, "Hi-Temp", units are especially designed for use in television, auto radio, amplifier and other equipment where extremely high temperatures, voltage surges and ripple currents are encountered. They are particularly popular as replacement capacitors for all standard television receivers.

Type UPE units are designed for use in selenium rectifier circuits. When using selenium rectifiers in television, radio or other equipment, care must be taken to employ only this type electrolytic capacitor and protective resistor—

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPT 102	A001	10Ω 30 CPS.	¾ x 2	\$2.00	\$1.20
UPT 100	A002	.5Ω 15,750 CPS.	1 x 2	2.20	1.36
UPT 101	A003	1Ω 60 CPS.	¾ x 3	2.80	1.68
UPT 2M-6	A004	2000/6	1 ½ x 2	2.55	1.53
UP 3M-10	A005	3000/10	1 ½ x 2 ½	2.90	1.74
UP 1M-15	A006	1000/15	1 x 2 ½	2.55	1.53
UP 2M-15	A007	2000/15	1 ½ x 2 ½	3.45	2.07
UP 3M-15	A008	3000/15	1 ½ x 3	3.52	2.11
UP 40-25	A009	40/25	¾ x 2	1.35	.81
UP 100-25	A010	100/25	¾ x 2	1.60	.96
UPT 103	A011	500/25	1 x 2 ½	2.55	1.53
UP 500-25	A012	500/25	1 x 2	2.55	1.53
UP 1M-25	A013	1000/25	1 ½ x 2	3.55	2.13
UP 100-50	A014	100/50	¾ x 2	1.65	.99
UP 150-50	A015	150/50	¾ x 2	1.80	1.08
UP 500-50	A016	500/50	1 ½ x 2	2.65	1.59
UP 1M-50	A017	1000/50	1 ½ x 3 ¾	3.75	2.25
UP 3015	A018	30/150	¾ x 2	1.55	.93
UP 4015	A019	40/150	1 x 2	1.60	.96
UP 5015	A020	50/150	1 x 2	1.65	.99
UP 6015	A022	60/150	1 x 2	1.75	1.05
UPT 8015	A023	80/150	1 x 2	1.85	1.11
UP 10015	A024	100/150	1 x 2 ½	2.00	1.20
UPT 12015	A025	120/150	1 ½ x 2	2.10	1.26
UP 15015	A026	150/150	1 x 3	2.15	1.29
UP 2025	A027	20/250	¾ x 2	1.60	.96
UP 3025	A028	30/250	1 x 2	1.70	1.02
UP 4025	A029	40/250	1 x 2	1.80	1.08
UP 6025	A030	60/250	1 x 2 ½	2.05	1.23
UP 8025	A031	80/250	1 x 3	2.15	1.29
UP 5030	A032	50/300	1 x 2 ½	2.05	1.23
UP 8030	A033	80/300	1 x 3	2.55	1.53
UPT 10030	A034	100/300	1 ½ x 3	2.90	1.74
UPT 104	A035	100/300	1 x 3 ¾	2.90	1.74
UP 1535	A036	15/350	1 x 2	1.65	.99
UP 3035	A037	30/350	1 x 2	1.90	1.14
UP 4035	A038	40/350	1 x 2 ½	2.00	1.20
UP 5035	A039	50/350	1 x 3	2.10	1.26
UP 8035	A040	80/350	1 ½ x 2 ½	2.85	1.71
UP 12535	A041	125/350	1 ½ x 3	3.65	2.19
UP 8040	A042	80/400	1 ½ x 3	2.95	1.77
UP 1045	A043	10/450	1 x 2	1.55	.93

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UP 1AJS7	A044	10/450	¾ x 2	\$1.55	\$ .93
UP 1545	A045	15/450	1 x 2	1.70	1.02
UP 2045	A046	20/450	1 x 2	1.80	1.08
UP 3045	A047	30/450	1 x 2 ½	1.95	1.17
UPT 4045	A048	40/450	1 x 3	2.05	1.23
UP 5045	A049	50/450	1 x 3 ¾	2.35	1.41
UP 6045	A050	60/450	1 ½ x 2 ½	2.60	1.56
UP 8045	A051	80/450	1 ½ x 3	3.05	1.83
UP 1050	A052	10/500	1 x 2	1.60	.96
UP 2050	A053	20/500	1 x 2 ½	1.85	1.11
UP 3050	A054	30/500	1 x 3	2.00	1.20
UP 4050	A055	40/500	1 x 3 ¾	2.50	1.50
UP 8050	A056	80/500	1 ½ x 3 ¾	3.20	1.92
UP 9050	A057	90/500	1 ½ x 3 ¾	3.50	2.10

### Dual Section Units

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPT 202	B001	.5Ω 15,750 CPS. 2.5Ω 60 CPS.	1 ½ x 2	\$3.90	\$2.34
UPT 203	B002	1000-500/6 VNP	1 ½ x 2	3.85	2.31
UPT 201	B003	1000-1000/15	1 x 3 ¾	4.40	2.64
UP 11M-15	B004	1000-1000/15	1 ½ x 2 ½	4.40	2.64
UP 22-25	B005	20-20/25	1 x 2	1.45	.87
UP 44-25	B006	40-40/25	1 x 2	1.60	.96
UPT 203	B007	150-50/25	1 x 2	1.90	1.14
UP 55-50	B008	50-50/50	1 x 2	1.70	1.02
UP 2215	B009	20-20/150	1 x 2	1.70	1.02
UP 3215	B010	30-20/150	1 x 2	1.75	1.05
UP 3315	B011	30-30/150	1 x 2	1.85	1.11
UP 4215	B012	40-20/150	1 x 2	1.80	1.08
UP 4315	B013	40-30/150	1 x 2	1.85	1.11
UP 4415	B014	40-40/150	1 x 2	1.90	1.14
UP 5315	B015	50-30/150	1 x 2	2.00	1.20
UP 5515	B016	50-50/150	1 x 2 ½	2.15	1.29
UP 75D15	B017	75-75/150	1 x 3	2.60	1.56
UP 8415	B018	80-40/150	1 x 2 ½	2.30	1.38
UPT 6620	B019	60-60/200	1 ½ x 2	2.55	1.53
UP 1125	B020	10-10/250	1 x 2	1.70	1.02
UP 2225	B021	20-20/250	1 x 2	1.90	1.14
UP 3325	B022	30-30/250	1 x 2 ½	2.30	1.38
UP 4225	B023	40-20/250	1 x 2 ½	2.20	1.32
UP 4425	B024	40-40/250	1 x 3	2.55	1.53
UPT 150D25	B025	150-150/250	1 ½ x 4 ¾	5.15	3.09
UP 5530	B026	50-50/300	1 ½ x 2 ½	3.35	2.01
UP 8830	B027	80-80/300	1 ½ x 3	4.05	2.43
UPT 12230	B028	120-20/300	1 ½ x 3	3.80	2.28
UP 15D35	B029	15-15/350	1 x 2	2.25	1.35
UP 2235	B030	20-20/350	1 x 2 ½	2.30	1.38
UP 3335	B031	30-30/350	1 x 3	2.90	1.74
UP 5335	B032	50-30/350	1 ½ x 2 ½	3.15	1.89
UP 8835	B033	80-80/350	1 ½ x 3 ¾	4.70	2.82
UPT 6640	B034	60-60/400	1 ½ x 3 ¾	4.40	2.64
UP 8140	B035	80-10/400	1 ½ x 3	3.40	2.04
UPT 4D45	B036	4-4/450	1 x 2	1.65	.99
UPT 1145	B037	10-10/450	1 x 2	1.90	1.14
UP 15D45	B038	15-15/450	1 x 2 ½	2.25	1.35
UP 2145	B039	20-10/450	1 x 2 ½	2.25	1.35
UP 2245	B040	20-20/450	1 x 3	2.55	1.53
UPT 3145	B041	30-10/450	1 x 3	2.50	1.50
UPT 206	B042	30-10/450	1 ¾ x 2	2.40	1.44
UP 3345	B043	30-30/450	1 ½ x 2 ½	3.05	1.83
UP 4245	B044	40-20/450	1 ½ x 2 ½	3.00	1.80
UPT 4445	B045	40-40/450	1 ½ x 3	3.45	2.07
UPT 6245	B046	60-20/450	1 ½ x 3	3.55	2.13
UPT 8145	B047	80-10/450	1 ½ x 3	3.60	2.16
UP 8445	B048	80-40/450	1 ½ x 3 ¾	4.35	2.61
UP 1150	B049	10-10/500	1 x 2 ½	1.95	1.17
UP 2250	B050	20-20/500	1 ¾ x 2 ½	2.85	1.71
UPT 255450	B051	25-40/500	1 ¾ x 3	3.65	2.19
UPT 3150	B052	30-10/500	1 ¾ x 2 ½	2.60	1.56
UP 4450	B053	40-40/500	1 ¾ x 3 ¾	4.30	2.58
UPT 6450	B054	60-40/500	1 ¾ x 3 ¾	4.60	2.76
UPT 200	B055	250/10 1000/6	1 ¾ x 2	2.85	1.71
UP 4015V2	B056	40/150 20/50	1 x 2	1.70	1.02
UP 4015C15	B057	40/150 150/25	1 x 2	2.05	1.23
UP 4025C	B058	40/250 20/25	1 x 2	2.00	1.20
UPT 5025V10	B059	50/250 100/50	1 ¾ x 2	2.60	1.56
UPT 10025V15	B060	100/250 150/50	1 ¾ x 3	3.65	2.19
UP 2035C	B061	20/350 20/25	1 x 2	1.90	1.14
UP 4035C	B062	40/350 20/25	1 x 2 ½	2.35	1.41
UP 1045C	B063	10/450 20/25	1 x 2	1.70	1.02
UP 2045C	B064	20/450 20/25	1 x 2	2.00	1.20
UP 4045C	B065	40/450 20/25	1 x 3	2.45	1.47
UP 8045C	B066	80/450 20/25	1 ¾ x 3	3.40	2.04
UPT 204	B067	10 450 100/50	1 ¾ x 2	2.05	1.23
UPT 245-835	B068	20/450 80/350	1 ¾ x 3	3.65	2.19
UPT 245-1010	B069	20/450 100/100	1 ¾ x 2	2.65	1.59
UPT 345-415	B070	30/450 40/150	1 ¾ x 2	2.50	1.50
UPT 445-135	B071	40/450 10/350	1 ¾ x 2	2.60	1.56
UPT 8045V5	B072	80/450 50/50	1 ¾ x 3	3.50	2.10
UPT 15550-230	B073	15/500 20/300	1 x 2 ½	2.30	1.38
UPT 250-1030	B074	20/500 100/300	1 ¾ x 3	3.95	2.37
UPT 450-520	B075	40/500 50/200	1 ¾ x 2 ½	3.35	2.01
UPT 650-815	B076	60/500 80/150	1 ¾ x 3 ¾	3.75	2.25
UPT 8050V5	B077	80/500 50/50	1 ¾ x 3 ¾	3.80	2.28

For application data on C-D types UP, UPT and UPE Capacitors ask your jobber for C-D TELEVISION REPLACEMENT GUIDE, No. TVR7.





## UP, UPT & UPE TWIST-PRONG BASE ELECTROLYTICS

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPT 415	D036	100-40-10/250 100/50	1 3/8 x 3 3/8	\$5.15	\$3.09
UPT 44430-215	D037	40-40-40/300 20/150	1 3/8 x 3	4.90	2.94
UPT 64230C5	D038	60-40-20/300 50/25	1 3/8 x 2	4.70	2.82
UPT 11135C	D039	10-10-10/350 20/25	1 3/8 x 2	2.95	1.77
UPT 15735V5	D040	15-15-15/350 50/50	1 3/8 x 2	3.80	2.28
UPT 21535C	D041	20-10-5/350 20/25	1 3/8 x 2	3.10	1.86
UPT 32235C	D042	30-20-20/350 20/25	1 3/8 x 2 1/2	4.10	2.46
UPT 44235C	D043	40-40-20/350 20/25	1 3/8 x 3	4.70	2.82
UPT 42235C	D044	40-20-20/350 25/25	1 3/8 x 2 1/2	4.25	2.55
UPT 43135V5	D045	40-30-10/450 50/50	1 3/8 x 3	4.40	2.64
UPT 44435C4	D046	40-40-40/350 40/25	1 3/8 x 3	5.20	3.12
UPT 44435V15	D047	40-40-40/350 150/50	1 3/8 x 3 3/8	5.70	3.42
UPT 11145C	D048	10-10-10/450 20/25	1 3/8 x 2	3.15	1.89
UPT 11145C10	D049	10-10-10/450 100/25	1 3/8 x 2	3.35	2.01
UPT 11145V15	D050	10-10-10/450 150/50	1 3/8 x 2 1/2	3.70	2.22
UPT 21145C10	D051	20-10-10/450 100/25	1 3/8 x 2	3.70	2.22
UPT 22245C	D052	20-20-20/450 20/25	1 3/8 x 2 1/2	4.15	2.49
UPT 22245V10	D053	20-20-20/450 100/50	1 3/8 x 3	4.55	2.73
UPT 315D45C4	D054	30-15-15/450 40/25	1 3/8 x 2 1/2	4.15	2.49
UPT 32245C	D055	30-20-20/450 20/25	1 3/8 x 3	4.40	2.64
UPT 400	D056	30-30-15/450 30/50	1 3/8 x 3	4.15	2.49
UPT 404	D057	30-30-15/450 100/50	1 3/8 x 3 3/8	4.90	2.94
UPT 33145C	D058	30-30-10/450 20/25	1 3/8 x 3	4.35	2.61
UPT 33245C	D059	30-30-20/450 20/25	1 3/8 x 3	4.65	2.79
UPT 41145C25	D060	40-10-10/450 250/25	1 3/8 x 3	4.25	2.55
UPT 42145C	D061	40-20-10/450 20/25	1 3/8 x 3	4.25	2.55
UPT 42145V10	D062	40-20-10/450 100/50	1 3/8 x 3 3/8	4.65	2.79
UPT 42245C4	D063	40-20-20/450 40/25	1 3/8 x 3	4.65	2.79
UPT 43145C	D064	40-30-10/450 20/25	1 3/8 x 3	4.50	2.70
UPT 44145V2	D065	40-40-10/450 25/50	1 3/8 x 3 3/8	4.70	2.82
UPT 403	D066	40-40-10/450 100/100	1 3/8 x 3 3/8	5.35	3.21
UPT 61145-215	D067	60-10-10/450 20/150	1 3/8 x 3	4.60	2.76
UPT 407	D068	40-10-20/475 10/25	1 3/8 x 3	4.85	2.91
UPT 22150-130	D069	20-20-10/500 10/300	1 3/8 x 2 1/2	4.30	2.58
UPT 414	D070	100/300 40/50 80-20/25	1 3/8 x 2 1/2	4.55	2.73
UPT 427	D071	20/300 150-150/150 100/30	1 3/8 x 4 1/8	5.30	3.18
UPT 402	D072	15/350 80-40/200 200/25	1 3/8 x 3	4.50	2.70
UPT 428	D073	10/400 50-30/350 30/25	1 3/8 x 3	4.40	2.64
UPT 424	D074	10/450 60-40/350 25/25	1 3/8 x 3 3/8	4.60	2.76
UPT 419	D075	10/450 100-10/350 20/25	1 3/8 x 3 3/8	5.25	3.15
UPT 421	D076	20/450 80-20/200 50/50	1 3/8 x 3	4.15	2.49
UPT 425	D077	30/450 40-40/350 10/200	1 3/8 x 3 3/8	5.15	3.09
UPT 409	D078	30/450 125-125/25 30/450	1 3/8 x 3	8.55	5.13
UPT 401	D079	5-5/400 50/300 80/250	1 3/8 x 3	4.65	2.79
UPT 429	D080	40-10/400 40 350 10/50	1 3/8 x 3 3/8	5.75	3.45
UPT 411	D081	10-10/450 60/200 100/50	1 3/8 x 3	3.85	2.31
UPT 42245C	D082	40-20-20/450 20/25	1 3/8 x 3	4.60	2.76
UPT 423	D083	10-5/475 80/450 40/50	1 3/8 x 3 3/8	4.95	2.97
UPT 417	D084	15-15/475 80/300 40/50	1 3/8 x 3	4.80	2.88
UPT 4415C44	D085	40-40/150 40-40/25	1 3/8 x 2	3.05	1.83
UPT 4415CD10	D086	40-40/150 100-100/25	1 3/8 x 2	3.35	2.01
UPT 4140-8125	D087	40-10/400 80-10/250	1 3/8 x 3 3/8	4.70	2.82
UPT 1145CC	D088	10-10/450 20-20/25	1 3/8 x 2	2.95	1.77
UPT 2245CC	D089	20-20/450 20-20/25	1 3/8 x 2	3.60	2.16
UPT 2245-3335	D090	20-20/450 30-30/350	1 3/8 x 3	5.05	3.03
UPT 408	D091	40-10/450 35-10/350	1 3/8 x 3	4.60	2.76
UPT 4445-3335	D092	40/400 450 30-30/350	1 3/8 x 4 1/8	5.90	3.54
UPT 405	D093	120/300 20/250 20/25 100/50	1 3/8 x 4 1/8	5.05	3.03
UPT 406	D094	200/300 20/250 20/25 100/50	1 3/8 x 5	5.45	3.27
UPT 418	D095	20/350 40/300 10/150 250/50	1 3/8 x 3	4.60	2.76
UPT 412	D096	80/450 10/400 30/300 40/150	1 3/8 x 4 1/8	5.25	3.15
UPT 410	D097	10/475 10/450 80/200 50/160	1 3/8 x 2 1/2	3.85	2.31
UPT 413	D098	10/475 60/450 30 400 125/50	1 3/8 x 4 1/8	5.45	3.27
UPT 422	D099	20/475 40/300 100 50 80/25	1 3/8 x 3	4.50	2.70
UPT 416	D100	25/475 20/450 40/300 100/50	1 3/8 x 3	4.95	2.97
UPT 426	D101	10/475 40/350 80/200 100/50	1 3/8 x 3 3/8	4.80	2.88
UPT 53150-230	D102	50-30-10/500 20/300	1 3/8 x 3 3/8	5.60	3.36

### SELENIUM RECTIFIER CAPACITORS

Type UPE are etched anode and cathode units especially engineered to prevent capacity drop due to high ripple and surge currents normally encountered in selenium rectifier circuits. A protective series-resistor of approximately 50 ohms for a 100 ma. load, and at least 10 ohms for a 250 ma. load, should always be used to protect both the rectifier and filter capacitors.

### UPE Single Section Units

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPE 4015	XA001	40/150	3/4 x 2	\$1.60	\$ 1.96
UPE 8015	XA002	80/150	1 x 2	1.85	1.11
UPE 10015	XA003	100/150	1 x 2 1/2	2.00	1.20
UPE 15015	XA004	150/150	1 x 3	2.15	1.29
UPE 30015	XA005	300/150	1 3/8 x 3	2.80	1.68
UPE 8020	XA006	80/200	1 3/8 x 2	1.95	1.17
UPE 15020	XA007	150/200	1 3/8 x 2 1/2	2.80	1.68
UPE 4025	XA008	40/250	1 x 2	1.80	1.08
UPE 6030	XA009	60/300	1 x 2 1/2	2.10	1.26
UPE 8030	XA010	80/300	1 x 3	2.55	1.53
UPE 8035	XA011	80/350	1 3/8 x 2 1/2	2.85	1.71
UPE 12535	XA012	125/350	1 3/8 x 3	3.65	2.19
UPE 3050	XA013	30/500	1 x 3	2.00	1.20

### UPE Dual Section Units

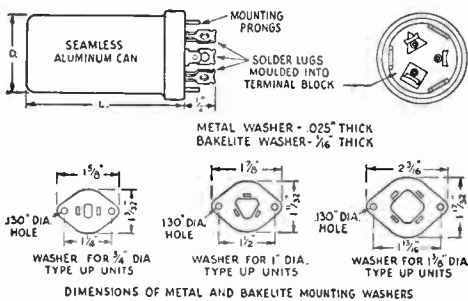
Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPE 2215	XB001	20-20/150	1 x 2	\$1.70	\$1.02
UPE 4415	XB002	40-40/150	1 x 2	1.90	1.14
UPE 5515	XB003	50-50/150	1 x 2 1/2	2.15	1.29
UPE 8415	XB004	80-40/150	1 x 2 1/2	2.30	1.38
UPE 8815	XB005	80-80/150	1 3/8 x 2	2.65	1.59
UPE 101015	XB006	100-100/150	1 3/8 x 2 1/2	3.25	1.95
UPE 150D15	XB007	150-150/150	1 3/8 x 3	3.50	2.10
UPE 201515	XB008	200-150/150	1 3/8 x 3 3/8	3.75	2.25
UPE 202015	XB009	200-200/150	1 3/8 x 3 3/8	4.00	2.40
UPE 101020	XB010	100-100/200	1 3/8 x 3	3.50	2.10
UPE 4425	XB011	40-40/250	1 x 3	2.55	1.53
UPE 8425	XB012	80-40/250	1 3/8 x 2 1/2	3.00	1.80
UPE 4430	XB013	40-40/300	1 x 3	3.00	1.80
UPE 8430	XB014	80-40/300	1 3/8 x 2 1/2	3.55	2.13

### UPE Triple Section Units

Cat. No.	Rotational Stock No.	Cap./Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
UPE 22215	XC001	20-20-20/150	1 x 2	\$2.35	\$1.41
UPE 42215	XC002	40-20-20/150	1 x 2	2.40	1.44
UPE 55515	XC003	50-50-50/150	1 x 3	3.00	1.80
UPE 88815	XC004	80-80-80/150	1 3/8 x 3	3.75	2.25
UPE 128415	XC005	120-80-40/150	1 3/8 x 3	3.70	2.22
UPE 2215C	XC006	20-20/150 20/25	1 x 2	2.20	1.32
UPE 4215C	XC007	40-20/150 20/25	1 x 2	2.30	1.38
UPE 4415C	XC008	40-40/150 20/25	1 x 2	2.40	1.44
UPE 4230C	XC009	40-20/300 20/25	1 x 2 1/2	3.10	1.86
UPE 1030-6225	XC010	100/300 60-20/250	1 3/8 x 4 1/8	4.90	2.94
UPE 2030-2625	XC011	200/300 20-60/250	1 3/8 x 5	5.45	3.27

### HARDWARE FOR TYPE UP, UPT & UPE CAPACITORS

Part No.	Item	Description	List Price	Net Price
22272	Wrench for Bakelite Washer	Mfg. UP Units For 3/4" UP	\$1.24	\$ .74
19891	Bakelite Washer	For 3/4" UP	.07	.04
19884	Bakelite Washer	For 1" UP	.07	.04
19888	Bakelite Washer	For 1 3/8" UP	.07	.04
19890	Metal Washer	For 3/4" UP	.07	.04
19883	Metal Washer	For 1" UP	.07	.04
19887	Metal Washer	For 1 3/8" UP	.07	.04
21368-1	Mounting Clip	For 3/4" UP	.15	.09
21368-2	Mounting Clip	For 1" UP	.15	.09
21368-3	Mounting Clip	For 1 3/8" UP	.15	.09
22153-1	Insulating Tube	For 3/4" x 2" UP	.07	.04
22153-4	Insulating Tube	For 1" x 2" UP	.07	.04
22153-6	Insulating Tube	For 1" x 3" UP	.07	.04
22153-7	Insulating Tube	For 1 3/8" x 2" UP	.07	.04
22153-9	Insulating Tube	For 1 3/8" x 3" UP	.07	.04
30035	Bakelite Washer	For 1" UP in 1 3/8" Hole Mtg.	.07	.04
30036	Metal Washer	For 1" UP in 1 3/8" Hole Mtg.	.07	.04



DIMENSIONS OF METAL AND BAKELITE MOUNTING WASHERS

TYPE UP, UPT AND UPE

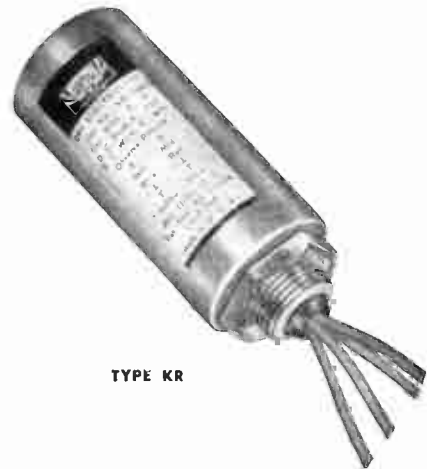
For application data on C-D types UP, UPT and UPE Capacitors ask your jobber for C-D TELEVISION REPLACEMENT GUIDE, No. TVR7.



## ROUND CAN-TYPE ELECTROLYTICS

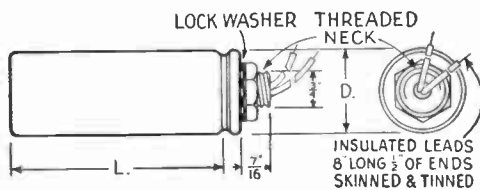


TYPE EB



TYPE KR

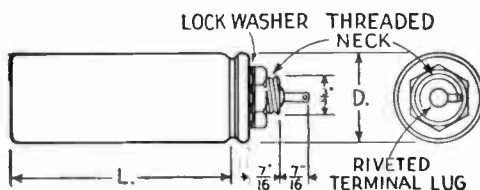
Type EB electrolytic capacitors are especially suited for replacement purposes in radio receivers to replace units of larger physical sizes. They are identical in mounting hole dimensions and general construction to Type WR capacitors except that they are provided with insulated color-coded wire leads 8" long.



TYPE EB — 450 WVDC

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Lgth.	List Price	Net Price
EB 9080	8	1 3/8 x 4 3/8	\$2.20	<b>\$1.32</b>
EB 9100	10	1 3/8 x 4 3/8	2.30	<b>1.38</b>
EB 9120	12	1 1/2 x 4 1/2	2.40	<b>1.44</b>
EB 9160	16	1 1/2 x 4 1/2	2.45	<b>1.47</b>
EB 9180	18	1 1/2 x 4 1/2	2.55	<b>1.53</b>
EB 9200	20	1 1/2 x 4 1/2	2.75	<b>1.65</b>
EB 8800	8-8	1 1/2 x 4 1/2	3.00	<b>1.80</b>

### REPLACEMENTS FOR WET ELECTROLYTICS

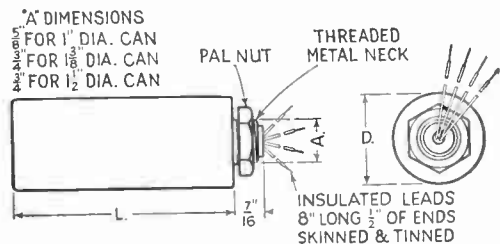


WET ELECTROLYTIC REPLACEMENT

TYPE WR — 500 WVDC

Cat. No.	Cap. Mfd.	Replacement for	Size—Ins. Dia. x Lgth.	List Price	Net Price
WR 10	10	4 to 12 mfd.	1 3/8 x 2 1/2	\$2.30	<b>\$1.38</b>
WR 20	20	16 to 20 mfd.	1 3/8 x 2 1/2	2.70	<b>1.62</b>
WR 30	30	20 to 30 mfd.	1 3/8 x 3 1/4	2.95	<b>1.77</b>
WR 40	40	30 to 40 mfd.	1 3/8 x 3 1/4	3.15	<b>1.89</b>

Types KR and KRC single-hole mounting units are compact etched foil type dry electrolytic capacitors furnished in round (inverted mounting) aluminum cans. Available in single, dual and triple sections with color-coded leads.



TYPE KR

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
KR 105	50	25	1 x 2 1/2	\$1.55	<b>\$ .93</b>
KR 204	4	250	1 x 2 1/2	1.40	<b>.84</b>
KR 208	8	250	1 x 2 1/2	1.65	<b>.99</b>
KR 212	12	250	1 x 2 1/2	1.75	<b>1.05</b>
KR 225	25	250	1 x 3 1/2	2.00	<b>1.20</b>
KR 350	50	300	1 3/8 x 3 3/4	3.15	<b>1.89</b>
KR 504	4	450	1 x 2 1/2	2.05	<b>1.23</b>
KR 508	8	450	1 x 2 1/2	2.20	<b>1.32</b>
KR 512A	12	450	1 x 2 1/2	2.40	<b>1.44</b>
KR 516A	16	450	1 x 3 1/2	2.45	<b>1.47</b>
KR 520	20	450	1 3/8 x 2 1/2	2.75	<b>1.65</b>
KR 530	30	450	1 3/8 x 3 1/2	3.00	<b>1.80</b>
KR 540	40	450	1 3/8 x 4 3/8	3.15	<b>1.89</b>
KR 604	4	600	1 3/8 x 3 1/2	2.95	<b>1.77</b>
KR 608	8	600	1 3/8 x 4 1/2	3.15	<b>1.89</b>
KR 616	16	600	1 1/2 x 4 1/2	3.75	<b>2.25</b>

### Common Negative Units

KRC 248	4-8	250	1 x 3	\$2.30	<b>\$1.38</b>
KRC 288	8-8	250	1 x 3	2.40	<b>1.44</b>
KRC 2888	8-8-8	250	1 3/8 x 3	3.85	<b>2.31</b>
KRC 548	4-8	450	1 x 3	2.95	<b>1.77</b>
KRC 588	8-8	450	1 3/8 x 2 1/2	3.00	<b>1.80</b>
KRC 5116	16-16	450	1 3/8 x 3 1/2	3.55	<b>2.13</b>
KRC 5220	20-20	450	1 3/8 x 4 3/8	3.80	<b>2.28</b>
KRC 5888	8-8-8	450	1 3/8 x 3 1/2	5.00	<b>3.00</b>

### Separate Section Units

KR 248	4-8	250	1 3/8 x 2 3/4	\$2.90	<b>\$1.74</b>
KR 288	8-8	250	1 3/8 x 2 3/4	3.00	<b>1.80</b>
KR 2888	8-8-8	250	1 3/8 x 3 1/2	4.80	<b>2.88</b>
KR 2881	8-8-16	250	1 3/8 x 3 1/2	4.90	<b>2.94</b>
KR 2811	8-16-16	250	1 3/8 x 3 1/2	5.00	<b>3.00</b>
KR 548A	4-8	450	1 3/8 x 3	3.70	<b>2.22</b>
KR 588A	8-8	450	1 3/8 x 3	3.75	<b>2.25</b>
KR 5816A	8-16	450	1 3/8 x 4 1/2	4.10	<b>2.46</b>
KR 5888A	8-8-8	450	1 3/8 x 4 1/2	6.25	<b>3.75</b>

# CORNELL DUBILIER



## HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS



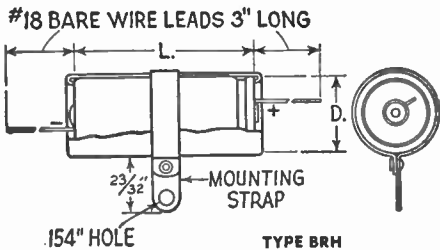
TYPE BRH



TYPE FB ★

These compact tubular electrolytic capacitors have been especially designed for all applications requiring high capacity units operating in low voltage D.C. circuits. They are widely employed in portable radio power rectifying circuits, electric fence devices, telephone and D.C. timing circuits. Units are available in standard capacities and voltage ratings for all uses. Hermetically sealed in pure aluminum cans with an external cardboard insulating sleeve, these units are provided with metal mounting strap and bare wire leads for convenient wiring into any circuit assembly.

Type FB capacitors in round aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.



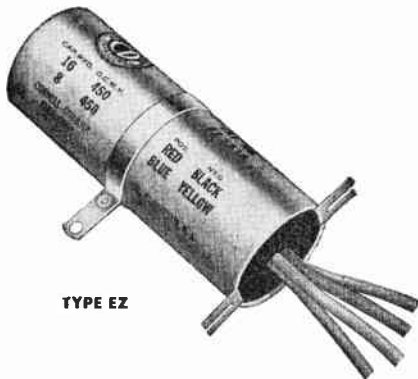
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
FB 1005	500	10	1 3/4 x 2 3/8	\$3.10	\$1.86
FB 1010	1000	10	1 3/4 x 2 3/8	3.55	2.13
FB 1015	1500	10	1 3/4 x 2 3/8	3.75	2.25
FB 1020	2000	10	1 3/4 x 2 3/8	3.95	2.37
FB 1030	3000	10	1 3/4 x 3 1/8	4.35	2.61
FB 1040	4000	10	1 3/4 x 4 1/8	4.75	2.85
FB 1050	5000	10	1 1/2 x 4 1/8	5.15	3.09
FB 1060	6000	10	1 3/4 x 4 1/8	5.55	3.33
FB 1205	500	12	1 3/4 x 2 3/8	3.20	1.92
FB 1210	1000	12	1 3/4 x 2 3/8	3.75	2.25
FB 1215	1500	12	1 3/4 x 2 3/8	3.95	2.37
FB 1220	2000	12	1 3/4 x 3 1/8	4.15	2.49
FB 1225	2500	12	1 3/4 x 3 1/8	4.85	2.91
FB 1230	3000	12	1 3/4 x 4 1/8	5.05	3.03
FB 1240	4000	12	1 1/2 x 4 1/8	5.25	3.15
FB 1260	6000	12	2 x 4 1/8	5.50	3.30
FB 1505	500	15	1 3/4 x 2 3/8	3.25	1.95
FB 1510	1000	15	1 3/4 x 2 3/8	3.80	2.28
FB 1515	1500	15	1 3/4 x 2 3/8	4.00	2.40
FB 1520	2000	15	1 3/4 x 3 1/8	4.70	2.82
FB 1530	3000	15	1 3/4 x 4 1/8	5.15	3.09
FB 1540	4000	15	1 1/2 x 4 1/8	5.35	3.21
FB 1560	6000	15	2 x 4 1/8	5.75	3.45
FB 1805	500	18	1 3/4 x 2 3/8	3.40	2.04
FB 1810	1000	18	1 3/4 x 2 3/8	3.90	2.34
FB 1820	2000	18	1 3/4 x 3 1/8	4.90	2.94
FB 1840	4000	18	1 1/2 x 4 1/8	5.75	3.45
FB 2005	500	20	1 3/4 x 2 3/8	3.40	2.04
FB 2010	1000	20	1 3/4 x 3 1/8	4.10	2.46
FB 2020	2000	20	1 3/4 x 4 1/8	5.20	3.12
FB 2040	4000	20	2 x 4 1/8	5.95	3.57
FB 2505	500	25	1 3/4 x 2 3/8	3.55	2.13
FB 2510	1000	25	1 3/4 x 3 1/8	4.80	2.88
FB 2520	2000	25	1 3/4 x 4 1/8	7.20	4.32
FB 2530	3000	25	1 3/4 x 4 1/8	8.95	5.37
FB 2540	4000	25	2 x 4 1/8	6.45	3.87
FB 2550	5000	25	2 1/2 x 4 1/8	6.85	4.11
FB 3005	500	30	1 3/4 x 3 1/8	3.60	2.16
FB 3010	1000	30	1 3/4 x 4 1/8	4.90	2.94
FB 3020	2000	30	1 3/4 x 4 1/8	7.40	4.44
FB 3030	3000	30	2 x 4 1/8	7.95	4.77
FB 3040	4000	30	2 1/2 x 4 1/8	8.95	5.37
FB 3505	500	35	1 3/4 x 3 1/8	3.70	2.22
FB 3510	1000	35	1 3/4 x 4 1/8	5.00	3.00
FB 3520	2000	35	1 3/4 x 4 1/8	8.00	4.80
FB 3530	3000	35	2 x 4 1/8	9.50	5.70
FB 3540	4000	35	2 1/2 x 4 1/8	10.00	6.00
FB 4005	500	40	1 3/4 x 3 1/8	3.80	2.28
FB 4010	1000	40	1 3/4 x 4 1/8	6.50	3.90
FB 4020	2000	40	1 3/4 x 4 1/8	9.00	5.40
FB 4030	3000	40	2 x 4 1/8	10.50	6.30
FB 4040	4000	40	2 1/2 x 4 1/8	11.50	6.90
FB 5005	500	50	1 3/4 x 3 1/8	3.90	2.34
FB 5010	1000	50	1 3/4 x 4 1/8	8.00	4.80
FB 5020	2000	50	1 3/4 x 4 1/8	10.00	6.00
FB 5030	3000	50	2 x 4 1/8	11.50	6.90
FB 5040	4000	50	2 1/2 x 4 1/8	12.50	7.50

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRH 601	100	6	3/4 x 1 1/8	\$1.20	\$.72
BRH 6025	250	6	3/4 x 1 1/8	1.35	.81
BRH 605A	500	6	3/4 x 1 1/8	1.55	.93
BRH 610	1000	6	7/8 x 2	1.90	1.14
BRH 620	2000	6	1 x 2 1/2	2.30	1.38
BRH 121A	100	12	3/4 x 1 1/8	1.20	.72
BRH 1225A	250	12	3/4 x 1 1/8	1.45	.87
BRH 125A	500	12	7/8 x 2	1.70	1.02
BRH 1210	1000	12	1 x 2	2.25	1.35
BRH 1220	2000	12	1 x 3	2.65	1.59
BRH 151A	100	15	3/4 x 1 1/8	1.25	.75
BRH 1525A	250	15	3/4 x 1 1/8	1.55	.93
BRH 155A	500	15	7/8 x 2	1.75	1.05
BRH 1510	1000	15	1 x 2	2.30	1.38
BRH 1520	2000	15	1 x 3	3.20	1.92
BRH 251A	100	25	3/4 x 1 1/8	1.35	.81
BRH 2525A	250	25	3/4 x 1 1/8	1.70	1.02
BRH 255A	500	25	1 x 2	2.30	1.38
BRH 501	100	50	3/4 x 2	1.40	.84
BRH 5015	150	50	7/8 x 2	1.55	.93
BRH 5025	250	50	1 x 2	1.75	1.05
BRH 5050	500	50	1 x 3	2.40	1.44

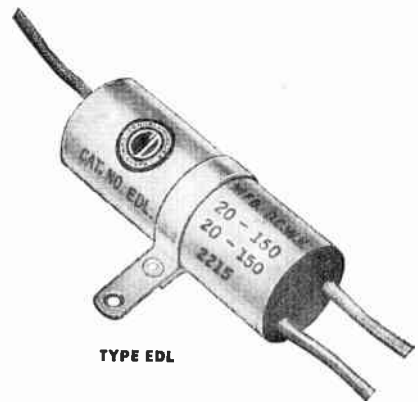
★ When JAN-C-62 units must be supplied, order according to specific CE type designations.



## CARDBOARD TUBE ELECTROLYTICS



TYPE EZ



TYPE EDL

Type EZ Capacitors are especially popular for radio servicing where low cost replacements are required. They are designed with mounting feet for upright mounting to replace inverted can-type units, spade-lug units.

Type EDL Capacitors are dual and triple common negative units in cardboard tube containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EZ 825	8	250	3/8 x 2 1/2	\$1.15	\$ .69
EZ 1625	16	250	1 x 2 3/4	1.30	.78
EZ 2425	24	250	1 1/8 x 2 3/4	1.40	.84
EZ 835	8	350	1 5/16 x 2 1/2	1.20	.72
EZ 1235	12	350	1 5/16 x 2 3/4	1.30	.78
EZ 1635	16	350	1 x 2 3/4	1.40	.84
EZ 2435	24	350	1 x 3 1/2	1.55	.93
EZ 845	8	450	3/8 x 2 3/4	1.25	.75
EZ 1245	12	450	1 x 2 3/4	1.35	.81
EZ 1645	16	450	1 1/8 x 2 3/4	1.40	.84
EZ 3045	30	450	1 1/4 x 3 1/2	1.70	1.02

### Dual Common Negative Units

EZ 2215	20-20	150	1 x 2 1/2	\$1.65	\$ .99
EZ 3315	30-30	150	1 1/8 x 2 3/4	1.80	1.08
EZ 5515	50-50	150	1 1/8 x 3 1/2	2.10	1.26
EZ 8825	8-8	250	1 x 2 3/4	1.60	.96
EZ 8835	8-8	350	1 5/16 x 3 1/2	1.65	.99
EZ 8845	8-8	450	1 x 3 1/2	1.70	1.02

### Dual Separate Section Units

EZ 288	8-8	250	1 3/8 x 2 3/4	\$2.00	\$1.20
EZ 2116	16-16	250	1 3/8 x 3 3/4	2.20	1.32
EZ 388	8-8	350	1 3/8 x 3	2.05	1.23
EZ 3112	12-12	350	1 3/8 x 3 3/4	2.20	1.32
EZ 3116	16-16	350	1 3/8 x 4 3/4	2.70	1.62
EZ 588	8-8	450	1 3/8 x 3	2.15	1.29
EZ 5816	8-16	450	1 3/8 x 3 3/4	2.50	1.50
EZ 5112	12-12	450	1 3/8 x 3 3/4	2.40	1.44
EZ 5116	16-16	450	1 3/8 x 4 3/4	2.80	1.68

### Triple Common Negative Units

EZ 2215C	20-20/20	150/25	1 x 3	\$2.05	\$1.23
EZ 3215C	30-20/20	150/25	1 x 3	2.10	1.26
EZ 3115C	30-10/20	150/25	1 x 3	2.05	1.23
EZ 4215C	40-20/20	150/25	1 1/8 x 3	2.15	1.29
EZ 32115	30-20/10	150	1 1/8 x 2 3/4	2.15	1.29
EZ 42215	40-20/20	150	1 1/8 x 3	2.25	1.35
EZ 1A135C	15-10/20	350/25	1 1/8 x 3 1/2	2.35	1.41
EZ 2143C	20-10/20	400/350/25	1 3/8 x 3 3/8	2.40	1.44

### Triple Separate Section Units\*

EZ 88255	8-8/20	250/25	1 3/8 x 3	\$2.50	\$1.50
EZ 88355	8-8/20	350/25	1 3/8 x 3 3/4	2.55	1.53
EZ 12D355	12-12/20	350/25	1 3/8 x 3 3/4	2.70	1.62
EZ 16D355	16-16/20	350/25	1 3/8 x 4 3/4	3.20	1.92
EZ 88455	8-8/20	450/25	1 3/8 x 3 3/4	2.65	1.59
EZ 12D455	12-12/20	450/25	1 3/8 x 4 3/4	2.90	1.74
EZ 88845	8-8-8	450	1 3/8 x 3 3/4	2.85	1.71

### Quadruple Common Negative Units

EZ 8815CC	8-8-10-10	150/25	1 x 2 3/4	\$2.50	\$1.50
EZ 3215CC	30-20/10-10	150/25	1 3/8 x 2 3/4	2.70	1.62
EZ 42215C	40-20-20/20	150/25	1 3/8 x 3	2.85	1.71
EZ 53215C	50-30-20/20	150/25	1 3/8 x 3 1/2	3.05	1.83
EZ 44315C	40-40-30/20	150/25	1 3/8 x 3 1/2	3.10	1.86
EZ 55515C	50-50-50/20	150/25	1 3/8 x 3 1/2	3.45	2.07

### Dual Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EDL 2202	20-20	25	3/8 x 2 1/4	\$1.40	\$ .84
EDL 115	10-10	50	3/8 x 2 1/4	1.40	.84
EDL 2115	20-10	150	1 5/16 x 2 1/4	1.55	.93
EDL 2215	20-20	150	7/8 x 2 1/4	1.65	.99
EDL 3215	30-20	150	7/8 x 2 1/2	1.70	1.02
EDL 3315	30-30	150	7/8 x 2 1/2	1.80	1.08
EDL 4215	40-20	150	7/8 x 2 1/2	1.75	1.05
EDL 4315	40-30	150	1 5/16 x 2 3/4	1.80	1.08
EDL 4415	40-40	150	1 x 2 3/4	1.85	1.11
EDL 5315	50-30	150	1 x 2 3/4	1.95	1.17
EDL 5515	50-50	150	1 1/8 x 3	2.10	1.26
EDL 8415	80-40	150	1 1/8 x 3	2.25	1.35
EDL 16825	16-8	250	1 5/16 x 2 1/2	1.70	1.02
EDL 16D25	16-16	250	7/8 x 2 1/2	1.80	1.08
EDL 2225	20-20	250	1 x 2 1/2	1.85	1.11
EDL 7V225	75-20	250	1 1/8 x 3 1/2	2.60	1.56
EDL 8D45	8-8	450	1 5/16 x 2 1/2	1.70	1.02
EDL 16845	16-8	450	1 x 3	2.00	1.20
EDL 16D45	16-16	450	1 1/8 x 3	2.25	1.35
EDL 2245	20-20	450	1 3/8 x 3 1/4	2.50	1.50

### Dual Separate Section Units

EDL 221555	20-20	150	1 5/16 x 2 3/4	\$1.65	\$ .99
EDL 331555	30-30	150	1 x 2 3/4	1.80	1.08
EDL 421555	40-20	150	1 x 2 3/4	1.75	1.05
EDL 441555	40-40	150	1 1/8 x 2 3/4	1.85	1.11
EDL 531555	50-30	150	1 1/8 x 2 3/4	1.95	1.17
EDL 551555	50-50	150	1 1/8 x 3 1/4	2.10	1.26
EDL 841555	80-40	150	1 3/8 x 3 3/4	2.25	1.35

### Triple Common Negative Units

EDL 22215	20-20-20	150	1 5/16 x 2 1/2	\$2.20	\$1.32
EDL 32V215	30-25-20	150	7/8 x 3	2.25	1.35
EDL 42215	40-20-20	150	1 x 2 3/4	2.25	1.35
EDL 43215	40-30-20	150	1 x 3	2.35	1.41
EDL 44215	40-40-20	150	1 x 3	2.35	1.41
EDL 44415	40-40-40	150	1 1/8 x 3	2.45	1.47
EDL 2215C	20-20, 20	150, 25	7/8 x 2 1/2	2.05	1.23
EDL 3315C	30-30, 20	150, 25	1 5/16 x 2 1/2	2.20	1.32
EDL 4215C	40-20, 20	150, 25	1 5/16 x 2 1/2	2.15	1.29
EDL 4415C	40-40, 20	150, 25	1 x 2 3/4	2.25	1.35
EDL 5315C	50-30, 20	150, 25	1 x 2 3/4	2.35	1.41
EDL 5515C	50-50, 20	150, 25	1 x 3	2.50	1.50
EDL 8415C	80-40, 20	150, 25	1 1/8 x 3	2.65	1.59
EDL 3215C10	30-20, 100	150, 25	1 x 2 3/4	2.35	1.41
EDL 5315X20	50-30, 200	150, 10	1 x 3	2.55	1.53
EDL 5315C10	50-30, 100	150, 25	1 x 3	2.55	1.53
EDL 8215C10	80-20, 100	150, 25	1 1/8 x 3	2.75	1.65
EDL 2225C	20-20, 20	250, 25	1 5/16 x 2 3/4	2.25	1.35
EDL 4225C	40-20, 20	250, 25	1 x 3	2.55	1.53
EDL 4425C	40-40, 20	250, 25	1 1/8 x 3	2.90	1.74
EDL 7V4125	75-40-10	250	1 1/8 x 3 1/2	3.45	2.07
EDL 16745	16-16-16	450	1 3/8 x 3	3.10	1.86
EDL 2245C	20-20, 20	450, 25	1 3/8 x 3 1/4	2.90	1.74

### Quadruple Common Negative Units

EDL 33215C	30-30-20, 20	150, 25	1 x 2 3/4	\$2.90	\$1.74
EDL 22245C	20-20-20, 20	450, 25	1 3/8 x 3 3/4	4.05	2.43

\*Only first section is separate—remainder common neg.



## "TINY-CHIEF" MOULDED PLASTIC CAPACITORS

**The New  
Smallest-Size  
All-Purpose  
Moulded Tubulars**



Actual Size

Cornell-Dubilier "TINY-CHIEFS" are the roughest, toughest little capacitors ever offered servicemen for all types of television, auto radios, and other compact electronic equipment. They are moulded in an extra hard thermosetting plastic which has all the qualities and electrical characteristics required for long lasting all-around satisfaction. Tested at twice their specified voltage rating, they have been especially designed to maintain stable capacity values under severe conditions of temperature, humidity, and physical stresses. Bare wire leads are firmly connected to the capacitor section, imbedded in the hard plastic casing and will not pull out.

### FEATURES OF C-D "TINY-CHIEFS"

#### • MECHANICAL •

Section and leads embedded in a red-colored solid thermosetting plastic.  
A plastic material which has a cured tensile strength of 3,500 pounds per square inch. It will not soften on heating even up to 400°F.  
Low pressure forming does not injure sections.  
Leads held in exact center during embedment.  
Leads tightly held and sealed by plastic housing.  
Fast curing plastic does not expose section to a long cycle of high temperature.  
No end fill to melt.  
Each group size held to exact dimensions.  
Tinned copper wire leads readily soldered.  
Plastic will not melt when touched by soldering iron.  
No surface wax.

#### • ELECTRICAL •

High quality specially developed materials provide long service life.  
Cured plastic body provides excellent electrical insulation.  
Body seal provides long humidity protection.  
Leads soldered directly to foils of non-inductive section.  
Lead size as below:

Capacitor Diameter	Lead Wire Size
5/16 - 3/8	# 22
7/16 - 1/2	# 20
5/8 - 1	# 18

Temperature range —40°C. to +85°C.

Specified test voltage is two times rating. Power factor 1/2% - 1%.

Insulation resistance 2,000 megohm mfd. or 10,000 per unit, whichever is lower.

#### STANDARD CAPACITY TOLERANCES

Mfd.	Tolerance
1.0	+30% — 10%
.1 to .9	+40% — 10%
.01 to .09	+40% — 20%
.0005 to .009	+60% — 20%

Other tolerances available ±20% and ±10%.

Permanence of capacity excellent due to solid plastic embedment.

New plastic will not track on arcing with excessive voltage.

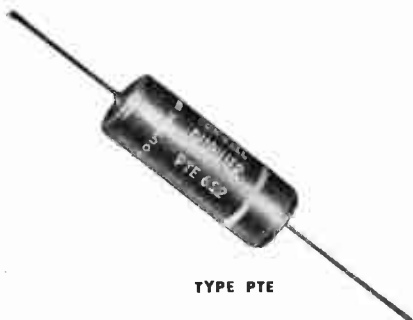
Capacitor stamping indicates capacity, voltage, and outside foil.

Cat. No.	Cap. Mfd.	Size—Inches Dia. & Length	List Price	Net Price
<b>200 V. D.C.</b>				
PJ 2S2	.02	5/16 x 1	\$.25	<b>\$.15</b>
PJ 2S5	.05	3/8 x 1 1/4	.25	<b>.15</b>
PJ 2P1	.1	7/16 x 1 1/4	.35	<b>.21</b>
PJ 2P25	.25	5/8 x 1 3/8	.45	<b>.27</b>
PJ 2P5	.5	5/8 x 1 3/8	.60	<b>.36</b>
PJ 2W1	1.0	3/4 x 2 1/4	.90	<b>.54</b>
<b>400 V. D.C.</b>				
PJ 4S1	.01	5/16 x 1	.25	<b>.15</b>
PJ 4S2	.02	3/8 x 1 1/4	.25	<b>.15</b>
PJ 4S5	.05	7/16 x 1 1/4	.30	<b>.19</b>
PJ 4P1	.1	1/2 x 1 1/2	.35	<b>.21</b>
PJ 4P25	.25	3/8 x 1 3/8	.45	<b>.27</b>
PJ 4P5	.5	3/4 x 2 1/4	.60	<b>.36</b>
PJ 4W1	1.0	1 x 2 1/8	.90	<b>.54</b>
<b>600 V. D.C.</b>				
PJ 6T5	.0005	5/16 x 1	.25	<b>.15</b>
PJ 6D1	.001	5/16 x 1	.25	<b>.15</b>
PJ 6D2	.002	5/16 x 1	.25	<b>.15</b>
PJ 6D3	.003	5/16 x 1	.25	<b>.15</b>
PJ 6D4	.004	5/16 x 1	.25	<b>.15</b>
PJ 6D5	.005	5/16 x 1	.25	<b>.15</b>
PJ 6D6	.006	3/8 x 1 1/4	.25	<b>.15</b>
PJ 6S1	.01	3/8 x 1 1/4	.30	<b>.18</b>
PJ 6S15	.015	3/8 x 1 1/4	.30	<b>.18</b>
PJ 6S2	.02	7/16 x 1 1/4	.30	<b>.18</b>
PJ 6S25	.025	7/16 x 1 1/4	.30	<b>.18</b>
PJ 6S3	.03	7/16 x 1 1/4	.35	<b>.21</b>
PJ 6S4	.04	1/2 x 1 1/2	.35	<b>.21</b>
PJ 6S5	.05	1/2 x 1 1/2	.40	<b>.24</b>
PJ 6P1	.1	5/8 x 1 3/8	.45	<b>.27</b>
PJ 6P25	.25	3/4 x 2 1/4	.55	<b>.33</b>
PJ 6P5	.5	1 x 2 1/8	.80	<b>.48</b>
<b>1600 V. D.C.</b>				
PJ 16D1	.001	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D2	.002	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D3	.003	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D4	.004	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D5	.005	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D55	.0055	3/8 x 1 1/4	.65	<b>.39</b>
PJ 16D6	.006	7/16 x 1 1/4	.65	<b>.39</b>
PJ 16D7	.007	7/16 x 1 1/4	.65	<b>.39</b>
PJ 16D75	.0075	7/16 x 1 1/4	.65	<b>.39</b>
PJ 16D8	.008	7/16 x 1 1/4	.65	<b>.39</b>
PJ 16S1	.01	1/2 x 1 1/2	.70	<b>.42</b>
PJ 16S15	.015	1/2 x 1 1/2	.70	<b>.42</b>
PJ 16S2	.02	5/8 x 1 3/8	.70	<b>.42</b>
PJ 16S3	.03	5/8 x 1 3/8	.70	<b>.42</b>
PJ 16S4	.04	3/4 x 1 3/8	.70	<b>.42</b>

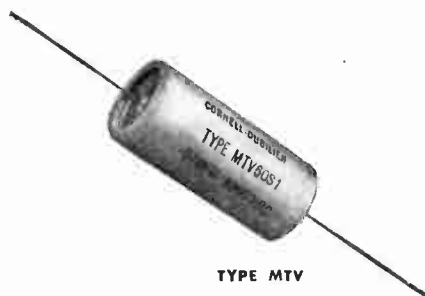




## BLUE CUB MOLDED TUBULAR—HV TELEVISION PHOTOFLASH ELECTROLYTIC



TYPE PTE



TYPE MTV

PTE—"Blue Cub" moulded plastic tubulars, are Vikane\* impregnated to withstand high voltage breakdown at low power factor, humidity and temperatures up to 300° F.

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
<b>400 V. D.C.</b>				
PTE 4S1	.01	1 1/16" x 1 1/16"	\$.25	<b>\$.15</b>
PTE 4S2	.02	7/16" x 1 1/16"	.25	<b>.15</b>
PTE 4S22	.022	7/16" x 1 3/16"	.25	<b>.15</b>
PTE 4S47	.047	1/2" x 1 3/16"	.30	<b>.18</b>
PTE 4S5	.05	1/2" x 1 3/16"	.30	<b>.18</b>
PTE 4S68	.068	9/16" x 1 3/16"	.35	<b>.21</b>
PTE 4P1	.1	9/16" x 1 3/16"	.35	<b>.21</b>
PTE 4P15	.15	1 1/16" x 1 15/16"	.35	<b>.21</b>
PTE 4P22	.22	1 1/16" x 1 15/16"	.40	<b>.24</b>
PTE 4P25	.25	1 1/16" x 1 15/16"	.40	<b>.24</b>
<b>600 V. D.C.</b>				
PTE 6T25	.00025	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6T5	.0005	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D1	.001	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D15	.0015	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D2	.002	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D22	.0022	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D3	.003	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D33	.0033	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D4	.004	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D47	.0047	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D5	.005	1 1/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D6	.006	7/16" x 1 1/16"	.25	<b>.15</b>
PTE 6D68	.0068	7/16" x 1 3/16"	.30	<b>.18</b>
PTE 6S1	.01	7/16" x 1 3/16"	.30	<b>.18</b>
PTE 6S15	.015	7/16" x 1 3/16"	.30	<b>.18</b>
PTE 6S2	.02	1/2" x 1 3/16"	.30	<b>.18</b>
PTE 6S22	.022	1/2" x 1 3/16"	.30	<b>.18</b>
PTE 6S3	.03	9/16" x 1 3/16"	.35	<b>.21</b>
PTE 6S4	.04	9/16" x 1 3/16"	.35	<b>.21</b>
PTE 6S47	.047	9/16" x 1 3/16"	.40	<b>.24</b>
PTE 6S5	.05	9/16" x 1 3/16"	.40	<b>.24</b>
PTE 6S6	.06	1 1/16" x 1 15/16"	.40	<b>.24</b>
PTE 6S68	.068	1 1/16" x 1 15/16"	.40	<b>.24</b>
PTE 6P1	.1	1 1/16" x 1 15/16"	.45	<b>.27</b>
PTE 6P25	.25	7/8" x 2 1/16"	.55	<b>.33</b>
<b>1600 V. D.C.</b>				
PTE 16D1	.001	7/16" x 1 3/8"	.65	<b>.39</b>
PTE 16D2	.002	7/16" x 1 3/8"	.65	<b>.39</b>
PTE 16D22	.0022	7/16" x 1 3/8"	.65	<b>.39</b>
PTE 16D3	.003	7/16" x 1 3/8"	.65	<b>.39</b>
PTE 16D33	.0033	1/2" x 1 3/8"	.65	<b>.39</b>
PTE 16D4	.004	1/2" x 1 3/8"	.65	<b>.39</b>
PTE 16D47	.0047	1/2" x 1 3/8"	.65	<b>.39</b>
PTE 16D5	.005	1/2" x 1 3/8"	.65	<b>.39</b>
PTE 16D53	.0055	1/2" x 1 3/8"	.65	<b>.39</b>
PTE 16D6	.006	9/16" x 1 1/16"	.65	<b>.39</b>
PTE 16D68	.0068	9/16" x 1 1/16"	.65	<b>.39</b>
PTE 16D7	.007	9/16" x 1 1/16"	.65	<b>.39</b>
PTE 16D75	.0075	9/16" x 1 1/16"	.65	<b>.39</b>
PTE 16D8	.008	9/16" x 1 1/16"	.65	<b>.39</b>
PTE 16S1	.01	9/16" x 1 1/16"	.70	<b>.42</b>
PTE 16S15	.015	9/16" x 1 1/16"	.70	<b>.42</b>
PTE 16S2	.02	1 1/16" x 1 15/16"	.70	<b>.42</b>
PTE 16S25	.025	1 1/16" x 1 15/16"	.70	<b>.42</b>
PTE 16S3	.03	1 1/16" x 1 15/16"	.70	<b>.42</b>
PTE 16S4	.04	1 1/16" x 1 15/16"	.70	<b>.42</b>
<b>6000 V. D.C.</b>				
PTE 60T5	.0005	1 1/16" x 1 15/16"	1.35	<b>.81</b>
PTE 60D1	.001	1 1/16" x 1 15/16"	1.35	<b>.81</b>
PTE 60D5	.005	1 1/16" x 1 15/16"	1.35	<b>.81</b>
<b>10000 V. D.C.</b>				
PTE 100T5	.0005	1 1/16" x 1 15/16"	1.50	<b>.90</b>

Type MTV Capacitors are impregnated and filled with oil in hermetically sealed metal tube containers and provided with an insulating cardboard sleeve cover. They are small size units especially designed for use in assemblies where high temperatures are encountered, such as television receivers and similar high voltage equipment.

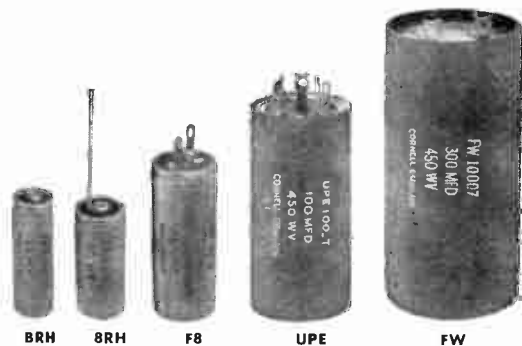
Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
<b>6000 V. D.C.</b>				
MTV 60T5	.0005	1 1/16" x 1 15/16"	\$2.35	<b>\$1.41</b>
MTV 60D1	.001	1 1/16" x 1 15/16"	2.35	<b>1.41</b>
MTV 60D5	.005	1 1/16" x 2 1/16"	2.35	<b>1.41</b>
MTV 60S1	.01	1 1/16" x 2 1/16"	2.35	<b>1.41</b>
MTV 60S2	.02	1 1/16" x 2 1/16"	2.45	<b>1.47</b>
MTV 60S3	.03	1 1/16" x 2 1/16"	2.60	<b>1.56</b>
MTV 60S5	.05	1 1/16" x 3 1/16"	2.75	<b>1.63</b>

Mounting Clamps add 15¢ to list.

### HEAVY WAXED PAPER TUBULAR CAPACITORS

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
GTV 60S1	.01	1 1/16" x 2 1/16"	\$1.40	<b>\$.84</b>
GTV 60S3	.03	1 1/16" x 2 1/16"	1.50	<b>.90</b>
GTV 60S5	.05	1 1/16" x 3 1/16"	1.60	<b>.96</b>

### ELECTROLYTIC PHOTOFLASH CAPACITORS



Cat. No.	Cap. Mfd.	Volts D.C.	Size—Inches Dia. x Length	List Price	Net Price
UPE 100T	100 (2 x 50)	450	1 3/8" x 3" (1 1/2" x 3 1/4" over CB tube)	\$5.50	<b>\$3.30</b>
F8 10063	200	450	2 1/16" x 4 1/2"	6.85	<b>4.11</b>
FW 10005	200	500	2 1/16" x 4 1/2"	10.50	<b>6.30</b>
FW 10007	300	450	2 1/16" x 4 1/2"	10.50	<b>6.30</b>
FW5 10000	300	450	2 1/16" x 4 1/2"	11.50	<b>6.90</b>
FA 10300	400	450	2 3/16" x 4 1/2" (over CB tube)	17.95	<b>10.77</b>

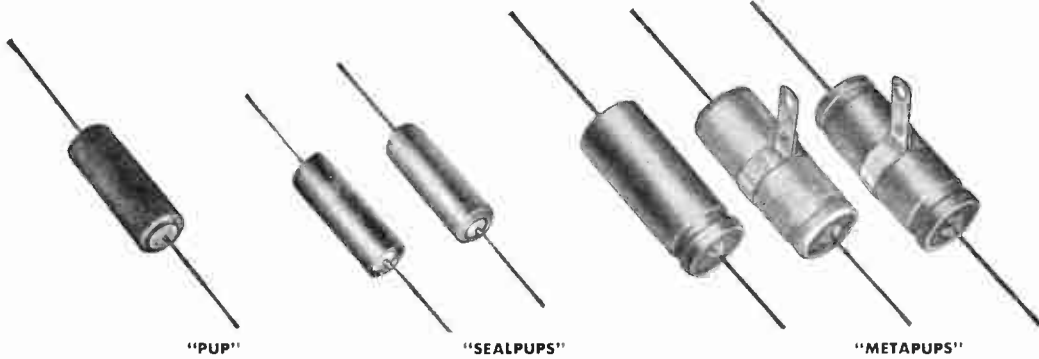
### LOW VOLTAGE PHOTOFLASH CAPACITORS

Cat. No.	Cap. Mfd.	Volts D.C.	Size—Inches Dia. x Length	List Price	Net Price
BRE 10001	40	150	3/4" x 1 1/16"	\$1.35	<b>\$.81</b>
FB 10077	100	30	1" x 2 1/2"	3.35	<b>2.01</b>
8RH 10062	125	25	5/8" x 1 15/16"	1.35	<b>.81</b>
8RH 10067	150	50	3/4" x 1 15/16"	1.35	<b>.81</b>
8RH 2325A	250	25	7/8" x 1 15/16"	1.70	<b>1.02</b>

\*Reg. U. S. Pat. Off.



## SMALL SIZE METALIZED-PAPER CAPACITORS



### "PUP" METAL END-CAP CARDBOARD TUBULARS

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
<b>200 V. D.C.</b>				
MP 2S1	.01	3/8 x 3/8	\$ .60	<b>\$ .36</b>
MP 2S2	.02	3/8 x 3/8	.60	<b>.36</b>
MP 2S3	.03	3/8 x 3/8	.60	<b>.36</b>
MP 2S5	.05	3/8 x 3/8	.65	<b>.39</b>
MP 2P1	.1	3/8 x 3/8	.70	<b>.42</b>
MP 2P25	.25	15/32 x 1/2	.90	<b>.54</b>
MP 2P5	.5	5/16 x 1/2	1.05	<b>.63</b>
MP 2W1	1.0	3/8 x 1/2	1.30	<b>.78</b>
MP 2W2	2.0	3/8 x 1/2	1.80	<b>1.08</b>
<b>400 V. D.C.</b>				
MP 4S1	.01	3/8 x 3/8	.65	<b>.39</b>
MP 4S2	.02	3/8 x 3/8	.65	<b>.39</b>
MP 4S3	.03	3/8 x 3/8	.65	<b>.39</b>
MP 4S5	.05	3/8 x 3/8	.70	<b>.42</b>
MP 4P1	.1	15/32 x 1/2	.80	<b>.48</b>
MP 4P25	.25	5/16 x 1/2	1.00	<b>.60</b>
MP 4P5	.5	3/8 x 1/2	1.15	<b>.69</b>
MP 4W1	1.0	23/32 x 2/8	1.60	<b>.96</b>
<b>600 V. D.C.</b>				
MP 6S1	.01	3/8 x 3/8	.70	<b>.42</b>
MP 6S2	.02	3/8 x 3/8	.70	<b>.42</b>
MP 6S3	.03	3/8 x 3/8	.80	<b>.48</b>
MP 6S5	.05	3/8 x 3/8	.80	<b>.48</b>
MP 6P1	.1	15/32 x 1/2	.90	<b>.54</b>
MP 6P25	.25	5/16 x 1/2	1.10	<b>.66</b>
MP 6P5	.5	3/8 x 1/2	1.45	<b>.87</b>
MP 6W1	1.0	23/32 x 2/8	1.80	<b>1.08</b>

### "METAPUP" ONE-PIECE METAL TUBULARS

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
<b>150 V. D.C.</b>				
MTM 1W3	3.0	3/4 x 1 15/16	\$3.40	<b>\$2.04</b>
MTM 1W4	4.0	15/16 x 1 15/16	4.35	<b>2.61</b>
MTM 1W6	6.0	1 x 1 15/16	5.30	<b>3.18</b>
<b>200 V. D.C.</b>				
MTM 2S5	.05	3/8 x 1 15/16	1.40	<b>.86</b>
MTM 2P1	.1	7/16 x 1 15/16	1.45	<b>.87</b>
MTM 2P25	.25	1/2 x 1 15/16	1.60	<b>.96</b>
MTM 2P5	.5	1/2 x 1 1/4	1.70	<b>1.02</b>
MTM 2W1	1.0	3/8 x 1 15/16	2.10	<b>1.26</b>
MTM 2W2	2.0	3/8 x 1 15/16	2.60	<b>1.56</b>
<b>400 V. D.C.</b>				
MTM 4S3	.03	3/8 x 1 15/16	1.40	<b>.84</b>
MTM 4S5	.05	3/8 x 1 15/16	1.45	<b>.87</b>
MTM 4P1	.1	7/16 x 1 1/4	1.60	<b>.96</b>
MTM 4P25	.25	3/8 x 1 1/4	1.80	<b>1.08</b>
MTM 4P5	.5	3/8 x 1 15/16	2.00	<b>1.20</b>
MTM 4W1	1.0	3/4 x 2 1/16	2.50	<b>1.50</b>
MTM 4W2	2.0	1 x 2 1/16	3.60	<b>2.16</b>
<b>600 V. D.C.</b>				
MTM 6S1	.01	3/8 x 1 15/16	1.40	<b>.84</b>
MTM 6S2	.02	7/16 x 1 15/16	1.45	<b>.87</b>
MTM 6S3	.03	7/16 x 1 15/16	1.50	<b>.90</b>
MTM 6S5	.05	1/2 x 1 15/16	1.55	<b>.93</b>
MTM 6P1	.1	1/2 x 1 1/4	1.70	<b>1.02</b>
MTM 6P25	.25	3/8 x 1 15/16	2.00	<b>1.20</b>
MTM 6P5	.5	3/4 x 1 15/16	2.40	<b>1.44</b>
MTM 6W1	1.0	15/16 x 2 1/16	3.00	<b>1.80</b>
MTM 6W2	2.0	1 1/4 x 2 1/16	4.00	<b>2.40</b>

Cornell-Dubilier improved, self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. "PUP" units are light, compact with an operating temperature range of  $-40^{\circ}$  to  $60^{\circ}$  C. without derating. Bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"METAPUPS" are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets. The operating temperature range of these units is  $-55^{\circ}$  to  $95^{\circ}$  C. For temperatures higher than  $60^{\circ}$  C. voltage derating is necessary.

"SEALPUPS" are the highest quality metalized paper capacitor design for smallest size and positive seal against moisture. They are especially recommended for high grade military and commercial equipment. Temperature range  $-55^{\circ}$  to  $+95^{\circ}$  C.

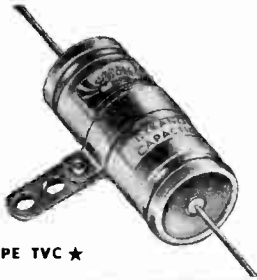
For further data on C-D metalized capacitors, write for Bulletins 142-3-4.

### "SEALPUP" GLASS-METAL END-SEALED TUBULARS

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
<b>200 V. D.C.</b>				
MTW 2S1	.01	.175 x 1 11/16	\$2.65	<b>\$1.59</b>
MTW 2S2	.02	.235 x 1 11/16	2.70	<b>1.62</b>
MTW 2S4	.04	.235 x 1 11/16	2.80	<b>1.68</b>
MTW 2S5	.05	.235 x 1 11/16	2.85	<b>1.71</b>
MTW 2P1	.1	.312 x 1 11/16	2.95	<b>1.77</b>
MTW 2P2	.2	.312 x 1	3.15	<b>1.89</b>
MTW 2P25	.25	.312 x 1	3.40	<b>2.04</b>
MTW 2P5	.5	.400 x 1	4.00	<b>2.40</b>
MTW 2W1	1.0	.562 x 1 11/16	4.70	<b>2.82</b>
MTW 2W15	1.5	.562 x 1 11/16	5.40	<b>3.24</b>
MTW 2W2	2.0	.562 x 1 11/16	6.80	<b>4.08</b>
<b>400 V. D.C.</b>				
MTW 4S1	.01	.235 x 1 11/16	2.85	<b>1.71</b>
MTW 4S2	.02	.235 x 1 11/16	2.90	<b>1.74</b>
MTW 4S4	.04	.312 x 1 11/16	3.00	<b>1.80</b>
MTW 4S5	.05	.400 x 1 11/16	3.10	<b>1.86</b>
MTW 4P1	.1	.400 x 1	3.30	<b>1.98</b>
MTW 4P2	.2	.500 x 1	3.70	<b>2.22</b>
MTW 4P25	.25	.562 x 1	3.95	<b>2.37</b>
MTW 4P5	.5	.562 x 1 11/16	4.85	<b>2.91</b>
MTW 4W1	1.0	.670 x 2 3/16	5.65	<b>3.39</b>
<b>600 V. D.C.</b>				
MTW 6S1	.01	.312 x 1 11/16	2.90	<b>1.74</b>
MTW 6S2	.02	.312 x 1 11/16	2.95	<b>1.77</b>
MTW 6S4	.04	.400 x 1 11/16	3.15	<b>1.89</b>
MTW 6S5	.05	.400 x 1 11/16	3.25	<b>1.95</b>
MTW 6P1	.1	.500 x 1 11/16	3.65	<b>2.19</b>
MTW 6P2	.2	.670 x 1 3/16	4.00	<b>2.40</b>
MTW 6P25	.25	.670 x 1 3/16	4.50	<b>2.70</b>
MTW 6P5	.5	.750 x 1 11/16	5.85	<b>3.51</b>
MTW 6W1	1.0	.750 x 2 3/16	6.70	<b>4.02</b>



## METAL CASED DYKANOL PAPER CAPACITORS



TYPE TVC ★

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
<b>400 V. D.C.</b>				
TVC 4D5	.005	7/16 x 1 1/8	\$1.00	\$.60
TVC 4S1	.01	7/16 x 1 1/8	1.00	.60
TVC 4S15	.015	7/16 x 1 1/8	1.10	.66
TVC 4S2	.02	7/16 x 1 1/8	1.10	.66
TVC 4S3	.03	7/16 x 1 1/8	1.15	.69
TVC 4S4	.04	7/16 x 1 1/8	1.15	.69
TVC 4S5	.05	7/16 x 1 1/8	1.15	.69
TVC 4P1	.1	5/8 x 2 1/16	1.30	.78
TVC 4P25	.25	5/8 x 2 1/16	1.60	.96
TVC 4P5	.5	1 x 2 1/16	1.90	1.14
<b>600 V. D.C.</b>				
TVC 6D5	.005	7/16 x 1 1/8	1.05	.63
TVC 6S1	.01	7/16 x 1 1/8	1.05	.63
TVC 6S15	.015	7/16 x 1 1/8	1.10	.66
TVC 6S2	.02	7/16 x 1 1/8	1.15	.69
TVC 6S3	.03	7/16 x 1 1/8	1.25	.75
TVC 6S4	.04	7/16 x 1 1/8	1.25	.75
TVC 6S5	.05	7/16 x 1 1/8	1.25	.75
TVC 6P1	.1	5/8 x 1 1/2	1.40	.84
TVC 6P25	.25	5/8 x 1 1/2	1.90	1.14
TVC 6P5	.5	1 x 1 1/2	2.45	1.47
<b>1000 V. D.C.</b>				
TVC 10D5	.005	7/16 x 1 1/8	1.25	.75
TVC 10S1	.01	7/16 x 1 1/8	1.25	.75
TVC 10S15	.015	7/16 x 1 1/8	1.35	.81
TVC 10S2	.02	7/16 x 1 1/8	1.35	.81
TVC 10S3	.03	7/16 x 1 1/8	1.35	.81
TVC 10S4	.04	7/16 x 1 1/2	1.35	.81
TVC 10S5	.05	7/16 x 1 1/2	1.45	.87
TVC 10P1	.1	5/8 x 2 1/16	1.65	.99
<b>OIL-FILLED UNITS</b>				
TVC 16D5	.005	5/8 x 1 1/8	1.35	.81
TVC 16S1	.01	5/8 x 1 1/8	1.35	.81
TVC 16S15	.015	5/8 x 1 1/8	1.40	.84
TVC 16S2	.02	5/8 x 1 1/8	1.45	.87
TVC 16S3	.03	5/8 x 2 1/16	1.45	.87
TVC 16S4	.04	5/8 x 2 1/16	1.45	.87
TVC 16S5	.05	7/8 x 2 1/16	1.55	.93

For units provided with insulating sleeve over metal tube add 10c to list price. When ordering add "6" to Cat. No. (Example TVC 4D5-6).



TYPE YAB ★

Cat. No.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
<b>600 V. D.C. Work.</b>				
WAT or WAB 6005	.05	1 1/16 x 1 1/16 x 1 1/16	\$3.85	\$2.31
WAT or WAB 6010	.1	1 1/16 x 1 1/16 x 1 1/16	4.15	2.49
WAT or WAB 6025	.25	1 1/16 x 1 1/16 x 1 1/16	4.40	2.64
WAT or WAB 6050	.5	1 1/16 x 1 1/16 x 2 1/16	4.70	2.82
WAT or WAB 6100	1.0	1 1/16 x 1 1/16 x 2 1/2	5.25	3.15
<b>1000 V. D.C. Work.</b>				
WAT or WAB 10005	.05	1 1/16 x 1 1/16 x 1 1/16	4.15	2.49
WAT or WAB 10010	.1	1 1/16 x 1 1/16 x 1 1/16	4.15	2.49
WAT or WAB 10025	.25	1 1/16 x 1 1/16 x 2 1/16	4.40	2.64
WAT or WAB 10050	.5	1 1/16 x 1 1/16 x 2 1/2	4.40	2.64



TYPE DYR ★

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
<b>600 V. D.C. Work.</b>				
DYR 6005	.05	1 1/16 x 1 x 3/4	\$2.90	\$1.74
DYR 6010	.1	1 1/16 x 1 x 3/4	2.95	1.77
DYR 6025	.25	1 1/16 x 1 x 3/4	3.10	1.86
DYR 6050	.5	1 1/16 x 1 x 7/8	3.30	1.98
DYR 6100	1	2 x 1 3/4 x 7/8	3.75	2.25
DYR 6200	2	2 x 2 x 1 1/8	5.00	3.00
DYR 60055	.05-.05	1 1/16 x 1 x 3/4	3.65	2.19
DYR 6011	.1-.1	1 1/16 x 1 x 3/4	3.70	2.22
DYR 6022	.25-.25	1 1/16 x 1 1/4 x 3/4	3.75	2.25
DYR 6055	.5-.5	2 x 1 3/4 x 7/8	4.30	2.58
DYR 6110	1-.1	2 x 2 x 1 1/8	5.30	3.18
DYR 6111	.1-.1-1	1 1/16 x 1 x 3/4	4.20	2.52
DYR 6222	.25-.25-.25	2 x 1 3/4 x 1 1/2	4.75	2.85
DYR 6555	.5-.5-.5	2 x 2 x 1 1/8	5.75	3.45
<b>1000 V. D.C. Work.</b>				
DYR 10005	.05	1 1/16 x 1 x 3/4	3.05	1.83
DYR 10010	.1	1 1/16 x 1 x 3/4	3.15	1.89
DYR 10025	.25	1 1/16 x 1 x 3/4	3.25	1.95
DYR 10050	.5	2 x 1 3/4 x 7/8	3.55	2.13
DYR 10100	1	2 x 2 x 1 1/8	4.40	2.64
DYR 100055	.05-.05	1 1/16 x 1 x 3/4	3.85	2.31
DYR 10011	.1-.1	1 1/16 x 1 x 3/4	4.00	2.40
DYR 10022	.25-.25	2 x 1 3/4 x 1 1/2	4.20	2.52
DYR 10055	.5-.5	2 x 2 x 1 1/8	5.45	3.27
DYR 10111	.1-.1-1	1 1/16 x 1 1/4 x 3/4	4.60	2.76
DYR 10222	.25-.25-.25	2 x 2 x 1 1/8	5.50	3.30



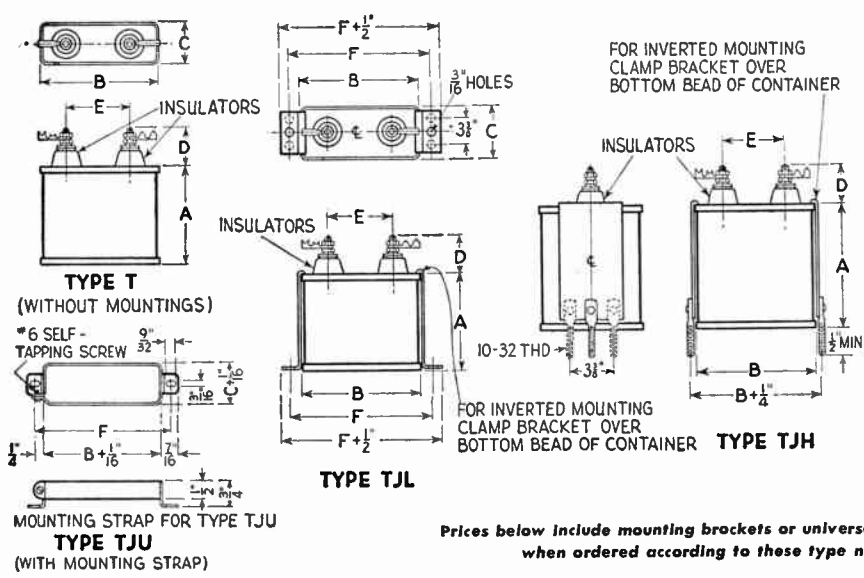
TYPE YAT ★

Cat. No.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
<b>600 V. D.C. Work.</b>				
YAT or YAB 6005	.05	1 3/4 x 3/16 x 1	\$3.60	\$2.16
YAT or YAB 6010	.1	1 3/4 x 3/16 x 1	3.60	2.16
YAT or YAB 6025	.25	1 3/4 x 3/16 x 1 1/2	3.85	2.31
YAT or YAB 6050	.5	1 3/4 x 3/16 x 1 3/8	4.15	2.49
YAT or YAB 6100	1.0	1 3/4 x 3/16 x 2 1/2	4.70	2.82
YAT or YAB 60055	.05-.05	1 3/4 x 3/16 x 1	3.65	2.19
YAT or YAB 6011	.1-.1	1 3/4 x 3/16 x 1 1/2	4.70	2.82
YAT or YAB 6022	.25-.25	1 3/4 x 3/16 x 1 1/8	4.70	2.82
YAT or YAB 6055	.5-.5	1 3/4 x 3/16 x 2 1/2	5.50	3.30
YAT or YAB 60555	.05-.05-.05	1 3/4 x 3/16 x 1	5.25	3.15
YAT or YAB 6111	.1-.1-1	1 3/4 x 3/16 x 1 1/2	5.50	3.30
YAT or YAB 6222	.25-.25-.25	1 3/4 x 3/16 x 2 1/2	5.80	3.48
<b>1000 V. D.C. Work.</b>				
YAT or YAB 10005	.05	1 3/4 x 3/16 x 1	3.70	2.22
YAT or YAB 10010	.1	1 3/4 x 3/16 x 1	4.00	2.40
YAT or YAB 10025	.25	1 3/4 x 3/16 x 1 1/8	4.15	2.49
YAT or YAB 10050	.5	1 3/4 x 3/16 x 2 1/2	4.40	2.64
YAT or YAB 100055	.05-.05	1 3/4 x 3/16 x 1 1/2	4.40	2.64
YAT or YAB 10011	.1-.1	1 3/4 x 3/16 x 1 1/2	4.95	2.97
YAT or YAB 10022	.25-.25	1 3/4 x 3/16 x 2 1/2	5.25	3.15
YAT or YAB 100555	.05-.05-.05	1 3/4 x 3/16 x 1 1/2	5.80	3.48
YAT or YAB 10111	.1-.1-1	1 3/4 x 3/16 x 2 1/2	6.35	3.81

★ When JAN-C-25 units must be supplied, order according to specific CP type designations listed in C-D Paper Capacitor Catalog No. 400.



## DYKANOL TRANSMITTING CAPACITORS



**TYPE T ★**  
Provided with mounting brackets designated upon ordering as explained below.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

- TYPE T—(Basic unit) without mountings.
- TYPE TJH—With screw spode-lug brackets.

- TYPE TJL—With mounting foot brackets.
- TYPE TJU—With universal mounting strap.

Cat. No.	Cap. Mfd.	Dimensions—Inches						List Price	Net Price
		A	B	C	D	E	F		
<b>600 V. D.C. Working</b>									
T 6005	.5	2 1/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	\$4.70	\$2.82
T 6010	1	2 1/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	5.80	3.48
T 6020	2	2 7/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	7.15	4.29
T 6030	3	3 3/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	8.25	4.95
T 6040	4	3 3/8	2 1/2	1 13/16	7/8	1 1/8	3	9.10	5.46
T 6050	5	4 3/4	1 13/16	1 1/16	7/8	1 13/16	2 1/4	10.45	6.27
T 6060	6	4 3/4	2 1/2	1 1/16	7/8	1 1/8	3	11.30	6.78
T 6080	8	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	13.50	8.10
T 6100	10	4 3/8	3 3/4	1 1/4	7/8	2	4 3/8	15.15	9.09
<b>1000 V. D.C. Working</b>									
T 10001	.1	2	1 13/16	1 1/16	7/8	1 13/16	2 1/4	4.15	2.49
T 100025	.25	2 1/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	4.70	2.82
T 10005	.5	2 7/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	4.95	2.97
T 10010	1	2 7/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	6.35	3.81
T 10020	2	3 1/4	1 13/16	1 1/16	7/8	1 13/16	2 1/4	8.25	4.95
T 10030	3	3 1/4	2 1/2	1 13/16	7/8	1 1/8	3	9.65	5.79
T 10040	4	4 3/8	2 1/2	1 13/16	7/8	1 1/8	3	10.45	6.27
T 10050	5	4 3/8	3 3/4	1 1/4	7/8	2	4 3/8	12.65	7.59
T 10060	6	4 3/8	3 3/4	1 1/4	7/8	2	4 3/8	14.05	8.43
T 10080	8	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	15.15	9.09
T 10100	10	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	16.80	10.08
T 10120	12	3 13/16	3 3/4	2 1/4	7/8	2	4 3/8	18.15	10.89
T 10150	15	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	20.10	12.06
<b>1500 V. D.C. Working</b>									
T 15005	.5	2 7/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	6.35	3.81
T 15010	1	4	1 13/16	1 1/16	7/8	1 13/16	2 1/4	7.45	4.47
T 15020	2	4 1/2	2 1/2	1 13/16	7/8	1 1/8	3	10.45	6.27
T 15030	3	4 3/4	2 1/2	1 13/16	7/8	1 1/8	3	12.40	7.44
T 15040	4	4 3/8	3 3/4	1 1/4	7/8	2	4 3/8	14.05	8.43
T 15050	5	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	15.15	9.09
T 15060	6	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	17.05	10.23
T 15080	8	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	20.90	12.54
*T 15100	10	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	25.05	15.03
*T 15120	12	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	27.25	16.35
†*T 15150	15	4 3/4	3 3/4	4 3/16	7/8	2	4 3/8	30.00	18.00

Cat. No.	Cap. Mfd.	Dimensions—Inches						List Price	Net Price
		A	B	C	D	E	F		
<b>2000 V. D.C. Working</b>									
T 20001	.1	2 1/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	\$6.60	\$3.96
T 200025	.25	2 1/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	7.15	4.29
T 20005	.5	2 7/8	1 13/16	1 1/16	7/8	1 13/16	2 1/4	7.45	4.47
T 20010	1	3 3/8	2 1/2	1 13/16	7/8	1 1/8	3	9.10	5.46
T 20020	2	4	3 3/4	1 1/4	7/8	2	4 3/8	10.75	6.45
T 20030	3	4	3 3/4	1 1/4	7/8	2	4 3/8	13.20	7.92
T 20040	4	4 3/8	3 3/4	1 1/4	7/8	2	4 3/8	15.15	9.09
T 20050	5	4 3/4	3 3/4	2 1/4	7/8	2	4 3/8	16.80	10.08
*T 20060	6	4 3/4	3 3/4	2 1/4	7/8	2	4 3/8	20.10	12.06
*T 20080	8	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	25.05	15.03
*T 20100	10	4 3/4	3 3/4	4 3/16	7/8	2	4 3/8	30.55	18.33
†*T 20120	12	5 3/8	3 3/4	4 3/16	7/8	2	4 3/8	33.30	19.98
<b>2500 V. D.C. Working</b>									
T 25005	.5	3 1/2	3 3/4	1 1/4	7/8	2	4 3/8	11.55	6.93
T 25010	1	3 3/4	3 3/4	1 3/4	7/8	2	4 3/8	13.20	7.92
T 25020	2	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	21.45	12.87
†*T 25040	4	4	3 3/4	4 3/16	7/8	2	4 3/8	30.00	18.00
†*T 25100A	10	6 3/8	3 3/4	4 3/16	7/8	2	4 3/8	75.10	45.06
<b>3000 V. D.C. Working</b>									
T 30001	.1	2	2 1/8	1 3/8	1 1/4	1 1/8	1	14.05	8.43
T 300025	.25	2 1/8	2 1/8	1 3/8	1 1/4	1 1/8	1	14.85	8.91
T 30005	.5	3 1/4	2 1/2	1 3/8	1 1/4	1 1/8	1	16.80	10.08
T 30010	1	3 3/8	3 3/4	2 1/4	1 1/4	2	4 3/8	20.10	12.06
*T 30020	2	4 1/8	3 3/4	3 3/8	1 1/4	2	4 3/8	25.05	15.03
†*T 30040	4	4 3/4	3 3/4	4 3/16	1 1/4	2	4 3/8	36.85	22.11
<b>4000 V. D.C. Working</b>									
T 40001	.1	2 3/4	3 3/4	2 1/4	2	2	4 3/8	25.05	15.03
T 400025	.25	2 3/4	3 3/4	2 1/4	2	2	4 3/8	26.40	15.84
T 40005	.5	4	3 3/4	2 1/4	2	2	4 3/8	30.00	18.00
T 40010	1	5	3 3/4	2 1/4	2	2	4 3/8	36.85	22.11
†*T 40020	2	5	3 3/4	4 3/16	2	2	4 3/8	46.75	28.05
†*T 40040A	4	8	3 3/4	4 3/16	2	1 3/4	4 3/8	66.85	40.11
<b>5000 V. D.C. Working</b>									
T 50005	.5	4 1/4	3 3/4	2 1/4	2	2	4 3/8	33.30	19.98
†*T 50010	1	4 1/4	3 3/4	4 3/16	2	2	4 3/8	41.80	25.08
†*T 50020	2	6	3 3/4	4 3/16	2	2	4 3/8	53.65	32.19
<b>6000 V. D.C. Working</b>									
†*T 60010A	1	8	3 3/4	4 3/16	2	1 3/4	4 3/8	83.60	50.16

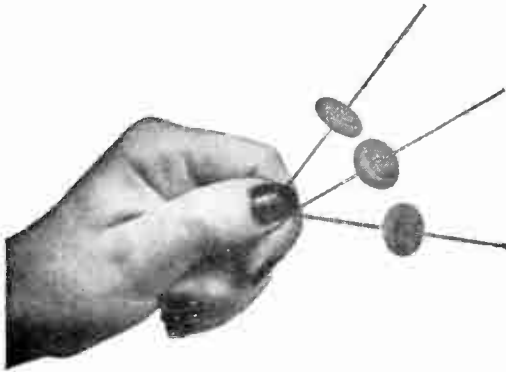
NOTES—\* Type TJU units are not furnished in these larger sizes.  
† Types TJL and TJH units furnished with two mounting holes or spade lugs 3 3/8" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

For higher voltage units, from 6,000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

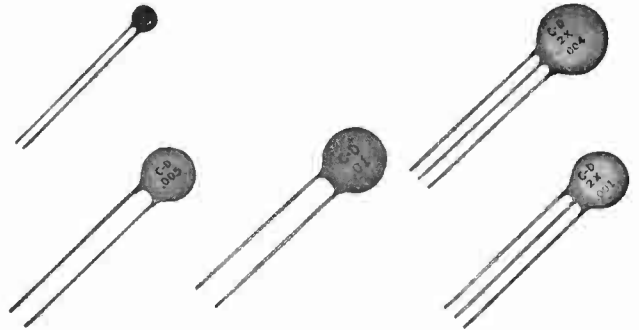
★ When JAN-C-25 units must be supplied, order according to specific CP type designations listed in C-D Paper Capacitor Catalog No. 400.



## "TINMIKE" DISC-TYPE CERAMIC CAPACITORS



TYPE TM-6  
(Axial Leads)



TYPE TM-5

# TINY MIKE®

### Miniature Ceramic Disc Capacitors

For Bypass and Coupling Applications in TV, FM,  
UHF, VHF, and Compact, Small-Size Equipment

#### 500 Volts D. C. Working

Cat. No.	Cap. Mmf. ± 20%	Size—Inches Dia. x Thick	List Price	Net Price
TM 5Q5	50	1 9/32 x 5/32	\$.25	<b>\$.15</b>
TM 5Q75	75	1 9/32 x 5/32	.25	<b>.15</b>
TM 5T1	100	1 9/32 x 5/32	.25	<b>.15</b>
TM 5T12	120	1 9/32 x 5/32	.25	<b>.15</b>
TM 5T15	150	1 9/32 x 5/32	.25	<b>.15</b>
TM 5T2	200	1 9/32 x 5/32	.25	<b>.15</b>
TM 5T5	500	1/4 x 5/32	.25	<b>.15</b>
TM 5T8	800	1/4 x 5/32	.25	<b>.15</b>
TM 5D1	1000	1/4 x 5/32	.25	<b>.15</b>
TM 5D15	1500	1 9/32 x 5/32	.25	<b>.15</b>
TM 5D2	2000	1 9/32 x 5/32	.25	<b>.15</b>
TM 5D25	2500	1 9/32 x 5/32	.25	<b>.15</b>
TM 5D3	3000	1 9/32 x 5/32	.25	<b>.15</b>
TM 5D4	4000	1 9/32 x 5/32	.25	<b>.15</b>
TM 5D5	5000	1 9/32 x 5/32	.25	<b>.15</b>
TM 5S1	10000	3/4 x 5/32	.30	<b>.18</b>
TM 5DD1	2 x 1000	1 9/32 x 5/32	.40	<b>.24</b>
TM 5DD15	2 x 1500	1 9/32 x 5/32	.40	<b>.24</b>
TM 5DD2	2 x 2000	1 9/32 x 5/32	.40	<b>.24</b>
TM 5DD25	2 x 2500	1 9/32 x 5/32	.40	<b>.24</b>
TM 5DD3	2 x 3000	3/4 x 5/32	.45	<b>.27</b>
TM 5DD4	2 x 4000	3/4 x 5/32	.45	<b>.27</b>
TM 5DS1	2 x 10000	3/4 x 5/32	.45	<b>.27</b>

#### 1000 Volts D. C. Working

TM 10Q18	18	1 9/32 x 5/32	\$ .40	<b>\$.24</b>
TM 10Q22	22	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q33	33	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q47	47	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q56	56	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q62	62	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q68	68	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q75	75	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q82	82	1 9/32 x 5/32	.40	<b>.24</b>
TM 10Q91	91	1 9/32 x 5/32	.40	<b>.24</b>

#### 6000 Volts D. C. Working

TM 60Q1	10	1 9/32 x 5/32	\$.75	<b>\$.45</b>
TM 60Q2	20	1 9/32 x 5/32	.75	<b>.45</b>
TM 60Q3	30	1 9/32 x 5/32	.75	<b>.45</b>
TM 60Q4	40	1 9/32 x 5/32	.75	<b>.45</b>
TM 60Q5	50	1 9/32 x 5/32	.75	<b>.45</b>

### FEATURES OF "TINMIKE" DISC-TYPE CERAMIC CAPACITORS

- Small, space-saving and lightweight.
- Available in all popular capacities.
- Guaranteed minimum capacity tolerance.
- Adapted for wide variety of applications.
- Minimized eddy current losses due to construction.
- Low Inductance, stable, dependable performance.
- Available with temperature compensating characteristics.

C-D "TINMIKES" are small, space-saving and lightweight, making them ideal for cramped chassis layouts. So light . . . far lighter than other capacitor types having equivalent electrical rating. Diminutive but easy-to-handle size, and parallel leads, permit easy, fast insertion to connections in tight assemblies, reducing labor cost while increasing productivity. Low cost of "TINMIKES" shows direct saving over most other capacitor types of equivalent electrical ratings. Guaranteed Minimum Capacity over a temperature range of +10° C. to +65° C.

Minimized eddy current losses due to construction with only a single pair of silver electrodes per capacitor. Leads firmly solder-connected directly to the complete active area of capacitance provide positive contact.

Short current path and parallel leads reduce inductance to an unusually low level, the amount depending on lead length. Accurately positioned, parallel leads provide convenient connections. Excellent control of dielectric composition and manufacturing processes assures low power factor, high dielectric strength and high insulation resistance.

Constant, dependable service further assured by C-D quality construction such as firm bonding of high-purity silver electrodes to the flat ceramic disc, and soldering of the leads. Protected against effects of humidity by use of special phenolic coating and high-temperature wax impregnation. The coating also protects against grounds caused by contact with nearby components.

For quick identification all units of 1,000 mmf. (.001 mfd.) and higher are stamped with decimal in MFD.; units under 1,000 mmf. are stamped with whole number in mmf.

C-D has developed a special line of Temperature Compensating ceramic capacitors that offer the utmost in high stability, low drift, low power factor, high Q, high insulation resistance, and low inductance. C-D manufactures its own ceramic capacitor bodies under the strictest electronically controlled quality supervision which results in the desirable features inherent particularly in the temperature compensating types.



## HIGH-VOLTAGE CERAMIC TELEVISION CAPACITORS



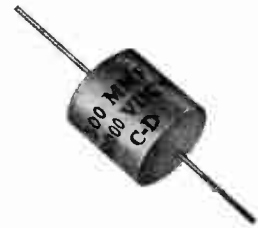
TYPE MM WITH "A" TERMINALS



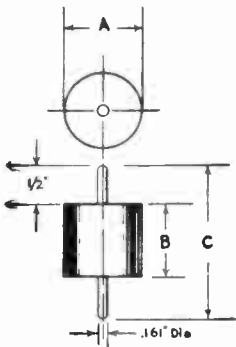
TYPE MM WITH "B" TERMINALS



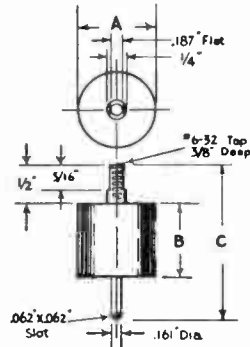
TYPE MM WITH "C" OR "D" TERMINALS



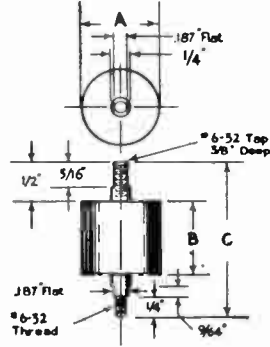
TYPE MM WITH "E" TERMINALS



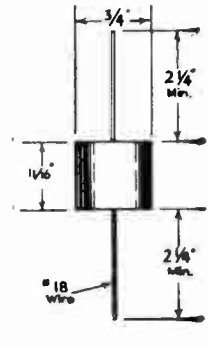
Plug-In Stud Terminals Specify "A" Terminals



Slotted Plug-In Stud & Tapped 6/32 Female Terminal Specify "B" Terminals



Tapped 6/32 Female Terminal & Threaded 6/32 Male Terminal Specify "C" Terminals; for Threaded 6/32 Female & Threaded 8/32 Male Terminal Specify "D" Terminals; for Both Terminals Threaded 8/32 Male, Specify "F" Terminals



Wire-Lead Terminals Specify "E" Terminals

# MITY MIKE

## High-Voltage Television Ceramic Capacitors

### FEATURES OF "MITYMIKE" HIGH VOLTAGE CERAMIC CAPACITORS

- New, superior design and construction.
- High insulation resistance, low power factor.
- Generous factor of safety permits use at FULL rated voltage.
- Choice of terminal styles to meet all TV assembly requirements.

Cat. No.	Cap. Mmfd.	Volts D.C.	Flash Test	Size—Inches A B C	List Price	Net Price
MM-10T5	500	10,000	20,000	.750 1 1/16 1 21/32	\$1.75	<b>1.05</b>
MM-120T5	500	20,000	30,000	.950 1 5/16 1 31/32	2.25	<b>1.35</b>

†Add letter specifying type of terminals (A, B, C, D, E or F) desired.

New, superior design and construction . . . with greater electrical advantages, dependability, and longer life than ever before achieved in TV high-voltage ceramic capacitors!

An original C-D engineering job inside and out . . . backed by C-D's decades of experience with high-voltage ceramic capacitors. These TV High-Voltage "MITYMIKES" will withstand higher peak voltages, and can be used at full rated voltage, as they are conservatively rated for DC Flash Test up to 1 1/2x to 2x rated DC Working Voltage, as listed.

This generous factor of safety, due to the unique C-D design, assures long life and constant, dependable service with no deterioration in the ceramic composition despite the severe high voltage stress in TV operation.

High-purity silver electrodes are heat-bonded to the ceramic dielectric. The silver-plated brass terminals (or the #18, .040",

fined wire leads) are firmly solder-connected direct to the silver electrodes. The C-D ceramic design effectively reduces corona to a minimum, and in combination with the ceramic composition provides high insulation resistance and low power factor. The ceramic body is manufactured under strictest Quality Control standards to insure uniformity of physical and electrical characteristics in the finished capacitor.

Choice of terminal styles is shown in photos and outline drawings . . . every type to meet TV assembly requirements. Any combination of the above A, B, C, D, E or F terminals, can be furnished on order.

"MITYMIKES" are ideally suited for filter, bypass, and blocking, in TV high-voltage power supplies; in filter circuits employing cathode ray tubes; and in other applications, stationary and mobile equipment, where high-voltage rectified power supplies are used. These units can also be used to obtain higher voltages by means of series connections.

Capacity tolerance: +50% -20%. Power Factor: 1.5% maximum at 1 mc. or 1 kc. Leakage Resistance: 7,500 megohms minimum. Outer coating is distinctively colored for easy identification. All units are clearly stamped with capacity and voltage and are impregnated with high-temperature wax for additional protection against moisture absorption.



## MOULDED MIDGET MICA & BAKELITE CAPACITORS

**TYPE 22R**

Cap. Mfd.	1000 V. D.C. Test—500 V. D.C. Work.			List Price	Net Price
	Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.		
.000005	5W 5V5			\$.25	\$.15
.00001	5W 5Q1			.25	.15
.00002	5W 5Q2			.25	.15
.000025	5W 5Q25			.25	.15
.00003	5W 5Q3			.25	.15
.00004	5W 5Q4			.20	.12
.00005	5W 5Q5			.20	.12
.00007	5W 5Q7			.20	.12
.0001	5W 5T1			.20	.12
.00015	5W 5T15			.20	.12
.0002	5W 5T2			.20	.12
.00025	5W 5T25			.25	.15
.0003	5W 5T3			.25	.15
.0004	5W 5T4			.25	.15
.0005	5W 5T5			.25	.15
.0006		1W 5T6		.25	.15
.0007		1W 5T7		.25	.15
.0008		1W 5T8		.25	.15
.0009		1W 5T9		.25	.15
.001		1W 5D1		.30	.18
.0015		1W 5D15		.30	.18
.002		1W 5D2		.40	.24
.0025		1W 5D25		.45	.27
.003		1W 5D3		.50	.30
.004			1D 5D4	.55	.33
.005			1D 5D5	.60	.36
.006			1D 5D6	.75	.45
600 V. D.C. Test					
300 V. D.C. Working					
.007			1D 3D7	.90	.54
.008			1D 3D8	1.00	.60
.009			1D 3D9	1.00	.60
.01			1D 3S1	1.20	.72

**Notes On Ordering Special Units**

The listing above gives the range of capacities available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

Standard capacity tolerance is plus or minus 20%. Also available, an order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.

**1500 Volts D. C. Working**

Cat. No.	Cap. Mfd.	List Price	Net Price
5WP 15V5	.000005	\$.30	\$.18
5WP 15Q1	.00001	.30	.18
5WP 15Q25	.000025	.30	.18
5WP 15Q3	.00003	.30	.18
5WP 15Q75	.000075	.30	.18
5WP 15T1	.0001	.35	.21
5WP 15T15	.00015	.35	.21
5WP 15T2	.0002	.40	.24
5WP 15T25	.00025	.45	.27
5WP 15T3	.0003	.50	.30
5WP 15T35	.00035	.50	.30
5WP 15T4	.0004	.55	.33

**1500 Volts D. C. Working**

Cat. No.	Cap. Mfd.	List Price	Net Price
1WP 15T5	.0005	\$.70	\$.42
1WP 15T75	.00075	.80	.48
1WP 15D1	.001	.90	.54
1WP 15D15	.0015	1.05	.63
1WP 15D2	.002	1.20	.72
1WP 15D24	.0024	1.35	.81

**1000 Volts D. C. Working**

Cat. No.	Cap. Mfd.	List Price	Net Price
1WP 10D15	.0015	\$.70	\$.42
1WP 10D2	.002	.80	.48
1WP 10D25	.0025	1.00	.60
1WP 10D3	.003	1.10	.66
1WP 10D4	.004	1.30	.78
1WP 10D5	.005	1.60	.96

**2000 Volts D. C. Working**

Cat. No.	Cap. Mfd.	List Price	Net Price
3WP 20T5	.0005	\$.65	\$.39
3WP 20T75	.00075	.75	.45
3WP 20D1	.001	.95	.57
3WP 20D15	.0015	1.25	.75

Standard tolerance  $\pm 20\%$ .

\* When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Capacitor Catalog No. 422.

Radio's Master — 17th Edition

Net

Cat. No.	Cap. Mfd.	Volts D. C. W.	List Price	Net Price
22R 5Q1	.00001	500	.40	.24
22R 5Q22	.000012	500	.40	.24
22R 5Q15	.000015	500	.40	.24
22R 5Q18	.000018	500	.40	.24
22R 5Q2	.00002	500	.40	.24
22R 5Q22	.000022	500	.40	.24
22R 5Q24	.000024	500	.40	.24
22R 5Q27	.000027	500	.40	.24
22R 5Q3	.00003	500	.40	.24
22R 5Q33	.000033	500	.40	.24
22R 5Q36	.000036	500	.40	.24
22R 5Q39	.000039	500	.40	.24
22R 5Q43	.000043	500	.40	.24
22R 5Q47	.000047	500	.40	.24
22R 5Q5	.00005	500	.40	.24
22R 5Q51	.000051	500	.40	.24
22R 5Q56	.000056	500	.40	.24
22R 5Q62	.000062	500	.40	.24
22R 5Q68	.000068	500	.40	.24
22R 5Q75	.000075	500	.40	.24
22R 5Q82	.000082	500	.40	.24
22R 5Q91	.000091	500	.40	.24
22R 5T1	.0001	500	.40	.24
22R 5T11	.00011	500	.45	.27
22R 5T12	.00012	500	.45	.27
22R 5T13	.00013	500	.45	.27
22R 5T15	.00015	500	.45	.27
22R 5T16	.00016	500	.45	.27
22R 5T18	.00018	500	.45	.27
22R 5T2	.0002	500	.45	.27
22R 5T22	.00022	500	.45	.27
22R 5T24	.00024	500	.45	.27
22R 5T25	.00025	500	.45	.27
22R 5T27	.00027	500	.55	.33
22R 5T3	.0003	500	.55	.33
22R 5T33	.00033	500	.55	.33
22R 5T36	.00036	500	.55	.33
22R 5T39	.00039	500	.65	.39
22R 5T42	.00042	500	.65	.39
22R 5T43	.00043	500	.65	.39
22R 3T47	.00047	300	.70	.42
22R 3T5	.0005	300	.70	.42
22R 3T51	.00051	300	.70	.42

Note: Standard tolerance  $\pm 5\%$ , but in no instance less than  $\pm$  mmf. Far capacity Tolerance of: 20% deduct 10% from list; 10% deduct 5% from list; 3% add 10% to list; 2% add 15% to list; 1% add 25% to list.

Cap. Mfd.	1000 V. D.C. Test—500 V. D.C. Work.			List Price	Net Price
	Type 5R Cat. No.	Type 2R Cat. No.	Type 1R & 1DR Cat. No.		
.000005	5R 5V5			\$.45	\$.27
.00001	5R 5Q1			.40	.24
.00002	5R 5Q2			.40	.24
.000025	5R 5Q25			.40	.24
.00003	5R 5Q3			.40	.24
.00004	5R 5Q4			.40	.24
.00005	5R 5Q5			.40	.24
.00007	5R 5Q7			.40	.24
.0001	5R 5T1			.40	.24
.00015	5R 5T15	2R 5T1		.40	.24
.0002	5R 5T2	2R 5T15		.45	.27
.00025	5R 5T25	2R 5T2		.45	.27
.0003	5R 5T3	2R 5T25		.45	.27
.0004	5R 5T4	2R 5T3		.55	.33
.0005	5R 5T5	2R 5T4		.65	.39
.0007		2R 5T5		.70	.42
.0008		2R 5T7		.85	.51
.0009		2R 5T8		.95	.57
.001		2R 5T9		1.00	.60
.0015		2R 5D1	1R 5D1	1.10	.66
.002			1R 5D15	1.35	.81
.0025			1R 5D2	1.35	.81
.003			1R 5D25	1.80	1.08
.004			1R 5D3	2.05	1.23
.005			1DR 5D4	2.15	1.29
			1DR 5D5	2.25	1.35

**Notes On Ordering Special Units**

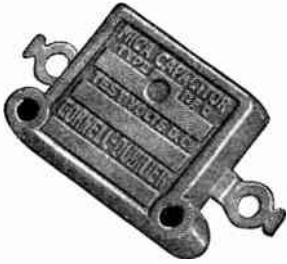
The listing above gives range of capacities which are available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

Standard capacity tolerance is 5%. Also available, an special order, in tolerance ratings of plus or minus 3%, add 10% to list prices, 2% add 15% to list prices and 1% add 25% to list prices, (or within 1 mmfd.—whichever is greater). All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

\*Reg. U.S. Pat. Off.



## MOULDED BAKELITE TRANSMITTING CAPACITORS



TYPE 4 ★



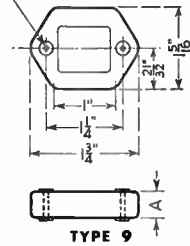
TYPE 9 ★

### Notes on Ordering Special Capacitors

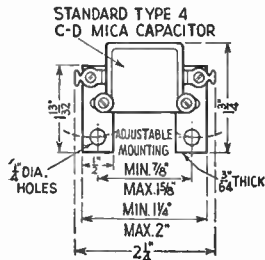
Type No. STANDARD TOLERANCE is plus or minus 10%. Also available on order in plus or minus 5% and 2%. For capacity tolerance of: 5% add 15c to list prices; 2% add 40c to list prices.

- "L" MOULDED IN LOW-LOSS BAKELITE available on order. Add "L" to Cat. No. (example: 4L-22060; 9L-11010). Add 25c to list prices.
- "S" SPECIAL SALT WATER IMMERSION SEAL AGAINST HUMIDITY. To order, add "S" to Cat. No. (example: 4S-53010; 9S-12050). Add 10c to list prices.
- "T" HEAT AGEING TREATMENT for stabilizing capacity over extremely wide temperature changes, minus 40° C. to plus 70° C., furnished on special order. Add "T" to Cat. No. (example: 4T-12010; 9T-21020). Add 15c to list prices.
- "LST" TO ORDER A COMBINATION OF ABOVE FEATURES, add letters specified to Cat. No. (example: 4LST-12040; 9LST-13020). Add 50c to list prices.
- INSULATION RESISTANCE—Brown Bakelite, 20,000 megohms per unit—Low-Loss Bakelite, 40,000 megohms per unit. Low-Loss Bakelite provides higher Q and lowers the power factor.
- "4E" SMALL METER BRACKETS adapted for Weston Model 301 meters, add "E" to Cat. No. (example: 4E-22050). Add 20c to list prices.
- "9A" UNTAPPED MOUNTING HOLES. Standard units are tapped for 6-32 and furnished with round head screws. For untapped mounting hole, .144" diameter (No. 6 clearance), add "A" to Cat. No. (example: 9A-11030).
- "9F" HIGHER VOLTAGE CONSTRUCTION, rated 6,000 v.d.c. test, 3,000 v.d.c.—1500 v.a.c. operating. Capacity range limited. Moulded in low-loss Bakelite, BM 262. The thickness of these units, or "A" dimension, is  $\frac{1}{16}$ " for capacities up to .002 mfd. and  $\frac{3}{4}$ " for capacities from .0022 to .005 mfd. max. To order, add "F" to Cat. No. (example: 9F-63050, the numeral "6" designating 6,000 volts test). Prices of "9F" units are double the list prices shown.
- "9R" HIGH STABILITY UNITS—Special high stability units, comprising low-loss Bakelite, BM 262, temperature aged and sealed construction for use as low power master oscillator tank capacitors or accessory positions. These units are fixed and permanent in characteristics, having a capacity-temperature coefficient of approximately plus .003% (30 parts per million) per degree C. To order, add "R" to Cat. No. (example: 9R-52020). Prices of 9R units are double the list prices shown.

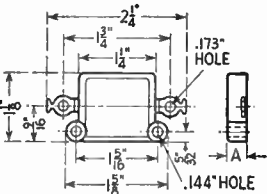
TYPE 9: 6-32 THD. TAPPED HOLES  
TYPE 9A: .144" DIA. HOLES



TYPE 9



TYPE 4E



TYPE 4

C-D Mica Capacitors Types 4 and 9 are designed to meet the requirements of power amplifiers and low-power transmitters. They are principally employed for grid and plate blocking purposes and for r. f. by-pass functions.

TYPE 4				TYPE 9			
Cat. No.	Cap. Mfd.	List Price	Net Price	Cat. No.	Cap. Mfd.	List Price	Net Price
<b>1200 V. D.C. Test— 600 V. D.C. Working</b>				<b>1200 V. D.C. Test— 600 V. D.C. Working</b>			
4-14050	.00005	\$1.20	\$.72	9-14050	.00005	\$1.45	\$.87
4-13010	.0001	1.20	.72	9-13010	.0001	1.45	.87
4-13020	.0002	1.20	.72	9-13025	.00025	1.45	.87
4-13025	.00025	1.20	.72	9-13050	.0005	1.45	.87
4-13030	.0003	1.20	.72	9-12010	.001	1.45	.87
4-13040	.0004	1.20	.72	9-12020	.002	1.65	.99
4-13050	.0005	1.20	.72	9-12025	.0025	1.70	1.02
4-12010	.001	1.20	.72	9-12030	.003	1.85	1.11
4-12015	.0015	1.20	.72	9-12040 *	.004	2.00	1.20
4-12020 *	.002	1.30	.78	9-12050	.005	2.10	1.26
4-12025	.0025	1.30	.78	9-12060	.006	2.20	1.32
4-12030	.003	1.45	.87	9-12080	.008	2.45	1.47
4-12040	.004	1.50	.90	9-11010	.01	2.80	1.68
4-12050	.005	1.55	.93	9-11015	.015	3.05	1.83
4-12060	.006	1.80	1.08	9-11020	.02	3.55	2.13
4-12070	.007	1.85	1.11	9-11025	.025	4.35	2.61
4-12080	.008	1.90	1.14	9-11030	.03	4.55	2.73
4-11010	.01	2.15	1.29	9-11040	.04	5.85	3.51
4-11015	.015	2.65	1.59	9-11050 †	.05	7.10	4.26
4-11020	.02	3.05	1.83	9-11060	.06	8.05	4.83
4-11025 †	.025	3.60	2.16				
4-11030	.03	4.45	2.67				
<b>2500 V. D.C. Test— 1200 V. D.C. Working</b>				<b>2500 V. D.C. Test— 1200 V. D.C. Working</b>			
4-24050	.00005	\$1.60	\$.96	9-24050	.00005	\$1.60	\$.96
4-23010	.0001	1.60	.96	9-23010	.0001	1.60	.96
4-23020	.0002	1.60	.96	9-23025	.00025	1.60	.96
4-23025	.00025	1.60	.96	9-23050	.0005	1.60	.96
4-23030	.0003	1.60	.96	9-22010	.001	1.90	1.14
4-23050 *	.0005	1.60	.96	9-22020	.002	2.50	1.50
4-22010	.001	1.80	1.08	9-22025 *	.0025	2.80	1.68
4-22015	.0015	2.30	1.38	9-22030	.003	2.95	1.77
4-22020	.002	2.40	1.44	9-22040	.004	3.15	1.86
4-22025	.0025	2.80	1.68	9-22050	.005	3.30	1.98
4-22030	.003	3.05	1.83	9-22060	.006	3.45	2.07
4-22040	.004	3.05	1.83	9-22080	.008	4.10	2.46
4-22050	.005	3.30	1.98	9-21010	.01	4.70	2.82
4-22060 †	.006	3.30	1.98	9-21015	.015	5.80	3.48
4-22080	.008	3.85	2.31	9-21020	.02	7.05	4.23
4-21010	.01	5.10	3.06	9-21025 †	.025	7.90	4.74
				9-21030	.03	8.10	4.86
<b>5000 V. D.C. Test— 2500 V. D.C. Working</b>				<b>5000 V. D.C. Test— 2500 V. D.C. Working</b>			
4-54050	.00005	\$1.90	\$1.14	9-54050	.00005	\$1.90	\$1.14
4-53010	.0001	1.90	1.14	9-53010	.0001	1.90	1.14
4-53020	.0002	1.90	1.14	9-53025	.00025	2.15	1.29
4-53025	.00025	2.20	1.32	9-53050	.0005	2.55	1.53
4-53030 *	.0003	2.25	1.35	9-52010 *	.001	2.90	1.74
4-53050	.0005	2.50	1.50	9-52020	.002	4.25	2.55
4-52010	.001	2.80	1.68	9-52025	.0025	4.60	2.76
4-52015	.0015	3.55	2.13	9-52030	.003	5.10	3.06
4-52020	.002	4.15	2.49	9-52040	.004	5.65	3.39
4-52025	.0025	4.50	2.70	9-52050	.005	6.20	3.72
4-52030 †	.003	4.90	2.94	9-52060	.006	6.35	3.81
4-52040	.004	5.65	3.39	9-52080 †	.008	6.85	4.11
4-52050	.005	6.40	3.84	9-51010	.01	7.30	4.38
				9-51015	.015	8.05	4.83

\* Dimension "A" in diagram—for type 4  $\frac{1}{16}$ "; for type 9  $\frac{3}{16}$ .  
† Dimension "A" in diagram—for type 4  $\frac{3}{16}$ "; for type 9  $\frac{3}{4}$ .

★ When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Capacitor Catalog No. 420.

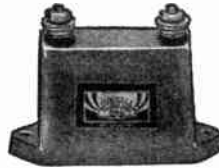
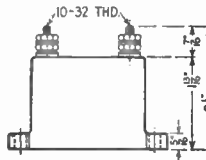
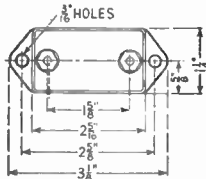




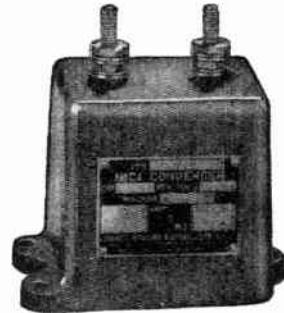
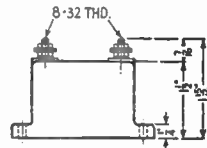
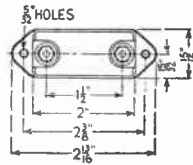
## BAKELITE CASED MICA TRANSMITTING CAPACITORS



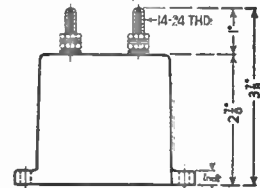
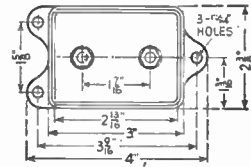
TYPE 6 ★



TYPE 15L ★



TYPE 30B



TYPE 6

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price	Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.						3000 kc.	1000 kc.	300 kc.	100 kc.		
390-6	.00005	5,000	1.5	.8	.2	.07	\$17.30	\$10.38	184-6	.004	3,000	8	6	5	2	\$17.30	\$10.38
362-6	.0000625	5,000	1.8	.8	.2	.07	17.30	10.38	173-6	.005	2,000	8	5	4	1.5	17.30	10.38
321-6	.0001	5,000	2	1	.3	.1	17.30	10.38	474-6	.005	3,000	9	6.5	4	2	17.30	10.38
393-6	.00015	5,000	3	1.5	.5	.16	17.30	10.38	563-6	.0075	2,000	10	8	5	3	17.30	10.38
307-6	.0002	5,000	3.5	1.7	.7	.18	17.30	10.38	476-6	.008	2,000	11	9	7	3	17.30	10.38
364-6	.00025	5,000	5	2.5	1	.3	17.30	10.38	162-6	.008	3,000	10	8	5	3	17.30	10.38
294A-6	.0003	5,000	3.5	2	.8	.4	17.30	10.38	151-6	.01	2,000	10	8	5	3.5	17.30	10.38
283-6	.0004	5,000	4	2.5	1	.5	17.30	10.38	140-6	.015	1,500	12	10	7	4	17.30	10.38
272-6	.0005	5,000	4	2	1.4	.8	17.30	10.38	784-6	.015	2,000	12	12	8	4	17.30	10.38
266-6	.0006	5,000	5	3	1.6	.8	17.30	10.38	131-6	.02	2,000	12	11	10	7	17.30	10.38
634-6	.00075	5,000	5	3.5	2	1	17.30	10.38	479-6	.03	2,000	14	20	15	7	17.30	10.38
599-6	.0008	5,000	6	4	2	1	17.30	10.38	480-6	.04	1,500	12	13	11	6	17.30	10.38
246-6	.001	5,000	7	4	2	1	17.30	10.38	118-6	.05	1,500	13	15	12	7	17.30	10.38
234-6	.0015	5,000	9	5	3	1.5	17.30	10.38	111-6	.1	500	17	20	15	8	19.20	11.32
215-6	.002	3,000	6	3	1.5	.8	17.30	10.38	406-6	.1	1,000	18	20	15	8	17.30	10.38
217-6	.002	6,000	9	6	4	2	17.30	10.38	110-6	.1-1.1	250	20	20	15	10	17.30	10.38
473-6	.0025	5,000	9	6	4	2	17.30	10.38	103-6	.2	250	18	20	16	12	25.25	15.15
197-6	.003	3,000	8	6	4	2	17.30	10.38	883-6	.25	250	18	20	16	12	27.90	16.74

TYPE 15L

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.		
639-15L	.00005	3,000	1.2	.6	.15	.05	\$12.60	\$7.56
883-15L	.0001	3,000	2.2	.8	.3	.1	12.60	7.56
637-15L	.00015	3,000	2.3	1	.45	.15	12.60	7.56
882-15L	.0002	3,000	3	1.2	.6	.2	12.60	7.56
805-15L	.00025	3,000	3	2.5	1	.4	12.60	7.56
640-15L	.0003	3,000	3.5	2	.8	.4	12.60	7.56
641-15L	.0004	3,000	4	2	.9	.45	12.60	7.56
642-15L	.0005	3,000	4	2	1	.55	12.60	7.56
643-15L	.0006	3,000	4.5	2	1.2	.6	12.60	7.56
727-15L	.0008	3,000	4.5	2.5	1.5	.7	12.60	7.56
581-15L	.001	3,000	5	3	1.6	.8	12.60	7.56
679-15L	.0015	3,000	6	3.5	2	1	12.60	7.56
726-15L	.002	3,000	6.5	4	2.5	1.5	12.60	7.56
645-15L	.003	2,000	7.5	5	3	1.5	12.60	7.56
699-15L	.004	2,000	8	6	3.5	1.6	12.60	7.56
725-15L	.005	2,000	8.5	6.5	4	2	12.60	7.56
580-15L	.006	2,000	9	7.5	4.5	2.2	12.60	7.56
724-15L	.008	1,500	10	8	5	2.3	12.60	7.56
677-15L	.01	1,000	10	8	5	2.5	12.60	7.56
723-15L	.02	1,000	11	10	7	3	14.30	8.58
722-15L	.05	500	11	10	8	5	14.30	8.58
721-15L	.1	250	11	12	10	6	15.10	9.06

TYPE 30B

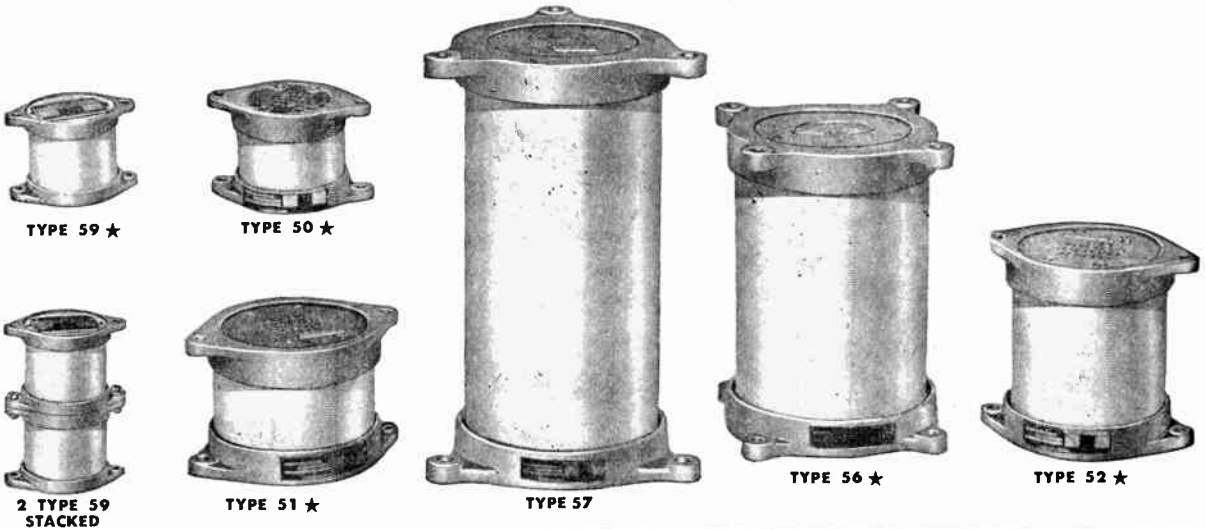
Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.		
533-30B	.0001	4,000	{20 Amps. at 60 mc.}		{3 Amps. at 4 mc.}		\$35.25	\$21.15
958-30B	.00025	8,000	7	4.5	1.5	.5	35.25	21.15
959-30B	.0005	8,000	8.5	6	3	1	35.25	21.15
960-30B	.001	8,000	10	8.5	4.5	1.5	39.25	23.55
961-30B	.002	8,000	11	11	7.5	2.5	39.25	23.55
759-30B	.003	8,000	12	14	10	5	42.25	25.35
757-30B	.004	8,000	12	14	10	6	44.60	26.76
758-30B	.005	8,000	13	15	11	6	48.60	29.16
756-30B	.006	6,000	15	15	11	6	48.60	29.16
962-30B	.01	5,000	16	20	15	8	52.55	31.53
915-30B	.01	8,000	16	20	15	8	55.20	33.12
963-30B	.02	5,000	18	20	17	10	55.20	33.12
741-30B	.03	4,000	20	20	18	12	55.20	33.12
771-30B	.05	2,000	18	25	22	12	61.85	37.11
964-30B	.05	4,000	18	25	22	12	61.85	37.11
113-30B	.1	2,000	18	25	22	12	48.60	29.16
603-30B	.2	600	18	25	22	12	39.25	23.55
730-30B	.25	600	18	25	22	12	44.60	26.76
933-30B	.3	600	18	25	22	12	44.60	26.76
898-30B	.5	600	18	25	22	12	52.55	31.53
604-30B	1.0	600	18	25	22	12	81.85	49.11

★ When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Capacitor Catalog No. 420.

# CORNELL DUBILIER



## COMMERCIAL MICA TRANSMITTING CAPACITORS



Cot. No.	Cap. Mfd.	Test. Volt. Effective	List Price	Net Price
<b>TYPE 50—Size 5" x 3½" x 3" high</b>				
325-50	.0001	10,000	\$65.55	\$39.33
315A-50	.00015	10,000	65.55	39.33
308-50	.0002	10,000	65.55	39.33
278-50	.0005	10,000	65.55	39.33
259-50	.0008	10,000	65.55	39.33
250-50	.001	10,000	65.55	39.33
238-50	.0015	10,000	65.55	39.33
223-50	.002	10,000	65.55	39.33
191-50	.004	8,000	65.55	39.33
178-50	.005	5,000	65.55	39.33
155-50	.01	5,000	69.15	41.49
142-50	.015	4,000	69.15	41.49
136-50	.02	3,000	69.15	41.49
<b>TYPE 51—Size 6½" x 5" x 4" high</b>				
335-51	.00005	20,000	\$110.90	\$66.54
323-51	.0001	25,000	126.00	75.60
316-51	.00015	20,000	126.00	75.60
310-51	.0002	20,000	131.10	78.66
280-51	.0005	20,000	137.15	82.29
260-51	.0008	20,000	137.15	82.29
252-51	.001	20,000	141.15	84.69
239-51	.0015	20,000	151.25	90.75
225-51	.002	12,000	141.15	84.69
193-51	.004	12,000	151.25	90.75
181-51	.005	10,000	151.25	90.75
158-51	.01	10,000	151.25	90.75
138-51	.02	3,000	151.25	90.75
<b>TYPE 56—Size 9" x 10" high</b>				
951-56	.0001	35,000	\$464.00	\$278.40
803-56	.0002	35,000	504.00	302.40
409-56	.0004	30,000	464.00	278.40
412-56	.0006	30,000	544.00	326.40
421-56	.001	30,000	544.00	326.40
559-56	.002	30,000	538.00	322.80
955-56	.003	25,000	548.00	328.80

Cot. No.	Cap. Mfd.	Test. Volt. Effective	List Price	Net Price
<b>TYPE 52—Size 6½" x 5" x 5¾" high</b>				
609-52	.00005	10,000	\$151.25	\$ 90.75
326-52	.0001	35,000	221.16	132.70
492-52	.00015	8,000 (30 Amps. at 20 Mc; 18 A. at 6 Mc)	167.90	100.74
298-52	.0003	30,000	221.16	132.70
286-52	.0004	30,000	221.16	132.70
281-52	.0005	30,000	221.16	132.70
261-52	.0008	30,000	221.16	132.70
253-52	.001	25,000	229.10	137.46
227-52	.002	20,000	229.10	137.46
462-52	.004	20,000	234.35	140.61
485-52	.005	20,000	252.25	151.33
164-52	.008	12,000	260.00	156.00
430-52	.01	15,000	272.44	163.46
523-52	.04	5,000	272.44	163.46
<b>TYPE 59—Size 3½" x 2½" x 2½" high</b>				
573-59	.00005	6,000	\$38.20	\$22.92
542-59	.0001	6,000	40.60	24.36
543-59	.0002	6,000	40.60	24.36
620-59	.0003	6,000	40.60	24.36
544-59	.0005	6,000	46.65	27.99
545-59	.001	6,000	46.65	27.99
572-59	.002	6,000	69.15	41.49
595-59	.003	6,000	50.60	30.36
547-59	.005	5,000	48.90	29.34
548-59	.01	5,000	51.45	30.87
889-59	.02	3,000	51.45	30.87
<b>TYPE 57—Size 8½" x 14" high</b>				
402-57	.0006	30,000	\$429.60	\$257.76
676-57	.002	40,000	566.40	339.84
776-57	.004	25,000	644.40	386.64

For complete information on Cornell-Dubilier Mica Transmitting Capacitors see Catalog No. 420.

### FARADON REPLACEMENT TRANSMITTING CAPACITORS

Cot. No.	Type Case	Cap. Mfds.	Volts D.C.W.	List Price	Net Price	Cot. No.	Type Case	Cap. Mfds.	Volts D.C.W.	List Price	Net Price
UC 2325A	77	.001	15000	\$129.94	\$77.96	UC 3073	99	.001	10000	\$ 78.29	\$ 46.97
UC 2344	77	.0005	20000	129.94	77.96	UC 3075	111	.001	20000	224.59	134.75
UC 2360A	77	.004	12000	138.77	83.26	UC 3076	140	.001	40000	609.59	365.75
UC 2446	77	.05	3000	129.94	77.96	UC 3097	99	.0005	10000	78.29	46.97
UC 2507A	140	.0002	30000	609.59	365.75	UC 3099	111	.0005	25000	224.59	134.75
UC 2992	99	.05	2000	86.63	51.98	UC 3100	140	.0005	40000	609.59	365.75
UC 3000	111	.02	5000	240.63	144.38	UC 3117	99	.0002	10000	78.29	46.97
UC 3018A	140	.008	15000	657.71	394.63	UC 3123	99	.00015	10000	78.29	46.97
UC 3031A	138	.005	5000	94.64	56.78	UC 3127A	351	.0001	5000	23.27	13.96
UC 3035	140	.005	15000	657.71	394.63	UC 3243	358	.1	10000	2,085.41	1,251.25
UC 3047	138	.003	5000	88.23	52.94	UC 3260	366	.00005	20000	118.70	71.22

For complete information on C-D FARADON Capacitors refer to C-D Mica Catalog No. 420

★When JAN-C-5 units must be supplied, order according to specific CM type designations listed in C-D Mica Capacitor Catalog No. 420.



## FEED-THRU AND NOISE FILTERS

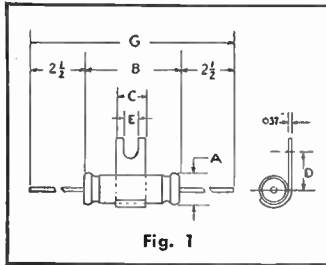


Fig. 1



NF-1D086

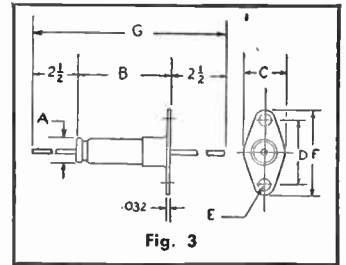


Fig. 3

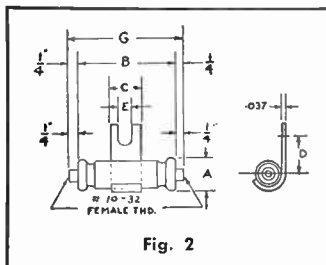


Fig. 2



NF-1F247

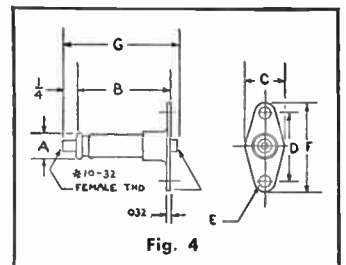


Fig. 4

These C-D Feed-Thru Capacitors are designed for installation in mobile, aircraft and marine equipment where high insertion loss over wide frequencies is required to reduce interference in television, sound and radio receivers.

Hermetically sealed in sturdy metal casings to withstand extreme conditions of humidity in marine and automotive equipment, they are also available in various voltage ratings, mountings and terminal types for all uses.

Cat. No.	Cap. Mfd.	VOLTAGE		Amps.	Fig.	DIMENSIONS—INCHES							List Price	Net Price
		A.C.	D.C.			A	B	C	D	E	F	G		
NF 1D248	.001	330	600	20	1	1/4	1 3/8	1/4	3/32	.144	—	5 3/8	\$2.15	<b>\$1.29</b>
NF 1D249	.005	330	600	20	1	1/4	1 3/8	1/4	3/32	.144	—	5 3/8	2.15	<b>1.29</b>
NF 1D085	.010	330	600	20	1	3/16	1 1/4	7/16	3/8	.170	—	5 1/4	2.35	<b>1.41</b>
NF 1D086	.10	330	600	20	1	11/16	1 7/16	5/8	5/8	7/32	—	5 7/16	2.40	<b>1.44</b>
NF 1D087	.25	330	600	20	1	3/4	1 7/16	5/8	3/16	7/32	—	5 7/16	3.00	<b>1.80</b>
NF 1D088	.50	330	600	20	1	1	2 1/16	5/8	11/16	7/32	—	6 1/16	3.75	<b>2.25</b>
NF 1D247	.10	250	600	20	2	11/16	1 23/32	5/8	3/8	7/32	—	2 7/32	2.60	<b>1.56</b>
NF 1D246	.25	115	200	20	2	3/4	1 23/32	5/8	3/16	7/32	—	2 7/32	2.60	<b>1.56</b>
NF 1D250	.50	115	200	20	2	1	1 13/16	5/8	11/16	7/32	—	2 5/16	3.15	<b>1.89</b>
NF 1F248	.001	330	600	20	3	1/4	1 3/8	3/8	3/16	.125	1 3/16	5 3/8	2.40	<b>1.44</b>
NF 1F249	.005	330	600	20	3	1/4	1 3/8	3/8	3/16	.125	1 3/16	5 3/8	2.40	<b>1.44</b>
NF 1F085	.01	330	600	20	3	7/16	1 1/4	5/8	1 5/16	.154	1 7/32	5 1/4	2.60	<b>1.56</b>
NF 1F086	.10	330	600	20	3	11/16	1 7/16	7/8	1 1/16	.154	1 11/32	5 7/16	2.80	<b>1.68</b>
NF 1F087	.25	330	600	20	3	3/4	1 7/16	7/8	1 1/8	.156	1 13/32	5 7/16	3.40	<b>2.04</b>
NF 1F088	.50	330	600	20	3	1	2 1/16	1 1/8	1 7/16	.156	1 13/32	6 1/16	4.15	<b>2.49</b>
NF 1F247	.10	250	600	20	4	11/16	1 23/32	7/8	1 1/16	.154	1 11/32	2 7/32	2.95	<b>1.77</b>
NF 1F246	.25	115	200	20	4	3/4	1 23/32	7/8	1 1/8	.156	1 13/32	2 7/32	3.00	<b>1.80</b>
NF 1F250	.50	115	200	20	4	1	1 13/16	1 1/8	1 7/16	.156	7 13/32	2 5/16	3.55	<b>2.13</b>

### CARDBOARD TUBULAR RESONANT\* FILTERS

Cat. No.	Cap. Mfd.	VOLTAGE		Size—Inches Dia. x Length	List Price	Net Price
		A.C.	D.C.			
NF 10170	.05	400	400	1/2 x 1 1/8	.60	<b>\$.36</b>
NF 10178	.1	400	400	1/2 x 1 3/8	.65	<b>.39</b>
NF 10137	.2	400	400	3/16 x 1 7/8	.75	<b>.45</b>

\*Resonant at 455 K. C.



## "QUIETONE"® INTERFERENCE FILTERS



IF-18



IF-19



IF-6

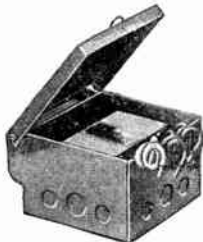


IF-4



IF-22

### QUIETONES FOR USE ON RADIOS AND HOME ELECTRICAL APPLIANCES



IF-7A



IF-27



IF-54



IF-25



IF-24

### QUIETONES FOR USE ON INDUSTRIAL AND HEAVY-DUTY ELECTRICAL EQUIPMENT

Most satisfactory results are obtained when Quietones are installed at the source of the radio noise. This is because the high frequency disturbances caused by appliances are carried by the power lines. A Quietone installed on an appliance corrects noise in all radio receivers, your neighbors, as well as your own.

#### RADIO AND APPLIANCE QUIETONES

Rating—110 V. A.C.-D.C.—5 amps.

Cat. No.	Radio and Electrical Appliance Uses	Case Color	List Price	Net Price
IF-4	Small radios, portables. Low intensity noise.	Ivory, Walnut, Green	\$1.25	\$ .75
IF-5	Small electric appliances. Low intensity interference.	Ivory, Walnut, Green	1.25	.75
IF-6	All home appliances. Low intensity interference.	Ivory, Walnut, Green	1.95	1.17
IF-18	All radios and appliances with severe interference	Walnut, Bakelite	9.20	5.52
IF-19	All types home appliances with severe interference.	Ivory, Walnut, Bakelite	7.70	4.62
IF-20	Small appliances with very low interference.	Ivory, Walnut, Bakelite	.85	.51
IF-21*	Electric barber clippers, shavers, small appliances.	Ivory, Walnut, Bakelite	4.40	2.64
IF-22-A or B	Schick, Knopp—IF-22-A. Rem. Rand, Packard, Zephyr, Ronson, etc.—IF-22-B.	Ivory, Black, Bakelite	3.05	1.83

\*IF-21 rated at 1.6 amps.

#### INDUSTRIAL QUIETONES

##### Fluorescent Light Quietones

Cat. No.	Volts D.C.—A.C.	Connections	Housing	List Price	Net Price
IF-6	110	Plug-in	Metal	\$1.95	\$1.17
IF-24	110	Flex-Leads	Metal	1.25	.75
IF-54	110-220	Flex-Leads	Metal	2.50	1.50

##### Capacitive (CP) Quietones

Cat. No.	Volts D.C.—A.C.	Connections	Housing	List Price	Net Price
IF-25	110-220	Flex-Leads	Metal	\$4.95	\$2.97
IF-26	110-220	Flex-Leads	Metal	6.60	3.96
IF-11	110	BX	Cutout Box	13.20	7.92
IF-12	220	BX	Cutout Box	18.15	10.89
IF-14**	110-220	BX	Cutout Box	24.75	14.85

\*\*IF-14 is for 2 or 3 phase circuits.

##### Capacitive-Inductive (CI) Quietones

Cat. No.	Volts D.C.—A.C.	Max. Amps.	Connections	Housing	List Price	Net Price
IF-7A§	110-220	5	BX	Cutout Box	\$13.75	\$8.25
IF-15	110-220	10	BX	Cutout Box	27.50	16.50
IF-16	110-220	20	BX	Cutout Box	38.50	23.10
IF-27	110	5	Flex-Leads	Steel Box	7.70	4.62
IF-28	110	10	Flex-Leads	Steel Box	13.75	8.25
IF-29	110	20	Flex-Leads	Steel Box	24.20	14.52

§For use on oil burners.

#### GUIDE TO THE SELECTION OF QUIETONES

For These Electrical Appliances	Best Type	Use These Quietones Also Satisfactory Types				
<b>Adding Machines</b>	IF-18	IF-19	IF-6	IF-54	IF-24	
<b>Addressing Machines</b>	IF-18	IF-19	IF-6	IF-54	IF-24	
<b>Air Conditioners</b>	IF-18	IF-19	IF-6	IF-25	IF-24	
<b>Automatic Towels</b>	IF-18	IF-19	IF-6	IF-25	IF-24	
<b>Auto Call Systems</b>	IF-18	IF-19	IF-26	IF-24	IF-54	
<b>Barbers Clippers</b>	IF-21	IF-19	IF-6		IF-5	
<b>Battery Chargers:</b>						
<b>Mercury Arc</b>	CP-Types*	IF-26				
<b>Rotary Type</b>	CI-Types*					
<b>Vibrator Type</b>	IF-18	IF-19	IF-6			
<b>Billing Machines</b>	IF-18	IF-19	IF-6	IF-24	IF-54	
<b>Calculating Machines</b>	IF-18	IF-19	IF-6	IF-24	IF-54	
<b>Cash Registers</b>	IF-18	IF-19	IF-6	IF-54		
<b>Dental Machines</b>	IF-19					
<b>Dial Telephones</b>		Call Telephone Company				
<b>Diathermy</b>	CI-Types*	Plus Shielding				
<b>Dictating Machines</b>	IF-19	IF-6	IF-24			
<b>Dishwashers</b>	IF-19	IF-19	IF-6	IF-54		
<b>Drink Mixers</b>	IF-19	IF-21	IF-6	IF-54	IF-20	
<b>Drills</b>	IF-19	IF-6	IF-24			
<b>Elevator Motors</b>	CI-Types*	CP-Types*	IF-26	IF-25	IF-24	
<b>Fans</b>	IF-19	IF-21	IF-6	IF-25		
<b>Floor Polishers</b>	IF-18	IF-19	IF-6	IF-24		
<b>Flour Bleachers</b>	CI-Types*	CP-Types*				
<b>Fluorescent Lamps</b>	CI-Types*	CP-Types*	IF-54	IF-24	IF-6	
<b>Food Mixers</b>	IF-19	IF-21	IF-6	IF-5	IF-20	
<b>Fruit Juice Extractors</b>	IF-19	IF-21	IF-6	IF-5	IF-20	
<b>Hair Dryers</b>	IF-6	IF-5	IF-20			
<b>Heating Pads</b>	IF-19	IF-6	IF-5	IF-20		
<b>Humidifiers</b>	IF-19	IF-6	IF-5	IF-20		
<b>Massage Machines</b>	IF-19	IF-21	IF-6	IF-5	IF-54	
<b>Motors</b>	CI-Types*	CP-Types*	IF-54			
<b>Motor Generators</b>	CI-Types*	CP-Types*				
<b>Oil Burners</b>	IF-7A					
<b>Ozonators</b>	IF-19					
<b>Radio Receivers</b>	IF-18	IF-19	IF-6	IF-20	IF-20	
<b>Refrigerators</b>	IF-18	IF-19	IF-6	IF-5	IF-20	
<b>Rotary Converters</b>	CI-Types*	CP-Types*				
<b>Sewing Machines</b>	IF-19	IF-21	IF-6	IF-54	IF-20	
<b>Shavers</b>	IF-21	IF-22	IF-20			
<b>Sign Flashers</b>	CI-Types*	CP-Types*	IF-54	IF-25	IF-24	
<b>Stokers</b>	CI-Types*	CP-Types*	IF-26	IF-5		
<b>Vacuum Cleaners</b>	IF-19	IF-21	IF-6			
<b>Washing Machines</b>	IF-19	IF-6	IF-5			
<b>X-Ray Equipment</b>	CI-Types*	Plus Shielding				

\*Note: (CI) Capacitive-inductive and (CP) capacitive Quietones.

For additional applications write for complete data.



## CAPACITOR TEST INSTRUMENTS

MODEL  
BF-50



CAPACITOR ANALYZER

The Model BF-50 Capacitor Analyzer quickly and accurately measures all important characteristics of all types of capacitors. It offers the most accurate and thorough capacitor test of any instrument of its type, and may be operated on any 110-volt, 50-60 cycle power line.

The analyzer will determine the true condition of all paper, mica and electrolytic capacitors, including A.C. motor starting types.

### Features of Model BF-50 Analyzer

1. Measures Capacity—Accurately measures capacity of paper, mica, air, electrolytic and motor-starting capacitors from .00001 to 240 mfd.
2. Measures Power Factor—Measurements of power factor from zero to 50 percent on all types of electrolytic capacitors including motor-starting types.
3. Employs Wien Bridge—Assures permanent accuracy of capacity and power factor measurements. Readings not affected by line voltage variations.
4. Indicates Insulation Resistance—Insulation resistance measurements of paper and mica capacitors up to 1500 megohms. Also measures many types of insulation.
5. Indicates Leakage—Measurements of leakage of electrolytic capacitors by means of built-in direct current power supply.
6. Visual Eye Leakage Indicator—Provides simplified and reliable leakage tests on all types of capacitors. Enables measurements to be made rapidly.
7. Detects Defective Capacitors—Character measurements, such as leaky, shorted, open, high and low capacity, and high power factor on all capacitors.
8. High Sensitivity on All Measurements—Amplifier for capacity, power factor and leakage tests provides sharp and accurate readings. Amplifier built-in Analyzer.
9. Balance Sensitivity Control—Provides sharp or broad balances for quick and accurate readings. All readings are made simply and directly.
10. Direct Reading Linear Scale Calibration—Provides simplified measurements. All scales on panel uniformly spaced, easy to read, thus avoiding possible errors in using multipliers or charts.
11. Push-Button Switching—For convenient and simplified adjustments, all tests and circuit changes are made by means of modern push-button switches.
12. Visual Eye Bridge Balance—Visual detector gives positive indication of bridge balance for convenient, simplified and accurate capacity and power factor measurements.
13. Six Color-Coded Scales—Accurately calibrated, six color-coded scales. Uniformly spaced over total spacing of sixty inches. Easy to read. No "blind" spots.
14. General Purpose Instrument—May be used to check continuity capacity between circuits, insulation of transformer windings and other types of coils, etc.
15. Self-Contained—Portable—An instrument complete in itself, requiring no external standard, headphones, meters or accessories. A portable unit, for 110 volt, 50-60 cycle operation, supplied in walnut cabinet, removable cover, with carrying handle. Size, 6½ x 12 x 9¾ inches. Weight, 9 pounds.

MODEL BF-50 CAPACITOR ANALYZER

Net Price complete with tubes.....

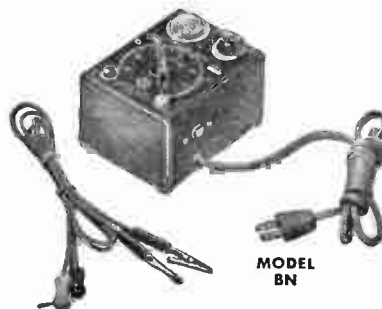
**\$46.92**

Replacement Tubes for Use in Model BF-50:

6E5—List Price \$2.20—Net Price \$1.32

12A7—List Price \$3.20—Net Price \$1.92

MODEL  
BN



CAPACITOR BRIDGE

### Features of Model BN Capacitor Bridge

1. Measures Capacity—Accurately measures capacity of paper, mica, electrolytic and air capacitors from .00001 mfd. to 50 mfd.
2. Indicates Power Factor—Power factor of electrolytic capacitor indicated by means of visual eye detector tube.
3. Detects Defective Capacitors—Detects open and short circuits, high and low capacity, and high power factor.
4. Checks Circuit Continuity—May be used as continuity meter. A handy instrument for checking circuits, coils, transformers and many other uses. For operation on 110 volts, 60 cycles.
5. Employs Wien Bridge—Employs Wien Bridge circuit for all measurements. Accuracy independent of line voltage variations.
6. Visual Eye Bridge Balance—Dual type visual bridge balance for accurate measurements facilitates quick tests on service jobs.
7. Direct Reading Scale—Direct reading ranges with all scale markings directly in microfarads. Clear reading dial scale. All capacity calibrations marked on panel. No charts or multipliers required.
8. Self-Contained—The Capacitor Bridge is complete in itself and requires no headphones, standards, external meters, etc.
9. Extremely Compact—The unusually small size of this bridge makes it particularly handy for portable use—3¾" x 5" x 3" weight 2 pounds.
10. Attractive—Supplied in attractive walnut Bakelite case complete with detachable test leads and useful instruction booklet.

MODEL BN CAPACITOR BRIDGE

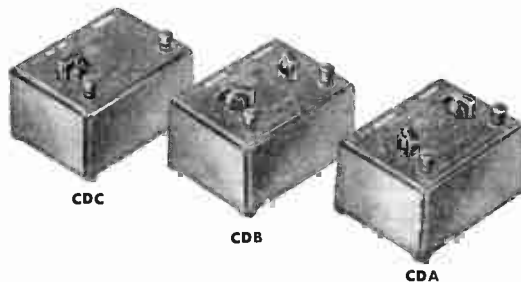
Net Price complete with tubes.....

**\$22.39**

Replacement tubes for use in Model BN Bridge:

6AF6G—List Price \$2.65—Net Price \$1.59

12A7—List Price \$3.20—Net Price \$1.92



CAPACITOR DECADES

C-D Capacitor Decades provide accurate standards over a wide range of capacity. May be used in groups of the three decades, shown above, or used individually for maximum flexibility. Each decade is furnished with calibration chart giving exact capacity values for all scale markings, extending use to more precise measurements.

### Rated Voltage—600 D.C.—220 A.C.

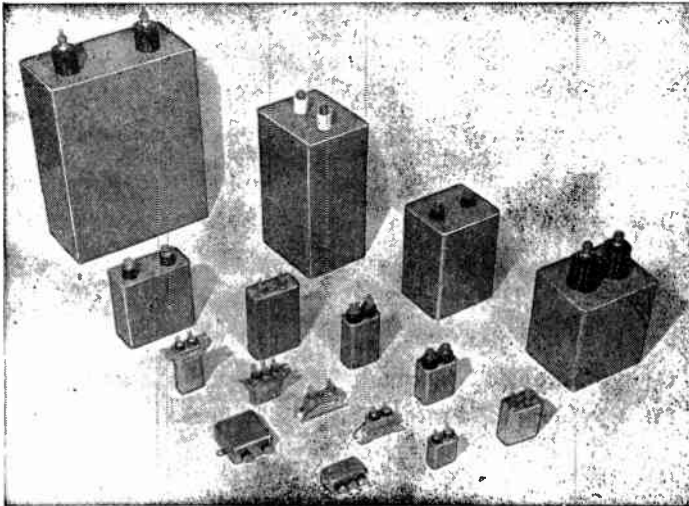
Model	Capacity	+ or - Tol.	Dielectric	Net Price
CDA-5	.011 mfd. in. .0001 mfd. steps	5%	Mica	<b>\$9.35</b>
CDB-5	1.1 mfd. in. .01 mfd. steps	5%	Oil-Paper	<b>9.35</b>
CDB-3	1.1 mfd. in. .01 mfd. steps	3%	Oil-Paper	<b>13.20</b>
CDC-5	10.0 mfd. in 1.0 mfd. steps	5%	Oil-Paper	<b>19.25</b>
CDC-3	10.0 mfd. in 1.0 mfd. steps	3%	Oil-Paper	<b>21.45</b>



# PYRANOL\* CAPACITORS

\* Registered trade-mark of General Electric Co.

## CAPACITORS TO MEET JOINT ARMY-NAVY SPECIFICATION JAN-C-25 100 to 12,500 Volts D-c — 0.01 to 15 Microfarads



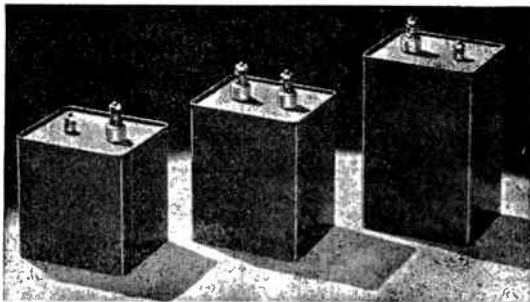
CP 53, 54—Bathtub style CP 70—Large Rectangular  
CP 61, 63, 65, 67, 69—Miniature Rectangular

Intended primarily for feeder, by-pass, and blocking purposes, these units are qualified for applications where the alternating-current component of the impressed voltage is small with respect to the direct-current rating.

All case styles are available in Characteristics *D*, *E* and *F*. Single-section units are supplied with a capacitance tolerance of  $\pm 10$  per cent (K), and two- and three-section units with a capacitance tolerance of  $+20$  per cent,  $-10$  per cent (V). Spade-lug and footed mounting brackets are available for use with capacitors on which the mounting bracket is not an integral part.

In addition to their regular applications, these units may also be used at higher temperatures, with higher voltages for short-life applications, and with a-c voltages. Write for Bulletin GEC-810.

## ENERGY-STORAGE DISCHARGE CAPACITORS

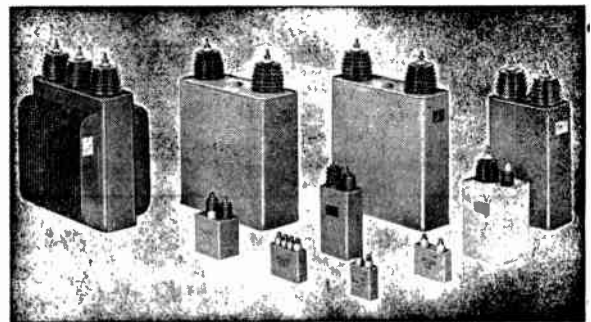


G-E light-duty energy-storage capacitors are made in a wide range of ratings to fit practically every requirement of high-speed flash photography, as well as home and industrial welders for light metals. Careful construction, high-quality materials, and skillful design contribute to long life and efficient operation. Write for Bulletin GEA-4646.

### STANDARD RATINGS

Max. D-c volts	Capacitance, Microfarads	Max. D-c volts	Capacitance, Microfarads
2000	28	4000	50
		4000	100
2500	14	5000	25/50
		6000	55
3000	60	6000	25
3500	12.5		
4000	25/50		

## CAPACITOR NETWORKS



These capacitor networks are designed for radar and industrial equipment where the normal (exponential) capacitor discharge shape is not suitable and where an impulse having a definite energy content and duration is required.

General Electric pioneered in the development of mineral-oil-treated paper dielectric capacitor networks for air, sea, and land radar, and was a prime supplier for the government services. The products supplied varied from the miniature types used with aircraft and guided missiles to the large designs for land-based radar.

Write for Bulletin GEA-4996.

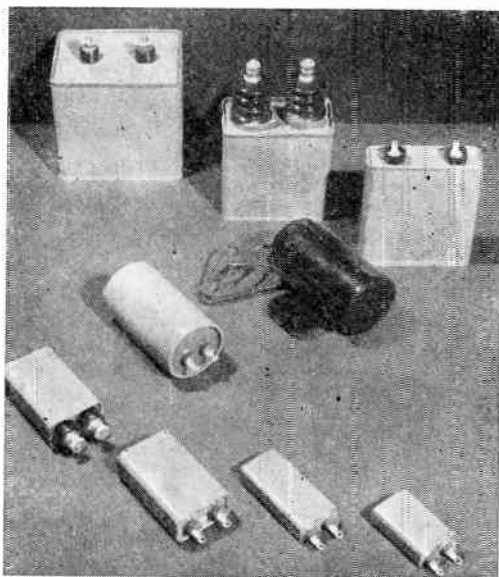


# PYRANOL\* CAPACITORS

\*Registered trade-mark of General Electric Co.

## STANDARD COMMERCIAL TYPES

### For A-c and D-c Applications — Fixed Paper-dielectric Capacitors



A-c/d-c dual-rated Pyranol capacitors for motors, controls luminous-tube transformers, electronic equipments, and other applications will reduce inventories, simplify design problems, and increase standardization. Capacitors in the voltage ranges 236 through 660 volts, a-c, and 400 through 1500 volts, d-c, are now dual-rated and can be used for either a-c or d-c applications. Other a-c and d-c ratings available: 0.01 to 75 microfarads, 236 to 660 volts, a-c, and 400 to 100,000 volts, d-c.

Because of the high dielectric strength, high permittivity, and exceptional stability of Pyranol, its use as a treating material has made possible a capacitor far superior to those formerly available and much smaller in size.

#### Design Advantages

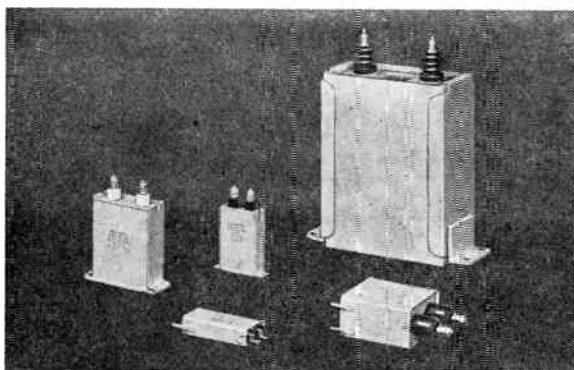
- (1) Units are small and compact, because of the use of Pyranol.
- (2) A wide range of ratings is available in rectangular, cylindrical, and oval cases.
- (3) Three styles of mounting brackets are available and are supplied separate from the units. Units may be operated in any position.

Write for Bulletin GEC-809.

#### STANDARD RATING RANGE

Rated Voltage 60 Cycles		Capacitance Ratings — Microfarads			
A-c	D-c	Case Style 60	Case Style 70	Fabricated Rectangular	Drawn Oval
236	400	2	4-16	—	—
330	—	—	—	1-50	1.25-12
330	600	0.25-1	1-50	—	—
440	—	—	—	28	—
440	1000	0.1-0.5	1-15	—	—
660	—	—	—	2-6	—
660	1500	0.01-0.05	1-15	—	—
—	2000-	—	—	—	—
—	100,000	—	0.05-75	—	—

### Case Style 70



Case Style 70 units with various types of terminals and removable mounting brackets

These Pyranol fixed paper-dielectric capacitors in Case Style 70 are hermetically sealed in rectangular cases. This line includes standard ratings, ranging from very small units weighing only three ounces to large high-voltage units weighing up to 175 pounds.

All are of single-action construction, with a capacitance tolerance of  $\pm 10$  per cent. Cases are isolated and the two bushings are brought out through the cover. Units in 600-, 1000-, and 1500-volt ratings are available with either solder-lug terminals or with pillar-insulator terminals. All higher-voltage ratings have pillar-insulator terminals. These units may be operated in altitudes up to 7500 feet.

Up to 600 volts d-c, bushings with solder-lug terminals are made of G-E silicone; above this rating, they are of phenolic-cup construction. Bushings with pillar-



# PYRANOL\* CAPACITORS

\*Registered trade-mark of General Electric Co.

## Case Style 70 (Cont.)

insulator terminals are made of molded phenolic or porcelain of the highest quality. All bushings are thoroughly bonded to the container to provide a permanent liquid-tight seal.

All units can be supplied with removable mounting brackets. Both spade-lug and L-type are available. Brackets can be attached to either the top or the bottom of the units to permit upright or inverted mounting.

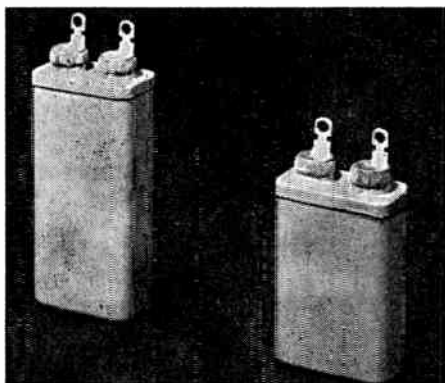
Write for Bulletin GEC-809.

### STANDARD RATINGS

Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads
2000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0
2500	0.50, 1.0, 2.0, 4.0, 10.0, 20.0, 25.0, 55.0, 75.0
3000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 8.0, 12.0, 20.0, 45.0, 60.0
4000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 7.0, 13.0, 20.0, 30.0
5000	0.05, 0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 14.0, 18.0
6000	0.10, 1.0, 2.0, 4.0, 5.0, 10.0, 14.0
7500	0.10, 0.25, 0.50, 1.0, 2.0, 3.0, 7.0, 9.0
10,000	0.10, 0.25, 0.50, 1.0, 1.5, 2.0, 3.5, 5.0
12,500	0.05, 0.10, 0.25, 0.50, 0.75, 1.0, 1.2, 2.5, 3.3
15,000	0.25, 0.50, 0.75, 0.90, 1.75, 2.25
20,000	0.15, 0.25, 0.50, 1.0, 1.25, 3.0
25,000	0.10, 0.25, 0.60, 1.0
30,000	0.25, 0.5, 0.75
40,000	0.10, 0.20, 0.25, 0.35
50,000	0.17, 0.25
75,000*	0.25
100,000*	0.125

\*Mid-point connected to case.

## Case Style 60



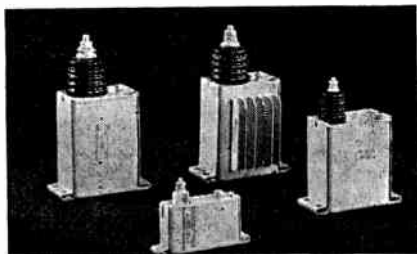
These small rectangular-case fixed-paper-dielectric units are of narrower width than the "bathtub" units, and will fit into a very restricted panel surface, where case height is not the limiting dimension. Mounting lugs, of either the removable or attached type, are of very sturdy construction.

These units have solder-lug terminals, and are available in either single- or dual-section construction for all circuit diagrams.

The metallic containers are hermetically sealed, and of deep drawn construction.

Case Style 60 units have no brackets, but removable brackets of either the footed or spade-lug type can be supplied.

## CAPACITORS FOR OSCILLATOR TANK CIRCUITS



This line of fixed paper-dielectric capacitors has been developed primarily for grid and plate blocking service in the electronic oscillator circuits of high-frequency induction-heating equipments. They can also be used to advantage in other high-frequency oscillator circuits of a similar nature.

G-E high-voltage paper-dielectric capacitors are of relatively high capacitance (0.01  $\mu$ f) for high-frequency units, yet they are more economical than conventional high-frequency units of considerably smaller capacitance values. They can, therefore, be applied with savings in cost as well as reduced losses and lower voltage drop across the capacitor.

### features

Hermetically sealed in metallic cases.

Single-bushing construction for minimum size.

Removable mounting brackets.

Internal lead connections arranged for minimum inductance.

Write for Bulletin GEA-4388.

### STANDARD RATINGS

D-c Voltage Rating	Microfarad Rating
5000	0.01
15,000	0.01
20,000	0.01
20,000*	0.01

\*With cooling fins for higher current-carrying capacity. Capacitance tolerance  $\pm 10\%$ .

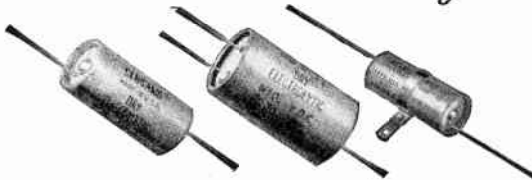


# SANGAMO CAPACITORS

## ELECTROLYTIC CAPACITORS

### TYPE MT-MTD-MTH

*Chieftain*



SANGAMO Type MT "Chieftain" electrolytics are especially designed for television and other electronic applications where operation at 85°C. temperatures is required. They are hermetically sealed in round aluminum containers which are encased in heavy insulating sleeves on which polarity is clearly indicated. Being small in physical size they are most popular where mounting in limited space is required — They will fit anywhere and can be mounted in almost any position. Double-thick paper spacers assure adequate breakdown characteristics and all sections are tightly held in place within the container. Multiple staking connects the terminal tabs to the electrodes and provides permanent low resistance contact throughout the life of the capacitor. Low voltage units utilize etched cathodes to maintain uniform capacity when they are subjected to combined conditions of heat and high ripple currents.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
MT-0210	10	25	5/8	1 1/8	\$1.00	\$0.60
MT-0225	25	25	5/8	1 1/8	1.00	.60
MT-0250	50	25	5/8	1 1/8	1.10	.66
MT-0510	10	50	5/8	1 1/8	1.00	.60
MT-0525	25	50	5/8	1 1/8	1.05	.63
MT-0550	50	50	5/8	1 1/8	1.20	.72
MT-1504	4	150	5/8	1 1/8	1.00	.60
MT-1508	8	150	5/8	1 1/8	1.05	.63
MT-1512	12	150	5/8	1 1/8	1.10	.66
MT-1516	16	150	5/8	1 1/8	1.15	.69
MT-1520	20	150	5/8	1 1/8	1.20	.72
MT-1530	30	150	5/8	1 1/8	1.30	.78
MT-1540	40	150	5/8	1 1/8	1.35	.81
MT-1550	50	150	5/8	1 1/8	1.40	.84
MT-2508	8	250	5/8	1 1/8	1.15	.69
MT-2512	12	250	5/8	1 1/8	1.25	.75
MT-2516	16	250	5/8	1 1/8	1.30	.78
MT-2520	20	250	5/8	1 1/8	1.35	.81
MT-2540	40	250	5/8	1 1/8	1.55	.93
MT-3508	8	350	5/8	1 1/8	1.20	.72
MT-3512	12	350	5/8	1 1/8	1.30	.78
MT-3516	16	350	5/8	1 1/8	1.40	.84
MT-4504	4	450	5/8	1 1/8	1.15	.69
MT-4508	8	450	5/8	1 1/8	1.25	.75
MT-4510	10	450	5/8	1 1/8	1.30	.78
MT-4512	12	450	5/8	1 1/8	1.35	.81
MT-4516	16	450	5/8	1 1/8	1.40	.84
MT-4520	20	450	1	1 1/8	1.55	.93
MT-4530	30	450	1	1 1/8	1.70	1.02
MT-4540	40	450	1	1 1/8	1.80	1.08

### TYPE FM

*Arrowhead*



The SANGAMO Type FM "Arrowhead" electrolytic capacitors are similar in design to the Type MT "Chieftain" in every respect except leads. The Type FM is equipped with flexible, insulated wire leads and stud terminals eliminating the problem of crossed wires and the necessity for the use of insulating sleeves. They are much smaller than the wax-end filled types with insulated leads. The capacitors themselves are housed in round aluminum containers which are encased in heavy insulating sleeves. They are especially designed for the rugged television requirements where 85°C. operating temperatures are encountered.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
FMD-0210	10-10	25	7/8	1 1/8	\$1.50	\$0.80
FMD-0510	10-10	50	7/8	1 1/8	1.50	.90
FMD-1520	20-20	150	7/8	1 1/8	1.75	1.05
FMD-305	30-20	150	7/8	1 1/8	1.80	1.08
FMD-1530	30-30	150	7/8	1 1/8	1.90	1.14
FMD-302	40-20	150	1	1 1/8	1.85	1.11
FMD-304	40-30	150	1	1 1/8	1.90	1.14
FMD-1540	40-40	150	1	1 1/8	1.95	1.17
FMD-301	50-30	150	1	1 1/8	2.05	1.23
FMD-1550	50-50	150	1	1 1/8	2.20	1.32
FMD-4508	8-8	450	7/8	1 1/8	1.80	1.08
FMD-308	8-16	450	1	1 1/8	2.10	1.26
FMD-4520	20-20	450	1	1 1/8	2.60	1.56

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
FMT-1520	20-20-20	150	7/8	1 1/8	\$2.30	\$1.38
FMT-1530	30-30-30	150	7/8	1 1/8	2.45	1.47
FMT-310	40-20-20	150	7/8	1 1/8	2.35	1.41
FMT-312	40-30-20	150	7/8	1 1/8	2.45	1.47
FMT-1540	40-40-40	150	1	1 1/8	2.55	1.53
FMT-315	50-30-20	150	1	1 1/8	2.55	1.53

NOTE: All units are supplied with mounting strap attached.

NOTE: Packaging: 10, 25, or 50 capacitors per display carton.

NOTE: Diagram dimensions are for metal tubes. Add 1/8" to diameter and 1/8" to length for dimensions over cardboard insulating tube.

### TYPE MMT

#### MINIATURE TUBES



SANGAMO Type MMT miniature tubular electrolytic capacitors are designed for use in miniaturized equipment and are ideally suited to meet the precise operating requirements of low voltage circuits. They are small in physical size and are self supporting by means of strong bare tinned copper wire leads. The Type MMT capacitors are contained in drawn aluminum tubes encased in a fitted cardboard insulating sleeve. Polarity of all units is clearly marked on the cardboard sleeve.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
MMT-605	5	6	3/8	1 1/8	\$0.80	\$0.48
MMT-0505	5	50	3/8	1 1/8	1.00	.60
MMT-0210	10	25	3/8	1 1/8	1.00	.60
MMT-0510	10	50	3/8	1 1/8	1.00	.60
MMT-0220	20	25	3/8	1 1/8	1.00	.60
MMT-325	25	3	3/8	1 1/8	.85	.51
MMT-625	25	6	3/8	1 1/8	.85	.51
MMT-350	50	3	3/8	1 1/8	.95	.57
MMT-650	50	6	3/8	1 1/8	.95	.57
MMT-1505	5	150	3/8	1 1/8	1.00	.60
MMT-4301	1	450	3/8	1 1/8	1.00	.60

NOTE: Diagram dimensions are for metal tubes. Add 1/8 inch to diameter and 1/8 inch to length for dimensions over cardboard insulating tube.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
MTD-0210	10-10	25	7/8	1 1/8	\$1.40	\$0.84
MTD-0220	20-20	25	7/8	1 1/8	1.40	.84
MTD-1520	20-20	150	7/8	1 1/8	1.65	.99
MTD-1530	30-30	150	7/8	1 1/8	1.80	1.08
MTD-301	50-30	150	1	1 1/8	1.95	1.17
MTD-302	40-30	150	1	1 1/8	1.75	1.05
MTD-1540	40-40	150	1	1 1/8	1.85	1.11
MTD-1550	50-50	150	1	1 1/8	2.10	1.26
MTD-2520	20-20	250	1	1 1/8	1.85	1.11
MTD-3520	20-20	350	1	1 1/8	2.25	1.35
MTD-4508	8-8	450	7/8	1 1/8	1.70	1.02
MTD-4510	10-10	450	1	1 1/8	1.85	1.11
MTD-4520	20-20	450	1	1 1/8	2.50	1.50

NOTE: All Dual units furnished with metal mounting strap. Straps for other sizes are available at extra cost.

NOTE: Packaging: 10, 25, or 50 capacitors per display carton.

NOTE: Diagram dimensions are for metal tubes. Add 1/8" to diameter and 1/8" to length for dimensions over cardboard insulating tubes.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
MTH-0610	100	6	5/8	1 1/8	\$1.20	\$0.72
MTH-0625	250	6	5/8	1 1/8	1.35	.81
MTH-0650	500	6	5/8	1 1/8	1.55	.93
MTH-06100	1000	6	1	1 1/8	1.90	1.14
MTH-06150	1500	6	1	1 1/8	2.10	1.26
MTH-1210	100	12	5/8	1 1/8	1.20	.72
MTH-1225	250	12	5/8	1 1/8	1.45	.87
MTH-1250	500	12	5/8	1 1/8	1.70	1.02
MTH-1510	100	15	5/8	1 1/8	1.25	.75
MTH-1525	250	15	5/8	1 1/8	1.55	.93
MTH-1550	500	15	5/8	1 1/8	1.75	1.05
MTH-2510	100	25	5/8	1 1/8	1.35	.81
MTH-2525	250	25	5/8	1 1/8	1.70	1.02
MTH-2550	500	25	1	1 1/8	2.30	1.38
MTH-5010	100	50	5/8	1 1/8	1.40	.84

NOTE: Dimensions are for metal tubes. Add 1/8" to diameter and 1/8" to length for dimensions over cardboard insulating tube.

NOTE: Packaging 10, 25, or 50 capacitors per display carton.

# SANGAMO CAPACITORS

## ELECTROLYTIC CAPACITORS

### TYPE PL

FOR TELEVISION AND OTHER  
ELECTRONIC APPLICATIONS . . .



The SANGAMO Type PL "Warrior" electrolytic capacitors are specially designed for all television and electronic applications requiring long life and dependable performance at 85°C under conditions of extreme ripple currents and high surge voltages. They are sealed in round aluminum cans and have twist-prong tabs for washer or direct chassis mounting. The capacitor element current carrying tabs are securely clamped and staked to the terminal lugs, providing permanent, low resistance connections. In all cases the aluminum can is negative and the mounting ring provides the negative electrical connection.

The Type PL has been specially engineered for the rigid TV replacement applications found in all of the leading television receivers manufactured in the industry.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price Net Price		Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price Net Price	
				List Price	Resale Net Price					List Price	Resale Net Price
PLD-7065	150-50	25	1 x 2	1.90	1.14	PLD-7065	150-50	25	1 x 2	1.90	1.14
PLD-0550	50-50	50	1 x 2	1.70	1.02	PLD-0550	50-50	50	1 x 2	1.70	1.02
PLD-7067	100-25	50	1 x 2	1.80	1.08	PLD-7067	100-25	50	1 x 2	1.80	1.08
PLD-1520	20-20	150	1 x 2	1.70	1.02	PLD-1520	20-20	150	1 x 2	1.70	1.02
PLD-707	30-15	150	1 x 2	1.75	1.05	PLD-707	30-15	150	1 x 2	1.75	1.05
PLD-1530	30-30	150	1 x 2	1.85	1.11	PLD-1530	30-30	150	1 x 2	1.85	1.11
PLD-712	40-20	150	1 x 2	1.80	1.08	PLD-712	40-20	150	1 x 2	1.80	1.08
PLD-1540	40-40	150	1 x 2	1.90	1.14	PLD-1540	40-40	150	1 x 2	1.90	1.14
PLD-716	50-30	150	1 x 2	2.00	1.20	PLD-716	50-30	150	1 x 2	2.00	1.20
PLD-1550	50-50	150	1 x 2 1/2	2.15	1.29	PLD-1550	50-50	150	1 x 2 1/2	2.15	1.29
PLD-7163	60-20	150	1 x 3	2.00	1.20	PLD-7163	60-20	150	1 x 3	2.00	1.20
PLD-1560	60-60	150	1 x 3	2.35	1.41	PLD-1560	60-60	150	1 x 3	2.35	1.41
PLD-7165	80-40	150	1 x 3	2.30	1.38	PLD-7165	80-40	150	1 x 3	2.30	1.38
PLD-7166	200-125	150	1 1/2 x 3 1/2	3.75	2.25	PLD-7166	200-125	150	1 1/2 x 3 1/2	3.75	2.25
PLD-15200	200-200	150	1 3/4 x 4	4.00	2.40	PLD-15200	200-200	150	1 3/4 x 4	4.00	2.40
PLD-20100	100-100	200	1 3/4 x 3	3.45	2.07	PLD-20100	100-100	200	1 3/4 x 3	3.45	2.07
PLD-2510	10-10	250	1 x 2	1.70	1.02	PLD-2510	10-10	250	1 x 2	1.70	1.02
PLD-2520	20-20	250	1 x 2	1.90	1.14	PLD-2520	20-20	250	1 x 2	1.90	1.14
PLD-2540	40-40	250	1 x 3	2.55	1.53	PLD-2540	40-40	250	1 x 3	2.55	1.53
PLD-3010	10-10	300	1 x 2	1.75	1.05	PLD-3010	10-10	300	1 x 2	1.75	1.05
PLD-3015	15-15	300	1 x 2	1.90	1.14	PLD-3015	15-15	300	1 x 2	1.90	1.14
PLD-3040	40-40	300	1 1/2 x 2 1/2	3.00	1.80	PLD-3040	40-40	300	1 1/2 x 2 1/2	3.00	1.80
PLD-3060	60-60	300	1 1/2 x 3	3.40	2.04	PLD-3060	60-60	300	1 1/2 x 3	3.40	2.04
PLD-7167	80-40	300	1 1/2 x 3	3.55	2.13	PLD-7167	80-40	300	1 1/2 x 3	3.55	2.13
PLD-3080	80-80	300	1 1/2 x 3 1/2	4.05	2.43	PLD-3080	80-80	300	1 1/2 x 3 1/2	4.05	2.43
PLD-715	120-20	300	1 1/2 x 3 1/2	3.80	2.28	PLD-715	120-20	300	1 1/2 x 3 1/2	3.80	2.28
PLD-3515	15-15	350	1 x 2	2.25	1.35	PLD-3515	15-15	350	1 x 2	2.25	1.35
PLD-3520	20-20	350	1 x 2 1/2	2.30	1.38	PLD-3520	20-20	350	1 x 2 1/2	2.30	1.38
PLD-7175	30-20	350	1 x 3	2.60	1.56	PLD-7175	30-20	350	1 x 3	2.60	1.56
PLD-7177	50-80	350	1 1/2 x 2 1/2	3.15	1.89	PLD-7177	50-80	350	1 1/2 x 2 1/2	3.15	1.89
PLD-3580	80-80	350	1 1/2 x 4	4.70	2.82	PLD-3580	80-80	350	1 1/2 x 4	4.70	2.82
PLD-4015	15-15	400	1 x 2 1/2	2.25	1.35	PLD-4015	15-15	400	1 x 2 1/2	2.25	1.35
PLD-4040	40-40	400	1 1/2 x 3	3.30	1.98	PLD-4040	40-40	400	1 1/2 x 3	3.30	1.98
PLD-4060	60-60	400	1 1/2 x 3 1/2	4.40	2.64	PLD-4060	60-60	400	1 1/2 x 3 1/2	4.40	2.64
PLD-717	80-10	400	1 1/2 x 3	3.40	2.04	PLD-717	80-10	400	1 1/2 x 3	3.40	2.04
PLD-4510	10-10	450	1 x 2	1.90	1.14	PLD-4510	10-10	450	1 x 2	1.90	1.14
PLD-718	15-10	450	1 x 3	2.25	1.35	PLD-718	15-10	450	1 x 3	2.25	1.35
PLD-7185	20-10	450	1 x 3	2.25	1.35	PLD-7185	20-10	450	1 x 3	2.25	1.35
PLD-4520	20-20	450	1 x 3	2.55	1.53	PLD-4520	20-20	450	1 x 3	2.55	1.53
PLD-7186	25-20	450	1 x 3	2.65	1.59	PLD-7186	25-20	450	1 x 3	2.65	1.59
PLD-4530	30-30	450	1 1/2 x 2 1/2	3.05	1.83	PLD-4530	30-30	450	1 1/2 x 2 1/2	3.05	1.83
PLD-7187	40-20	450	1 1/2 x 2 1/2	3.00	1.80	PLD-7187	40-20	450	1 1/2 x 2 1/2	3.00	1.80
PLD-4540	40-40	450	1 1/2 x 3	3.45	2.07	PLD-4540	40-40	450	1 1/2 x 3	3.45	2.07
PLD-7188	60-40	450	1 1/2 x 3	3.95	2.37	PLD-7188	60-40	450	1 1/2 x 3	3.95	2.37
PLD-719	80-10	450	1 1/2 x 3	3.60	2.16	PLD-719	80-10	450	1 1/2 x 3	3.60	2.16
PLD-7193	80-30	450	1 1/2 x 4	4.20	2.52	PLD-7193	80-30	450	1 1/2 x 4	4.20	2.52
PLD-7195	80-40	450	1 1/2 x 4	4.35	2.61	PLD-7195	80-40	450	1 1/2 x 4	4.35	2.61
PLD-4720	20-20	475	1 x 3	2.80	1.68	PLD-4720	20-20	475	1 x 3	2.80	1.68
PLD-4740	40-40	475	1 1/2 x 3	4.30	2.58	PLD-4740	40-40	475	1 1/2 x 3	4.30	2.58
PLD-5020	20-20	500	1 1/2 x 2 1/2	2.85	1.71	PLD-5020	20-20	500	1 1/2 x 2 1/2	2.85	1.71
PLD-5040	40-40	500	1 1/2 x 3 1/2	4.30	2.58	PLD-5040	40-40	500	1 1/2 x 3 1/2	4.30	2.58
PLD-7196	500/50	5/150	1 x 3	2.45	1.47	PLD-7196	500/50	5/150	1 x 3	2.45	1.47
PLD-7197	250/1000	10/6	1 1/2 x 2	2.85	1.71	PLD-7197	250/1000	10/6	1 1/2 x 2	2.85	1.71
PLD-7198	40/20	150/25	1 x 2	1.70	1.02	PLD-7198	40/20	150/25	1 x 2	1.70	1.02
PLD-7199	40/150	150/25	1 x 2	2.05	1.23	PLD-7199	40/150	150/25	1 x 2	2.05	1.23
PLD-1995	150/100	150/25	1 1/2 x 2 1/2	2.70	1.62	PLD-1995	150/100	150/25	1 1/2 x 2 1/2	2.70	1.62
PLD-71997	40/25	250/25	1 x 2 1/2	1.70	1.02	PLD-71997	40/25	250/25	1 x 2 1/2	1.70	1.02
PLD-720	20/20	300/25	1 x 2	1.85	1.11	PLD-720	20/20	300/25	1 x 2	1.85	1.11
PLD-7201	20/60	300/350	1 1/2 x 2 1/2	2.85	1.71	PLD-7201	20/60	300/350	1 1/2 x 2 1/2	2.85	1.71
PLD-7202	20/20	350/25	1 x 2	1.90	1.14	PLD-7202	20/20	350/25	1 x 2	1.90	1.14
PLD-7203	20/30	350/250	1 x 3	2.30	1.38	PLD-7203	20/30	350/250	1 x 3	2.30	1.38
PLD-7204	60/80	350/250	1 1/2 x 3 1/2	3.45	2.07	PLD-7204	60/80	350/250	1 1/2 x 3 1/2	3.45	2.07
PLD-72045	20/10	350/300	1 x 2	2.05	1.23	PLD-72045	20/10	350/300	1 x 2	2.05	1.23
PLD-7205	30/30	350/300	1 x 3	2.65	1.59	PLD-7205	30/30	350/300	1 x 3	2.65	1.59
PLD-7207	10/20	450/25	1 x 2	1.90	1.14	PLD-7207	10/20	450/25	1 x 2	1.90	1.14
PLD-7209	20/20	450/25	1 x 2 1/2	2.00	1.20	PLD-7209	20/20	450/25	1 x 2 1/2	2.00	1.20
PLD-7215	40/20	450/25	1 x 3	2.35	1.41	PLD-7215	40/20	450/25	1 x 3	2.35	1.41
PLD-725	80/10	450/25	1 1/2 x 3	3.40	2.04	PLD-725	80/10	450/25	1 1/2 x 3	3.40	2.04
PLD-726	80/50	450/50	1 1/2 x 3	3.50	2.10	PLD-726	80/50	450/50	1 1/2 x 3	3.50	2.10
PLD-7261	20/100	450/100	1 1/2 x 2 1/2	2.65	1.59	PLD-7261	20/100	450/100	1 1/2 x 2 1/2	2.65	1.59
PLD-7263	30/40	450/150	1 1/2 x 2	2.50	1.50	PLD-7263	30/40	450/150	1 1/2 x 2	2.50	1.50
PLD-7275	40/150	450/150	1 1/2 x 3	3.45	2.07	PLD-7275	40/150	450/150	1 1/2 x 3	3.45	2.07
PLD-7267	80/50	450/150	1 1/2 x 3	3.75	2.25	PLD-7267	80/50	450/150	1 1/2 x 3	3.75	2.25
PLD-721	20/80	450/350	1 1/2 x 3 1/2	3.65	2.19	PLD-721	20/80	450/350	1 1/2 x 3 1/2	3.65	2.19
PLD-7217	25/15	450/350	1 x 3	2.55	1.53	PLD-7217	25/15	450/350	1 x 3	2.55	1.53
PLD-722	40/10	450/350	1 1/2 x 2	2.60	1.56	PLD-722	40/10	450/350	1 1/2 x 2	2.60	1.56
PLD-7225	40/20	450/350	1 1/2 x 2 1/2	2.85	1.71	PLD-7225	40/20	450/350	1 1/2 x 2 1/2	2.85	1.71
PLD-727	20/100	475/300	1 1/2 x 3 1/2	3.95	2.37	PLD-727	20/100	475/300	1 1/2 x 3 1/2	3.95	2.37
PLD-728	40/50	500/200	1 1/2 x 3 1/2	3.35	2.01	PLD-728	40/50	500/200	1 1/2 x 3 1/2	3.35	2.01
PLT-0220	20-20-20	25	1 x 2	1.95	1.17	PLT-0220	20-20-20	25	1 x 2	1.95	1.17
PLT-0240	40-40-40	25	1 x 2	2.15	1.27	PLT-0240	40-40-40	25	1 x 2	2.15	1.27
PLT-0530	30-30-30	50	1 x 2	2.15	1.27	PLT-0530	30-30-30	50	1 x 2	2.15	1.27
PLT-1520	20-20-20	150	1 x 2	2.30	1.38	PLT-1520	20-20-20	150	1 x 2	2.30	1.38
PLT-730	30-30-10	150	1 x 2	2.35	1.41	PLT-730	30-30-10	150	1 x 2	2.35	1.41
PLT-7305	40-20-10	150	1 x 2	2.35	1.41	PLT-7305	40-20-10	150	1 x 2	2.35	1.41
PLT-731	40-20-20	150	1 x 2	2.40	1.44	PLT-731	40-20-20	150	1 x 2	2.40	1.44
PLT-738	40-30-20	150	1 x 2	2.50	1.50	PLT-738	40-30-20	150	1 x 2	2.50	1.50
PLT-1540	40-40-40	150	1 x 3	2.60	1.56	PLT-1540	40-40-40	150	1 x 3	2.60	1.56
PLT-1550	50-50-50	150	1 x 3	3.00	1.80	PLT-1550	50-50-50	150	1 x 3	3.00	1.80
PLT-7385	80-40-20	150	1 x 3	2.90	1.74	PLT-7385	80-40-20	150	1 x 3	2.90	1.74
PLT-1580	80-80-80	150	1 1/2 x 3	3.75	2.25	PLT-1580	80-80-80	150	1 1/2 x 3	3.75	2.25
PLT-7387	120-80-40	150	1 1/2 x 3 1/2	3.80	2.28	PLT-7387	120-80-40	150	1 1/2 x 3		

# SANGAMO CAPACITORS

## TYPE PL ELECTROLYTIC CAPACITORS (Continued)

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price	Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
PLT-7395	35-15-10	250	1 x 2 1/2	\$2.70	\$1.62	PLT-7687	10/50/30	400/350/25	1 x 3 1/2	\$3.10	\$1.86
PLT-7397	40-20-10	250	1 3/8 x 2	2.85	1.71	PLT-7688	40/10/100	400/350/50	1 3/8 x 3	3.40	2.04
PLT-740	40-20-20	250	1 x 3	2.90	1.74	PLT-7689	60/20-20	400/350-350	1 3/8 x 3	4.30	2.58
PLT-3010	10-10-10	300	1 x 2	2.40	1.44	PLT-769	15-15/40	400-400/25	1 x 2 1/2	2.80	1.68
PLT-3020	20-20-20	300	1 x 3	3.10	1.86	PLT-770	20-20/20	400-400/25	1 x 3	2.85	1.71
PLT-3510	10-10-10	350	1 x 2	2.40	1.44	PLT-7707	40-40/20	400-400/300	1 3/8 x 3 1/2	4.15	2.49
PLT-7407	60-40-20	350	1 3/8 x 3	4.25	2.55	PLT-771	30/100-25	450/25-25	1 3/8 x 2	3.00	1.80
PLT-7409	80-60-60	350	1 3/8 x 5	5.60	3.36	PLT-7712	40/40/130	450/150/50	1 3/8 x 3	3.65	2.19
PLT-4010	10-10-10	400	1 x 2 1/2	2.40	1.44	PLT-7714	40/100/50	450/150/50	1 3/8 x 3	2.40	1.44
PLT-4510	10-10-10	450	1 x 2 1/2	2.60	1.56	PLT-7715	40/90-50	450/150-150	1 3/8 x 2 1/2	4.50	2.70
PLT-741	15-15-10	450	1 x 3	2.95	1.77	PLT-77152	20/80/50	450/200/50	1 3/8 x 2 1/2	3.00	1.80
PLT-7412	20-10-10	450	1 x 3	2.95	1.77	PLT-7716	20/60/100	450/250/25	1 3/8 x 2 1/2	4.30	2.58
PLT-4520	20-20-20	450	1 3/8 x 2 1/2	3.60	2.16	PLT-77165	20/80/10	450/250/200	1 3/8 x 3	3.35	2.01
PLT-7413	30-20-20	450	1 3/8 x 3	3.85	2.31	PLT-77168	10/80-80	450/250-250	1 3/8 x 4	4.20	2.52
PLT-7414	30-30-20	450	1 3/8 x 3	4.10	2.48	PLT-7717	20/40-10	450/250-250	1 3/8 x 2	3.15	1.89
PLT-4530	30-30-30	450	1 3/8 x 3	4.35	2.61	PLT-7719	20/15-10	450/300-300	1 x 3 1/2	2.85	1.71
PLT-74145	40-30-20	450	1 3/8 x 3	4.30	2.58	PLT-772	10/10/20	450/350/25	1 x 2	2.30	1.38
PLT-7415	40-40-10	450	1 3/8 x 3	4.15	2.49	PLT-773	30/10/50	450/350/25	1 x 3	2.40	1.44
PLT-4540	40-40-40	450	1 3/8 x 3 1/2	4.90	3.54	PLT-7735	20/80/100	450/350/50	1 3/8 x 3 1/2	4.50	2.70
PLT-7417	60-30-10	450	1 3/8 x 3	4.50	2.70	PLT-774	15/20-20	450/350/250	1 3/8 x 2	3.00	1.80
PLT-7419	80-40-20	450	1 3/8 x 4	5.40	3.24	PLT-7745	20/80/10	450/350/300	1 3/8 x 3	4.30	2.58
PLT-4710	10-10-10	475	1 x 3	2.70	1.62	PLT-775	10/30/30	450/400/300	1 3/8 x 2 1/2	3.35	2.01
PLT-742	30-30-20	475	1 3/8 x 3	4.45	2.67	PLT-778	10-10/10	450-450/25	1 x 2 1/2	2.40	1.44
PLT-4730	30-30-30	475	1 3/8 x 3 1/2	4.65	2.79	PLT-777	10-10/20	450-450/25	1 x 2 1/2	2.40	1.44
PLT-5010	10-10-10	500	1 x 3	2.70	1.62	PLT-779	15-15/20	450-450/25	1 x 3	2.75	1.65
PLT-7425	30-20-20	500	1 3/8 x 3	4.20	2.52	PLT-779	20-10/20	450-450/25	1 x 3	2.70	1.62
PLT-745	20/250-100	150/15-15	1 3/8 x 2	2.90	1.74	PLT-780	20-15/20	450-450/25	1 x 3	2.90	1.74
PLT-746	100/50/25	150/50/25	1 3/8 x 3	3.00	1.80	PLT-782	20-20/20	450-450/25	1 x 3	3.05	1.83
PLT-747	30-20/100	150-150/6	1 x 2	2.40	1.44	PLT-7825	30-20/20	450-450/25	1 3/8 x 2 1/2	3.30	1.98
PLT-7471	30-20/100	150-150/10	1 x 2	2.40	1.44	PLT-783	30-30/20	450-450/25	1 3/8 x 2 1/2	3.55	2.13
PLT-7473	30-30/200	150-150/10	1 x 2	2.50	1.50	PLT-7831	40-40/20	450-450/25	1 3/8 x 3	3.95	2.37
PLT-7475	40-20/150	150-150/10	1 x 2	2.40	1.44	PLT-7832	40-40/40	450-450/25	1 3/8 x 3	4.00	2.40
PLT-7477	40-20/200	150-150/10	1 x 2	2.56	1.50	PLT-7834	80-40/100	450-450/25	1 3/8 x 4	5.10	3.06
PLT-748	20-20/20	150-150/25	1 x 2	2.20	1.32	PLT-7835	10-10/40	450-450/50	1 x 2 1/2	2.75	1.65
PLT-750	30-20/20	150-150/25	1 x 2	2.25	1.35	PLT-7837	20-10/50	450-450/50	1 x 3	2.85	1.71
PLT-751	30-30/20	150-150/25	1 x 2	2.30	1.38	PLT-78375	30-30/40	450-450/50	1 3/8 x 3	3.65	2.19
PLT-749	40-20/20	150-150/25	1 x 2	2.30	1.38	PLT-78377	40-10/40	450-450/50	1 3/8 x 2 1/2	3.25	1.95
PLT-7517	40-20/100	150-150/25	1 x 2 1/2	2.50	1.50	PLT-7839	40-10/40	450-450/50	1 3/8 x 3	4.00	2.40
PLT-7519	40-20/200	150-150/25	1 x 2 1/2	2.70	1.62	PLT-78395	40-40/100	450-450/50	1 3/8 x 3 1/2	4.30	2.58
PLT-752	40-30/20	150-150/25	1 x 2	2.35	1.41	PLT-784	40-10/40	450-450/150	1 3/8 x 3 1/2	4.15	2.49
PLT-7521	40-30/25	150-150/25	1 x 2 1/2	2.35	1.41	PLT-785	40-10/80	450-450/200	1 3/8 x 3	3.90	2.34
PLT-7525	40-40/20	150-150/25	1 x 2 1/2	2.40	1.44	PLT-7855	40-10/100	450-450/200	1 3/8 x 3 1/2	4.15	2.49
PLT-7526	40-40/40	150-150/25	1 x 2 1/2	2.45	1.47	PLT-7857	40-40/100	450-450/200	1 3/8 x 4	4.95	2.97
PLT-7527	50-30/20	150-150/25	1 x 2	2.50	1.50	PLT-7859	15-10/120	450-450/300	1 3/8 x 3 1/2	4.70	2.82
PLT-753	50-30/100	150-150/25	1 x 2 1/2	2.70	1.62	PLT-786	15-15/10	450-450/300	1 x 3	2.85	1.71
PLT-754	50-50/20	150-150/25	1 x 2 1/2	2.65	1.59	PLT-7865	15-5/15	450-450/350	1 x 3	2.85	1.71
PLT-7541	60-40/25	150-150/25	1 x 2 1/2	2.65	1.59	PLT-787	20-20/60	450-450/350	1 3/8 x 3 1/2	4.05	2.43
PLT-7543	120-60/20	150-150/25	1 3/8 x 2 1/2	3.35	2.01	PLT-789	40-10/10	450-450/350	1 3/8 x 3	3.30	1.98
PLT-7545	30-20/20	200-200/25	1 x 2 1/2	2.55	1.53	PLT-7895	10/100/40	475/200/50	1 3/8 x 2 1/2	3.35	2.01
PLT-7547	100-10/40	200-200/50	1 3/8 x 2 1/2	3.15	1.89	PLT-7897	40/40-10	475/250-250	1 3/8 x 3	4.05	2.43
PLT-757	15-15/20	250-250/25	1 x 2	2.35	1.41	PLT-790	20/20/40	475/300/25	1 3/8 x 2	3.10	1.86
PLT-7575	20-15/20	250-250/25	1 x 2	2.35	1.41	PLT-792	40/40/25	475/400/50	1 3/8 x 3	4.30	2.58
PLT-758	30-30/20	250-250/25	1 x 2 1/2	2.80	1.68	PLT-793	40/20-20	475/450-450	1 3/8 x 3	4.50	2.70
PLT-7585	70-70/20	250-250/50	1 3/8 x 3	3.90	2.34	PLT-794	20-20/80	475-475/400	1 3/8 x 3 1/2	4.80	2.88
PLT-7587	40-20/10	250-250/150	1 3/8 x 2	2.75	1.65	PLT-7945	40/40/100	500/250/50	1 3/8 x 3	4.30	2.58
PLT-7588	40-40/10	250-250/200	1 3/8 x 3	2.10	1.86	PLT-795	20/20/40	500/300/25	1 3/8 x 2	3.10	1.86
PLT-759	80-80/60	250-250/200	1 3/8 x 3 1/2	4.50	2.70	PLT-7955	10-10/100	500-500/50	1 x 3	2.85	1.71
PLT-7593	30/20/20	250/350/25	1 x 3	2.80	1.68	PLT-796	30-10/20	500-500/50	1 3/8 x 2 1/2	3.10	1.86
PLT-7595	100/60/20	300/150/25	1 3/8 x 3	4.20	2.52	PLT-7965	10-10/4	500-500/350	1 x 3	2.50	1.50
PLT-7597	100/60-20	300/250-250	1 3/8 x 3 1/2	4.90	2.94	PLQ-797	40-40-40-30	150	1 3/8 x 2	3.35	2.01
PLT-762	20-20/20	300-300/25	1 x 2 1/2	2.75	1.65	PLQ-798	40-40-20-10	300	1 3/8 x 3 1/2	4.55	2.73
PLT-763	40-15/20	300-300/25	1 x 3	2.95	1.77	PLQ-7981	30-30-20-10	400	1 3/8 x 3 1/2	4.85	2.91
PLT-7631	40-20/20	300-300/25	1 3/8 x 2	3.10	1.86	PLQ-7983	80-10-10-10	400	1 3/8 x 3 1/2	4.70	2.82
PLT-7632	30-30/25	300-300/50	1 x 3	2.90	1.74	PLQ-7984	80-25-10-10	400	1 3/8 x 4	5.25	3.15
PLT-7635	10-10/15	300-300/250	1 x 2	2.45	1.47	PLQ-4510	10-10-10-10	450	1 3/8 x 2	3.35	2.01
PLT-7633	20/100/100	350/100/50	1 3/8 x 3	3.45	2.07	PLQ-7986	20-10-10-10	450	1 3/8 x 2 1/2	3.70	2.22
PLT-7636	10/50/100	350/100/75	1 x 3	3.05	1.83	PLQ-4520	20-20-20-20	450	1 3/8 x 3	4.70	2.82
PLT-7638	10/50/100	350/150/50	1 x 3 1/2	2.85	1.71	PLQ-799	30-15-15-15	450	1 3/8 x 3	4.45	2.67
PLT-76385	20/30/20	350/250/25	1 x 3	2.80	1.68	PLQ-800	30-30-15-10	450	1 3/8 x 3 1/2	4.70	2.82
PLT-760	30/20-10	350/250-250	1 x 3	3.00	1.80	PLQ-8002	40-10-10-10	450	1 3/8 x 3	4.15	2.49
PLT-7639	30/20/20	350/300/25	1 x 3	3.15	1.89	PLQ-8004	40-20-10-10	450	1 3/8 x 3	4.45	2.67
PLT-7605	20/40/10	350/300/150	1 x 3 1/2	3.15	1.89	PLQ-8006	40-40-40-40	450	1 3/8 x 5	6.45	3.87
PLT-764	40/20/10	350/300/200	1 3/8 x 2	3.30	1.98	PLQ-4710	10-10-10-10	475	1 3/8 x 5	3.50	2.10
PLT-7645	30/20/20	350/300/250	1 x 3	3.30	1.98	PLQ-801	40-20-10-10	475	1 3/8 x 3	5.10	3.06
PLT-765	10-10/20	350-350/25	1 x 2	2.25	1.35	PLQ-8012	40-40/100-100	150-150/25-25	1 3/8 x 2	3.35	2.01
PLT-7655	10-15/20	350-350/25	1 x 2	2.50	1.50	PLQ-8013	30-20-30/200	150-150-150/10	1 3/8 x 2	3.10	1.86
PLT-766	15-15/20	350-350/25	1 x 2 1/2	2.70	1.62	PLQ-8015	60-40-30/200	150-150-150/10	1 3/8 x 3	3.50	2.10
PLT-7665	20-10/20	350-350/25	1 x 2 1/2	2.55	1.53	PLQ-802	30-30-30/40	150-150-150/25	1 3/8 x 2	3.10	1.86
PLT-7871	20-20/20	350-350/25	1 x 2 1/2	2.80	1.68	PLQ-803	40-40-30/20	150-150-150/25	1 3/8 x 2	3.10	1.86
PLT-7672	30-10/20	350-350/25	1 x 2 1/2	2.85	1.71	PLQ-8035	40-40-40/20	150-150-150/25	1 3/8 x 2	3.15	1.89
PLT-767	30-20/20	350-350/25	1 x 3	3.10	1.86	PLQ-804	40-40-40/100	150-150-150/25	1 3/8 x 2	3.35	2.01
PLT-7674	30-30/20	350-350/25	1 3/8 x 2 1/2	3.40	2.04	PLQ-805	50-50-50/20	150-150-150/25	1 3/8 x 2	3.55	2.13
PLT-76745	40-40/50	350-350/25	1 3/8 x 2 1/2	3.75	2.25	PLQ-8050	80-40-40/40	150-150-150/25	1 3/8 x 3	3.60	2.15
PLT-7675	10-5/150	350-350/50	1 x 3	2.70	1.62	PLQ-80502	80-40-40/100	150-150-150/25	1 3/8 x 2		

# SANGAMO CAPACITORS

## TYPE PL ELECTROLYTIC CAPACITORS (Continued)

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price	Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
PLQ-8059	200/20/20/100	300/250/25/50	1 3/8 x 5	\$5.45	\$3.27	PLQ-8209	40-20-20/40	450-150-450/25	1 3/8 x 3	\$4.65	\$2.70
PLQ-8066	10-10-10/20	300-300-300/25	1 3/8 x 2	2.95	1.77	PLQ-8211	40-30-10/20	450-450-450/25	1 3/8 x 3	4.50	2.70
PLQ-808	60-40-20/50	300-300-300/25	1 3/8 x 3 1/2	4.70	2.82	PLQ-8215	40-40-10/20	450-450-450/25	1 3/8 x 3	4.70	2.82
PLQ-8085	40-40-40/20	300-300-300/150	1 3/8 x 3	4.90	2.94	PLQ-8216	40-40-40/40	450-450-450/25	1 3/8 x 1	5.50	3.30
PLQ-8089	15/80-40/200	350/200-200/25	1 3/8 x 3	4.50	2.70	PLQ-8217	20-20-20/100	450-450-450/50	1 3/8 x 3	4.55	2.73
PLQ-810	40/40-20/20	350/300-300/25	1 3/8 x 3	4.50	2.70	PLQ-822	30-30-15/30	450-450-450/50	1 3/8 x 3	4.15	2.49
PLQ-8105	30-30/15/20	350-350/300/25	1 3/8 x 3	4.15	2.49	PLQ-8225	40-20-10/100	450-450-450/50	1 3/8 x 3 1/2	4.65	2.79
PLQ-811	10-10/10-10	300-350/300-300	1 3/8 x 2	3.10	1.86	PLQ-8226	40-40-10/25	450-450-450/50	1 3/8 x 3 1/2	4.70	2.82
PLQ-8113	20-10-5/10	350-350-350/25	1 3/8 x 2	3.10	1.86	PLQ-8227	40-10-10/100	450-450-450/100	1 3/8 x 4	5.75	3.21
PLQ-8115	20-10-5/20	350-350-350/25	1 3/8 x 2	3.10	1.86	PLQ-823	10-10-10/10	450-450-450/150	1 3/8 x 2	3.15	1.89
PLQ-8116	40-20-20/25	350-350-350/25	1 3/8 x 2 1/2	4.25	2.55	PLQ-8235	20-10-10/10	450-450-450/150	1 3/8 x 3	3.50	2.10
PLQ-8117	40-40-40/40	350-350-350/25	1 3/8 x 3 1/2	5.20	3.12	PLQ-824	60-10-10/20	450-450-450/150	1 3/8 x 3	4.60	2.76
PLQ-8119	40-40-40/150	350-350-350/50	1 3/8 x 4	5.70	3.42	PLQ-8240	40/40/50/80	475-250/150/50	1 3/8 x 3 1/2	5.05	3.03
PLQ-81195	80/40-20-10	400/300-300-300	1 3/8 x 4	5.55	3.33	PLQ-8241	20/40/100/80	475/300/50/25	1 3/8 x 3	4.50	2.70
PLQ-81197	20/40/100-10	400/350/50-50	1 3/8 x 3	4.20	2.52	PLQ-8242	10/10/80/50	475/450/200/60	1 3/8 x 3	3.85	2.31
PLQ-812	40/10/80-10	400/350/250-250	1 3/8 x 3 1/2	4.65	2.79	PLQ-8243	25/20/20/100	475/450/300/50	1 3/8 x 3	4.60	2.76
PLQ-8125	10-10/25-25	400-400/25-25	1 3/8 x 2	2.80	1.68	PLQ-8244	25/20/40/100	475/450/300/50	1 3/8 x 3 1/2	4.95	2.97
PLQ-8127	40-10/80-10	400-100/250-250	1 3/8 x 3 1/2	4.70	2.82	PLQ-8246	10/60/30/125	475/450/400/50	1 3/8 x 4	5.45	3.27
PLQ-814	20-20-20/20	400-400-400/25	1 3/8 x 2 1/2	3.85	2.31	PLQ-8247	15-15/80/40	475-475/300/50	1 3/8 x 3	4.80	2.88
PLQ-8145	20/80-20/50	450/200-200/50	1 3/8 x 3	4.15	2.49	PLQ-8249	10-5/80/40	475-475/450/50	1 3/8 x 3 1/2	4.95	2.97
PLQ-8147	40/40-40/20	450/250-250/25	1 3/8 x 3	4.55	2.73	PLQ-8250	30-30-10/20	475-475-475/25	1 3/8 x 3	4.55	2.73
PLQ-8149	10/10/60/100	450/300/200/50	1 3/8 x 2 1/2	3.80	2.28	PLQ-825	40-20-10/10	475-475-475/25	1 3/8 x 3	4.85	2.91
PLQ-815	20/15-15/20	450/350-350/25	1 3/8 x 2	3.80	2.28	PLQ-826	20-20-10/10	475-475-475/300	1 3/8 x 2 1/2	4.30	2.58
PLQ-8152	10/60-40/25	450/350-350/25	1 3/8 x 3 1/2	4.60	2.76						
PLQ-8154	10/100-10/20	450/350-350/25	1 3/8 x 3 1/2	5.25	3.15						
PLQ-8156	30/40-40/10	450/350-350/200	1 3/8 x 3 1/2	5.15	3.09						
PLQ-8158	80/10/30/40	450/400/300/150	1 3/8 x 4	5.25	3.15						
PLQ-8159	10-10/20-20	450-450/25-25	1 3/8 x 2	2.95	1.77						
PLQ-816	20-15/20-20	450-450/25-25	1 3/8 x 2	3.45	2.07						
PLQ-817	20-20/20-20	450-450/25-25	1 3/8 x 2	3.60	2.16						
PLQ-8175	40-40/10/50	450-150/300/50	1 3/8 x 3	4.75	2.85						
PLQ-818	20-20/30-30	450-450/300-300	1 3/8 x 3	4.50	2.70						
PLQ-819	40-10/35-10	450-450/350-350	1 3/8 x 3 1/2	4.60	2.76						
PLQ-8195	40-40/30-30	450-450/350-350	1 3/8 x 4	5.90	3.54						
PLQ-820	10-10-10/20	450-450-450/25	1 3/8 x 2	3.15	1.89						
PLQ-8202	20-10-10/100	450-450-450/25	1 3/8 x 2 1/2	3.70	2.22						
PLQ-8205	20-20-20/20	450-450-450/25	1 3/8 x 2 1/2	4.15	2.49						
PLQ-82055	30-20-20/20	450-450-450/25	1 3/8 x 3	4.40	2.64						
PLQ-82057	30-30-10/20	450-450-450/25	1 3/8 x 3	4.35	2.61						
PLQ-8206	30-30-20/20	450-450-450/25	1 3/8 x 3	4.65	2.79						
PLQ-8207	40-10-10/250	450-450-450/25	1 3/8 x 3	4.25	2.55						
PLQ-82075	40-15-10/20	450-450-450/25	1 3/8 x 3	4.10	2.46						
PLQ-8208	40-20-20/20	450-450-450/25	1 3/8 x 3	4.60	2.76						

NOTE: Maximum operating temperature for 475 and 500 volt units is 65°C.  
NOTE: Each unit is supplied with a bakelite and a metal mounting plate. Additional hardware available at extra cost.  
NOTE: Packaging: Individual display carton.

## CARDBOARD INSULATING TUBES

Catalog Number	Description	List Price	Resale Net Price
KCT-1	For 1" x 2" can	\$0.06	\$0.03
KCT-2	For 1" x 2 1/2" can	.06	.03
KCT-3	For 1" x 3" can	.06	.03
KCT-4	For 1" x 4" can	.06	.03
KCT-5	For 1 3/8" x 2" can	.06	.03
KCT-6	For 1 3/8" x 2 1/2" can	.06	.03
KCT-7	For 1 3/8" x 3" can	.06	.03
KCT-8	For 1 3/8" x 3 1/2" can	.06	.03
KCT-9	For 1 3/8" x 4" can	.06	.03

## TYPE SL



Designed primarily as replacements for wet electrolytics, the Type SL electrolytic capacitors are assembled in round aluminum cans with threaded necks providing easy mounting to a chassis with the aid of a palnut which is supplied. The

Type SL is completely insulated from the container, the negative connection being made to one of the insulated leads extending through the threaded neck of the can.

### Single Section

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
SL-2512	12	250	1 x 2 1/2	\$1.75	\$1.05
SL-2525	25	250	1 x 3 1/2	1.95	1.17
SL-4508	8	450	1 3/8 x 2 1/2	2.20	1.32
SL-4512	12	450	1 3/8 x 2 1/2	2.40	1.44
SL-4516	16	450	1 3/8 x 2 1/2	2.45	1.47
SL-4520	20	450	1 3/8 x 2 1/2	2.70	1.62
SL-4530	30	450	1 3/8 x 3 1/2	3.00	1.80
SL-4540	40	450	1 3/8 x 4 1/4	3.15	1.89

### Common Negative Section

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
SLD-4508	8-8	450	1 3/8 x 3 1/2	\$3.00	\$1.80
SLD-4516	16-16	450	1 3/8 x 3 1/2	3.55	2.13
SLT-4508	8-8-8	450	1 3/8 x 3 1/2	5.00	3.00

### High Voltage, Series Wound Sections

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
SL-6004	4	600	1 3/8 x 3 1/2	\$2.95	\$1.77
SL-6008	8	600	1 3/8 x 4 1/4	3.15	1.89
SL-6016	16	600	1 3/8 x 4 1/2	3.75	2.25

NOTE: Packaging: Individual carton.

## TYPE TS



Ideally suited for all applications where quick capacitor changes are required, the SANGAMO Type TS units are equipped with a four-pin octal base mounting for use with

standard octal base tube sockets. The special design of the bakelite octal base insures that the aluminum container will not contact the mounting surface and the connections to the brass pin terminals are imbedded in this bakelite base. The base pins are nickel-plated to prevent corrosion and insure good contact with the socket terminals.

### Single Section

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
TS-1520	20	150	1 3/8 x 2 1/2	\$3.95	\$2.37
TS-1540	40	150	1 3/8 x 2 1/2	4.10	2.46
TS-4510	10	450	1 3/8 x 2 1/2	4.05	2.43
TS-4520	20	450	1 3/8 x 2 1/2	4.30	2.58
TS-4540	40	450	1 3/8 x 2 1/2	4.55	2.73
TS-4580	80	450	1 3/8 x 4 1/4	5.55	3.33

### Dual Sections

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
TSD-1520	20-20	150	1 3/8 x 2 1/2	\$4.20	\$2.52
TSD-1540	40-40	150	1 3/8 x 2 1/2	4.40	2.64
TSD-4510	10-10	450	1 3/8 x 2 1/2	4.40	2.64
TSD-4520	20-20	450	1 3/8 x 2 1/2	5.05	3.03

### Multiple Sections

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
TST-4510	10-10-10	450	1 3/8 x 2 1/2	\$5.10	\$3.08
TST-901	20-20-20	450-450-25	1 3/8 x 2 1/2	5.55	3.33

NOTE: Not normally carried in stock. Available on special order only.  
NOTE: Packaging: Individual carton.

# SANGAMO CAPACITORS

## ELECTROLYTIC CAPACITORS

### TYPE CS *Tomahawk*



The SANGAMO Type CS "Tomahawk" electrolytic capacitors are contained in wax-filled cardboard tubes with insulated leads approximately 8 inches in length extending from both ends of the unit. Capacity, voltage and polarity of each section is clearly indicated by color of the lead wires; coding information necessary to identify the individual sections is clearly stamped on the tube. Each unit is supplied with a mounting strap to facilitate mounting to the chassis.

#### Dual Common Negative Units

Catalog Number	Capacity mfd.	Working Volts D.C.	Size Dia. Len.	Net Price	Resale Net Price
CSD-0210	10-10	25	1/8 x 2 3/8	\$1.40	\$0.84
CSD-0510	10-10	50	1/8 x 2 3/8	1.40	.84
CSD-1508	8-8	150	1/8 x 2 3/8	1.50	.90
CSD-1516	16-16	150	1/8 x 2 1/2	1.80	1.08
CSD-1520	20-20	150	1/8 x 2 1/2	1.65	.99
CSD-500	30-20	150	1/8 x 2 1/2	1.70	1.02
CSD-1530	30-30	150	1/8 x 2 1/2	1.80	1.08
CSD-505	40-20	150	1 x 2 1/2	1.75	1.05
CSD-506	40-30	150	1 x 2 1/2	1.80	1.08
CSD-1540	40-40	150	1 x 2 1/2	1.85	1.11
CSD-512	50-30	150	1 x 2 1/2	1.95	1.17
CSD-1550	50-50	150	1 x 3	2.10	1.26
CSD-2516	16-16	250	1 x 2 1/2	1.75	1.05
CSS-4508	8-8	450	1 x 3 1/4	1.70	1.02
CSD-522	8-16	450	1 x 2 3/8	2.00	1.20
CSD-4520	20-20	450	1 x 3 3/8	2.50	1.50

#### Dual Separate Sections

Catalog Number	Capacity mfd.	Working Volts D.C.	Size Dia. Len.	Net Price	Resale Net Price
CSS-1520	20-20	150	1 x 2 1/2	\$2.05	\$1.23
CSS-4508	8-8	450	1 x 3 1/4	2.15	1.29
CSS-4516	16-16	450	1 1/4 x 3 3/8	2.80	1.68

#### Triple Common Negative Units

Catalog Number	Capacity mfd.	Working Volts D.C.	Size Dia. Len.	Net Price	Resale Net Price
CST-1520	20-20-20	150	1 x 2 3/8	\$2.20	\$1.32
CST-523	40-20-20	150	1 x 2 3/8	2.25	1.35
CST-524	40-30-20	150	1 x 2 3/8	2.35	1.41
CST-1540	40-40-40	150	1 x 2 3/8	2.45	1.47
CST-526	20-20-20	150-150-25	1 x 2 1/2	2.05	1.23
CST-527	40-20-20	150-150-25	1 x 2 1/2	2.15	1.29
CST-528	40-30-20	150-150-25	1 x 2 1/2	2.20	1.32
CST-532	50-30-20	150-150-25	1 x 2 1/2	2.35	1.41
CST-533	50-30-100	150-150-25	1 x 3 1/8	2.55	1.53
CST-534	80-40-20	150-150-25	1 x 3 1/8	2.60	1.56
CST-535	12-12-20	450-450-25	1 x 2 3/8	2.30	1.38
CST-537	20-20-20	450-450-25	1 1/4 x 3 3/8	2.90	1.74

NOTE: Packaging: 10, 25, or 50 per display carton.

### COLOR CODE OF WIRE LEADS FOR TYPES CS, AND SL CAPACITORS

Black	Common negative
Orange	Positive, highest voltage or capacity
Red	Positive, next highest voltage or capacity
Blue	Positive, next highest voltage or capacity
Yellow	Positive, next highest voltage or capacity
Brown	Negative, in separate section unit

NOTE: Lead colors are determined by the rated working voltages. Where there are two or more sections of different voltages and the same capacity, the lead color will designate the voltage; with the same voltages and unequal capacities, the lead color will designate the capacity. If there are two sections with equal capacities and voltages the two lead wires will be in the same color.

NOTE: Based upon proposed R.T.M.A. Color code.

## TYPE EM (MOTOR STARTING)

*Trailblazer*



The SANGAMO Type EM electrolytic capacitor is a standard universal replacement for all motor starter types presently in use, and its dimensions are comparable in every respect. The Type EML is provided with solder lug terminals, the Type EMS being equipped with screw types; otherwise the two units are identical in construction and operational characteristics. Insulating tubes are supplied with both types.

#### 110 Volts A.C.

EML Catalog Number	Capacity, mfd. Range	Can Size, less insulating tube. Dia. Len.	List Price	Resale Net Price
EML-1120	20-24	1 3/8 x 3 3/8	\$2.05	\$1.43
EML-1126	26-30	1 3/8 x 3 3/8	2.10	1.47
EML-1132	32-36	1 3/8 x 3 3/8	2.10	1.47
EML-1138	38-42	1 3/8 x 3 3/8	2.10	1.47
EML-1143	43-48	1 3/8 x 3 3/8	2.10	1.47
EML-1153	53-60	1 3/8 x 3 3/8	2.15	1.50
EML-1164	64-72	1 3/8 x 3 3/8	2.25	1.57
EML-1170	70-78	1 3/8 x 3 3/8	2.30	1.61
EML-1175	75-84	1 3/8 x 3 3/8	2.30	1.61
EML-1186	86-96	1 3/8 x 3 3/8	2.60	1.82
EML-1197	97-107	1 3/8 x 3 3/8	2.65	1.85
EML-11108	108-120	1 3/8 x 3 3/8	2.85	1.99
EML-11124	124-138	1 3/8 x 3 3/8	2.95	2.06
EML-11145	145-162	1 3/8 x 3 3/8	3.20	2.24
EML-11161	161-180	1 3/8 x 3 3/8	3.25	2.27
EML-11161	161-180	2	3.25	2.27
EML-11189	189-216	2 x 3 3/8	3.75	2.62
EML-11216	216-240	2 x 3 3/8	4.05	2.83
EML-11243	243-270	2 x 3 3/8	4.70	3.29
EML-11270	270-300	2 x 3 3/8	4.75	3.32
EML-11324	324-360	2 x 4 1/8	5.40	3.78
EML-11378	378-420	2 x 4 1/8	6.00	4.20
EML-11400	400-480	2 x 4 3/8	6.05	4.23

#### 220 Volts A.C.

EML Catalog Number	Capacity, mfd. Range	Can Size, less insulating tube. Dia. Len.	List Price	Resale Net Price
EML-2220	20-24	1 3/8 x 3 3/8	\$2.91	\$2.03
EML-2226	26-30	1 3/8 x 3 3/8	3.35	2.34
EML-2232	32-36	2 x 4 1/8	3.79	2.65
EML-2238	38-42	2 x 4 1/8	4.30	3.01
EML-2243	43-48	2 x 4 1/8	4.55	3.18
EML-2253	53-60	2 x 4 1/8	5.19	3.63

#### 110 Volts A.C.

EMS Catalog Number	Capacity, mfd. Range	Can Size, less insulating tube. Dia. Len.	List Price	Resale Net Price
EMS-1120	20-24	1 3/8 x 3 3/8	\$2.05	\$1.43
EMS-1126	26-30	1 3/8 x 3 3/8	2.10	1.47
EMS-1132	32-36	1 3/8 x 3 3/8	2.10	1.47
EMS-1138	38-42	1 3/8 x 3 3/8	2.10	1.47
EMS-1143	43-48	1 3/8 x 3 3/8	2.10	1.47
EMS-1153	53-60	1 3/8 x 3 3/8	2.15	1.50
EMS-1164	64-72	1 3/8 x 3 3/8	2.25	1.57
EMS-1170	70-78	1 3/8 x 3 3/8	2.30	1.61
EMS-1175	75-84	1 3/8 x 3 3/8	2.30	1.61
EMS-1186	86-96	1 3/8 x 3 3/8	2.60	1.82
EMS-1197	97-107	1 3/8 x 3 3/8	2.65	1.85
EMS-11108	108-120	1 3/8 x 3 3/8	2.85	1.99
EMS-11124	124-138	1 3/8 x 3 3/8	2.95	2.06
EMS-11145	145-162	1 3/8 x 3 3/8	3.20	2.24
EMS-11161	161-180	1 3/8 x 4 1/8	3.25	2.27
EMS-11161	161-180	2	3.25	2.27
EMS-11189	189-216	2 x 3 3/8	3.75	2.62
EMS-11216	216-240	2 x 3 3/8	4.05	2.83
EMS-11243	243-270	2 x 3 3/8	4.70	3.29
EMS-11270	270-300	2 x 3 3/8	4.75	3.32
EMS-11324	324-360	2 x 4 1/8	5.40	3.78
EMS-11378	378-420	2 x 4 1/8	6.00	4.20
EMS-11400	400-480	2 x 4 3/8	6.05	4.23

#### 220 Volts A.C.

EMS Catalog Number	Capacity, mfd. Range	Can Size, less insulating tube. Dia. Len.	List Price	Resale Net Price
EMS-2220	20-24	1 3/8 x 3 3/8	\$2.96	\$2.06
EMS-2226	26-30	1 3/8 x 3 3/8	3.40	2.37
EMS-2232	32-36	2 x 4 1/8	3.84	2.68
EMS-2238	38-42	2 x 4 1/8	4.35	3.04
EMS-2243	43-48	2 x 4 1/8	4.60	3.21
EMS-2253	53-60	2 x 4 1/8	5.24	3.66

NOTE: For insulating tube dimensions add 1/8" to the can diameter and 1/8" to the can length.

NOTE: Packaging: Individual display carton.

# SANGAMO CAPACITORS

## ELECTROLYTIC CAPACITORS

### TYPE BTE



The SANGAMO Type BTE electrolytic capacitor is ideally suited for filter and bypass circuits in marine, aircraft, geophysical and many other applications. The Type BTE cartridges are first sealed in aluminum tubes and then encased in sturdy-corrosion-resistant, hot tinned steel cases providing a complete hermetic seal under extremes of weather conditions. All units are equipped with glass-to-metal sealed terminals. Mounting flanges with 3/16" holes are provided at each end.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —			List Price	Resale Net Price
			Width	Length	Height		
BTE-0225	25	25	1	1 1/2	3/8	\$4.50	\$2.70
BTE-0250	50	25	1	1 1/2	3/8	4.60	2.76
BTE-0275	75	25	1	1 1/2	3/8	4.65	2.79
BTE-0525	25	50	1	1 1/2	3/8	4.55	2.73
BTE-0550	50	50	1	1 1/2	3/8	4.70	2.82
BTE-1510	10	150	1	1 1/2	3/8	4.65	2.79
BTE-1520	20	150	1	1 1/2	3/8	4.70	2.82
BTE-2510	10	250	1	1 1/2	3/8	4.50	2.70
BTE-2512	12	250	1	1 1/2	3/8	4.65	2.79
BTE-3508	8	350	1	1 1/2	3/8	4.75	2.85
BTE-4504	4	450	1	1 1/2	3/8	5.50	3.30

Designed and fabricated to conform to all physical and performance requirements of the CE63 style capacitor of Joint Armed Services Specification JAN-C-62.

Similar designs in case styles CE61, CE62, and CE64 may be furnished upon request.

## PAPER CAPACITORS

*Redskin*

### PLASTIC MOLDED TUBULAR



The SANGAMO "Redskin" is molded in a hard-thermosetting plastic providing more stable capacity values, excellent seal characteristics, and satisfactory operation up to 85°C. temperature. Small in physical size, and rugged in construction, this pioneer tubular is especially adaptable to television, auto radio, small AC-DC set, and other uses. The leads are firmly imbedded in the hard plastic case and have been especially designed to resist breakage. The "Redskin" assures operating dependability under extremes of heat, humidity and physical stress.

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
300635	.0005	600	3/8	x 1	\$0.25	\$0.15
300621	.001	600	3/8	x 1	.25	.15
3006215	.0015	600	3/8	x 1	.25	.15
300622	.002	600	3/8	x 1	.25	.15
3006222	.0022	600	3/8	x 1	.25	.15
300623	.003	600	3/8	x 1	.25	.15
300624	.004	600	3/8	x 1	.25	.15
3006247	.0047	600	3/8	x 1	.25	.15
300625	.005	600	3/8	x 1	.25	.15
300626	.006	600	3/8	x 1 1/2	.25	.15
3006268	.0068	600	3/8	x 1 1/2	.30	.18
300611	.01	600	3/8	x 1 1/2	.30	.18
3006115	.015	600	3/8	x 1 1/2	.30	.18
300612	.02	600	3/8	x 1 1/2	.30	.18
3006122	.022	600	3/8	x 1 1/2	.30	.18
300613	.03	600	3/8	x 1 1/2	.35	.21
300614	.04	600	3/8	x 1 1/2	.35	.21
3006147	.047	600	3/8	x 1 1/2	.40	.24
300615	.05	600	3/8	x 1 1/2	.40	.24
300616	.06	600	3/8	x 1 1/2	.40	.24
300601	.1	600	3/8	x 2	.45	.27
300602	.2	600	3/8	x 2	.55	.33
3006025	.25	600	3/8	x 2	.55	.33
300605	.5	600	1	x 2 1/2	.80	.48
300610	1.0	600	1 1/8	x 2 1/2	1.25	.75

301635	.0005	1600	3/8	x 1 1/4	.60	.36
301621	.001	1600	3/8	x 1 1/4	.60	.36
3016215	.0015	1600	3/8	x 1 1/4	.60	.36
301622	.002	1600	3/8	x 1 1/4	.65	.39
3016222	.0022	1600	3/8	x 1 1/4	.65	.39
3016225	.0025	1600	3/8	x 1 1/4	.65	.39
301623	.003	1600	3/8	x 1 1/4	.65	.39
3016233	.0033	1600	3/8	x 1 1/4	.65	.39
301624	.004	1600	3/8	x 1 1/4	.65	.39
3016247	.0047	1600	3/8	x 1 1/4	.65	.39
301625	.005	1600	3/8	x 1 1/4	.65	.39
301626	.006	1600	3/8	x 1 1/4	.65	.39
3016268	.0068	1600	3/8	x 1 1/2	.65	.39
301627	.007	1600	3/8	x 1 1/2	.65	.39
3016275	.0075	1600	3/8	x 1 1/2	.65	.39
301628	.008	1600	3/8	x 1 1/2	.65	.39
301611	.01	1600	3/8	x 1 1/2	.70	.42
3016115	.015	1600	3/8	x 1 1/2	.70	.42
301612	.02	1600	3/8	x 1 1/2	.70	.42
3016122	.022	1600	3/8	x 1 1/2	.70	.42
3016125	.025	1600	3/8	x 1 1/2	.70	.42
301613	.03	1600	3/8	x 2	.70	.42
301614	.04	1600	3/8	x 2	.70	.42
301615	.05	1600	3/8	x 2	.80	.48

NOTE: Additional capacity values in the 200 and 400 volt ratings can be supplied on request.

NOTE: Packaging: 20, 50, or 100 per display carton.

NOTE: Standard capacity tolerance:

.0005 mfd. . . . .	±60%	—25
.001 mfd. to .01 mfd. . . . .	±40%	—20
.01 mfd. to .15 mfd. . . . .	±20%	
.15 mfd. and up. . . . .	±20%	—10

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size — Dia. Len.	List Price	Resale Net Price
300221	.001	200	3/8 x 1	\$0.25	\$0.15
300225	.005	200	3/8 x 1	.25	.15
300211	.01	200	3/8 x 1 1/4	.25	.15
300212	.02	200	3/8 x 1 1/4	.25	.15
3002147	.047	200	3/8 x 1 1/4	.25	.15
300215	.05	200	3/8 x 1 1/4	.30	.18
300201	.1	200	3/8 x 1 1/2	.35	.21
3002015	.15	200	3/8 x 1 1/2	.35	.21
3002022	.22	200	3/8 x 1 1/2	.40	.24
3002025	.25	200	3/8 x 1 1/2	.45	.27
3002047	.47	200	3/8 x 2	.60	.36
300205	.5	200	3/8 x 2	.60	.36
300210	1.0	200	1 x 2 1/2	.90	.54
300421	.001	400	3/8 x 1	.25	.15
300425	.005	400	3/8 x 1	.25	.15
300411	.01	400	3/8 x 1 1/4	.25	.15
300412	.02	400	3/8 x 1 1/4	.25	.15
3004122	.022	400	3/8 x 1 1/4	.25	.15
3004147	.047	400	3/8 x 1 1/4	.30	.18
300415	.05	400	3/8 x 1 1/4	.30	.18
3004168	.068	400	3/8 x 1 1/2	.35	.21
300401	.1	400	3/8 x 1 1/2	.35	.21
3004015	.15	400	3/8 x 2	.35	.21
300402	.2	400	3/8 x 2	.40	.24
3004022	.22	400	3/8 x 2	.40	.24
3004025	.25	400	3/8 x 2	.45	.27
300405	.5	400	3/8 x 2	.60	.36
300410	1.0	400	1 1/8 x 2 1/2	.90	.54

# SANGAMO CAPACITORS

## PAPER CAPACITORS

### TYPE 50 *Pathfinder*



The Type 50 paper capacitors are primarily intended for bypass application. They are non-inductively wound, are supplied in fractional capacity values, and will provide efficient and continuous operation in R.F. and A.F. bypass, audio frequency coupling, and other A.C. circuits.

These units are impregnated and filled with mineral oil and may be operated under severe humidity conditions at temperatures up to +85°C.

#### 600 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions — Inches			List Price	Resale Net Price
		L	W	H		
5006-.05	.05	1 1/8	1	3/4	\$2.90	\$1.74
5006-.1	.1	1 1/8	1	3/4	2.95	1.77
5006-.25	.25	1 1/8	1	3/4	3.10	1.86
5006-.5	.5	1 1/8	1	1	3.30	1.98
5006-1	1.0	2	1 1/4	3/4	3.75	2.25
5006-2	2.0*	2	2	1 1/4	5.00	3.00
5006-.05x2	.05-.05	1 1/8	1	3/4	3.65	2.19
5006-.1x2	.1-.1	1 1/8	1	3/4	3.70	2.22
5006-.25x2	.25-.25	1 1/8	1	3/4	3.75	2.25
5006-.5x2	.5-.5	2	1 1/4	3/4	4.30	2.58
5006-1x2	1.0-1.0*	2	2	1 1/4	5.30	3.18
5006-.1x3	.1-.1-1	1 1/8	1	3/4	4.20	2.52
5006-.25x3	.25-.25-.25	2	1 1/4	3/4	4.75	2.85
6006-.5x3	.5-.5-.5*	2	2	1 1/4	5.75	3.45

#### 1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions — Inches			List Price	Resale Net Price
		L	W	H		
5010-.05	.05	1 1/8	1	3/4	\$3.05	\$1.83
5010-.1	.1	1 1/8	1	3/4	3.15	1.89
5010-.25	.25	1 1/8	1	3/4	3.25	1.95
5010-.5	.5	2	1 1/4	3/4	3.55	2.13
5010-1	1.0*	2	2	1 1/4	4.40	2.64
5010-.05x2	.05-.05	1 1/8	1	3/4	3.85	2.31
5010-.1x2	.1-.1	1 1/8	1	3/4	4.00	2.40
5010-.25x2	.25-.25	2	1 1/4	3/4	4.20	2.52
5010-.5x2	.5-.5*	2	2	1 1/4	5.45	3.27
5010-1x3	.1-.1-1	2	1 1/4	3/4	4.60	2.76
5010-.25x3	.25-.25-.25*	2	2	1 1/4	5.50	3.00

NOTE: \*For bottom or top terminal, case size becomes 2" x 2" x 1 1/4"

NOTE: Packaging: Individual display carton.

NOTE: The above units built to comply with the electrical requirements of specification JAN-C-25 Style CP-53-54-55.

NOTE: Standard capacity tol. ±20% —10%.

### TYPE 40-41 *Pueblo*



The SANGAMO Types 40 and 41 diaclor impregnated and filled paper capacitors are ideal for use in high voltage filter applications.

Enclosed in aluminum containers, they facilitate convenient mounting to the chassis, an insulating washer and spade lug being provided for this purpose. In the Type 40 one connection is provided by an insulated terminal and the other is provided by the case. In the Type 41 both terminals are completely insulated from the case.

NOTE: These units built to comply with the electrical requirements of specification JAN-C-25 Style CP-40-41.

### TYPE 62-64 *Scout*



The Types 62 and 64 SANGAMO non-inductively wound paper capacitors are impregnated and filled with mineral oil and are hermetically sealed in seamless drawn-steel cases. The mineral oil impregnant assures dependable service between the wide temperature limits of —55°C. and +85°C. Standard capacitors are supplied with top terminals and brackets for upright mounting. When bottom terminals and inverted mounting are required, add the letter "B" to the end of the catalog number.

#### TYPE 62 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Dimensions inclg. bracket			List Price	Resale Net Price
		L	W	H		
62B06-.01	.01	1 1/8	1 1/8	1 1/8	\$3.65	\$2.19
62B06-.05	.05	1 1/8	1 1/8	1 1/8	3.65	2.19
62B06-.1	.1	1 1/8	1 1/8	1 1/8	3.65	2.19
62B06-.25	.25	1 1/8	1 1/8	1 1/8	3.90	2.34
62C06-.5	.5	1 1/8	1 1/8	1 1/8	4.20	2.52
62A06-1.	1.0	1 1/8	1 1/8	2 1/8	4.65	2.79
62A06-2.	2.0	1 1/8	1 1/8	2 1/8	6.10	3.66

#### 1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions inclg. bracket			List Price	Resale Net Price
		L	W	H		
62B10-.05	.05	1 1/8	1 1/8	1 1/8	\$3.75	\$2.25
62B10-.1	.1	1 1/8	1 1/8	1 1/8	4.00	2.40
62C10-.25	.25	1 1/8	1 1/8	1 1/8	4.20	2.52
62A10-.5	.5	1 1/8	1 1/8	2 1/8	4.45	2.67
62A10-1.	1.0	1 1/8	1 1/8	2 1/8	5.20	3.12

#### TYPE 64 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Dimensions inclg. bracket			List Price	Resale Net Price
		L	W	H		
64A06-.01	.01	2 1/8	2 1/8	2 1/8	\$3.55	\$2.13
64A06-.05	.05	2 1/8	2 1/8	2 1/8	3.55	2.13
64A06-.1	.1	2 1/8	2 1/8	2 1/8	3.55	2.13
64A06-.25	.25	2 1/8	2 1/8	2 1/8	3.85	2.31
64A06-.5	.5	2 1/8	2 1/8	2 1/8	4.10	2.46
64A06-1.	1.0	2 1/8	2 1/8	2 1/8	4.70	2.82
64A06-2.	2.0	1 1/8	1 1/8	2 1/8	6.05	3.63

#### 1000 W.V. D.C.

Catalog Number	Capacity mfd.	Dimensions inclg. bracket			List Price	Resale Net Price
		L	W	H		
64A10.05	.05	2 1/8	2 1/8	2 1/8	\$3.70	\$2.22
64A10-.1	.1	2 1/8	2 1/8	2 1/8	3.95	2.37
64A10-.25	.25	2 1/8	2 1/8	2 1/8	4.15	2.49
64A10-.5	.5	2 1/8	2 1/8	2 1/8	4.40	2.64
64A10-1.	1.0	1 1/8	1 1/8	2 1/8	5.15	3.09

NOTE: Not normally carried in stock. Available on special order only.

NOTE: Packaging: Individual display carton.

NOTE: The above units built to comply with the electrical requirements of specification JAN-C-25 Style CP-61-63-65-67-69.

#### TYPE 40 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
4006-1	1.	600	1 1/2	x 1 1/2	\$3.85	\$2.31
4006-2	2.	600	1 1/2	x 2 1/2	4.60	2.76
4006-4	4.	600	1 1/2	x 3 1/2	6.30	3.78
4010-1	1	1000	1 1/2	x 2 1/2	4.20	2.52
4010-2	2.	1000	1 1/2	x 3 1/2	5.45	3.27
4015-.25	.25	1500	1 1/2	x 1 1/2	4.85	2.91
4015-.5	.5	1500	1 1/2	x 2 1/2	5.00	3.00
4015-1	1.	1500	1 1/2	x 3 1/2	5.45	3.27

#### TYPE 41 PAPER CAPACITORS

Catalog Number	Capacity mfd.	Working Volts D.C.	— Size —		List Price	Resale Net Price
			Dia.	Len.		
4106-1	1.	600	1 1/2	x 1 1/2	\$4.70	\$2.82
4106-2	2.	600	1 1/2	x 2 1/2	5.40	3.24
4106-4	4.	600	1 1/2	x 3 1/2	7.10	4.26
4110-1	1.	1000	1 1/2	x 2 1/2	5.00	3.00
4110-2	2.	1000	1 1/2	x 3 1/2	6.30	3.78
4115-.25	.25	1500	1 1/2	x 1 1/2	5.65	3.39
4115-.5	.5	1500	1 1/2	x 2 1/2	5.85	3.51
4115-1	1.	1500	1 1/2	x 3 1/2	6.30	3.78

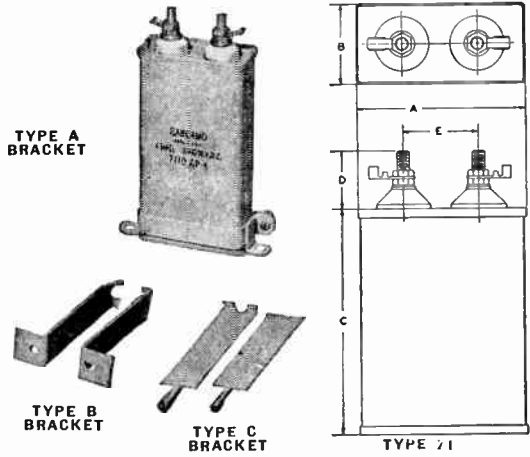
NOTE: Packaging: Individual display carton.

# SANGAMO CAPACITORS

## PAPER CAPACITORS

### TYPE 71 *Seminole*

SANGAMO Type 71 diactor impregnated and filled paper capacitors have the advantage of light weight, and are smaller than the case size specified by JAN-C-25. Diactor\* is a specially compounded, chemically purified chlorinated dielectric oil. This synthetic impregnant, whose characteristics can be controlled with great uniformity, possesses a high dielectric constant, high volume resistivity, low power factor, high dielectric strength, and is non-inflammable and non-explosive. Type A mounting brackets are supplied with each capacitor as standard equipment. If Type B or C brackets are required, they must be specified when ordering. Either composition rivet or stand-off porcelain terminals can be supplied, and the type desired should be specified.



600 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7106-.5	.5	1 3/8	1 1/8	1 5/8	7/8	3/8	2 1/4	\$4.70	\$2.82
7106-1	1.	1 3/8	1 1/8	2	7/8	3/8	2 1/4	5.80	3.48
7106-2	2.	1 3/8	1 1/8	2 3/8	7/8	3/8	2 1/4	7.15	4.29
7106-4	4.	2 1/8	1 1/8	2 3/8	7/8	1 1/8	3	9.10	5.46
7106-6	6.	2 1/8	1 1/8	3 1/8	7/8	1 1/8	3	11.30	6.78
7106-8	8.	3 3/8	1 1/8	3 1/8	7/8	2	4 3/8	13.50	8.10
7106-10	10.	3 3/8	1 1/8	3 3/8	7/8	2	4 3/8	15.15	9.09

1000 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7110-.1	.1	1 3/8	1 1/8	1 5/8	7/8	3/8	2 1/4	\$4.15	\$2.49
7110-.25	.25	1 3/8	1 1/8	1 5/8	7/8	3/8	2 1/4	4.70	2.82
7110-.5	.5	1 3/8	1 1/8	2	7/8	3/8	2 1/4	4.95	2.97
7110-1	1.	1 3/8	1 1/8	2 3/8	7/8	3/8	2 1/4	6.35	3.81
7110-2	2.	1 3/8	1 1/8	3	7/8	3/8	2 1/4	8.25	4.95
7110-4	4.	2 1/8	1 1/8	3 3/8	7/8	1 1/8	3	10.45	6.27
7110-6	6.	3 3/8	1 1/8	3 3/8	7/8	2	4 3/8	14.05	8.43
7110-8	8.	3 3/8	1 1/8	4 1/8	7/8	2	4 3/8	15.15	9.09
7110-10	10.	3 3/8	1 1/8	4 1/8	7/8	2	4 3/8	16.80	10.08
7110-12	12.	3 3/8	2 1/8	3 3/8	7/8	2	4 3/8	18.15	10.89
7110-15	15.	3 3/8	2 1/8	4 3/8	7/8	2	4 3/8	20.10	12.08

2000 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7120-.1	.1	1 3/8	1 1/8	1 5/8	1 1/8	3/8	2 1/4	\$6.60	\$3.96
7120-.25	.25	1 3/8	1 1/8	2	1 1/8	3/8	2 1/4	7.15	4.29
7120-.5	.5	1 3/8	1 1/8	2 1/8	1 1/8	3/8	2 1/4	7.45	4.47
7120-1	1.	2 1/8	1 1/8	3 1/8	1 1/8	1 1/8	3	9.10	5.46
7120-2	2.	3 3/8	1 1/8	3 3/8	1 1/8	2	4 3/8	10.75	6.45
7120-4	4.	3 3/8	2 1/8	3 3/8	1 1/8	2	4 3/8	15.15	9.09
7120-6	6.	3 3/8	2 1/8	4 1/8	1 1/8	2	4 3/8	20.10	12.06
7120-8	8.	3 3/8	3 1/8	4 1/8	1 1/8	2	4 3/8	25.05	15.03
7120-10	10.	3 3/8	4 1/8	4 1/8	1 1/8	2	4 3/8	30.55	18.33
7120-12	12.	3 3/8	4 1/8	5 1/8	1 1/8	2	4 3/8	33.30	19.98

1500 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7115-.5	.5	1 3/8	1 1/8	2 1/8	7/8	3/8	2 1/4	\$6.35	\$3.81
7115-1	1.	1 3/8	1 1/8	3 1/8	7/8	3/8	2 1/4	7.45	4.47
7115-2	2.	2 1/8	1 1/8	3 3/8	7/8	1 1/8	3	10.45	6.27
7115-4	4.	3 3/8	1 1/8	4 1/8	7/8	2	4 3/8	14.05	8.43
7115-6	6.	3 3/8	1 1/8	4 3/8	7/8	2	4 3/8	17.05	10.23
7115-8	8.	3 3/8	2 1/8	4 3/8	7/8	2	4 3/8	20.90	12.54
7115-10	10.	3 3/8	3 3/8	4 3/8	7/8	2	4 3/8	25.05	15.03
7115-12	12.	3 3/8	3 3/8	4 3/8	7/8	2	4 3/8	27.25	16.35
7115-15	15.	3 3/8	4 3/8	4 3/8	7/8	2	4 3/8	30.00	18.00

2500 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7125-.5	.5	2 1/8	1 1/8	2 3/8	1 1/8	1 1/8	3	\$11.55	\$6.93
7125-1	1.	3 3/8	1 1/8	3 3/8	1 1/8	2	4 3/8	13.20	7.92
7125-2	2.	3 3/8	1 1/8	4 3/8	1 1/8	2	4 3/8	21.45	12.87
7125-4	4.	3 3/8	2 1/8	5 1/8	1 1/8	2	4 3/8	30.00	18.00
7125-10	10.	3 3/8	4 1/8	6 1/8	1 1/8	2	4 3/8	75.10	45.06

3000 V. D. C. Working		Dimensions — Inches						List Price	Resale Net Price
Catalog Number	Capacity mfd.	A	B	C	D	E	F		
7130-.1	.1	2 1/8	1 1/8	2 1/8	1 1/8	1 1/8	3	\$14.05	\$8.43
7130-.25	.25	2 1/8	1 1/8	2 3/8	1 1/8	1 1/8	3	14.85	8.91
7130-.5	.5	2 1/8	1 1/8	3 3/8	1 1/8	1 1/8	3	16.80	10.08
7130-1	1.	3 3/8	1 1/8	4 1/8	1 1/8	2	4 3/8	20.10	12.06
7130-2	2.	3 3/8	2 1/8	4 1/8	1 1/8	2	4 3/8	25.05	15.03
7130-4	4.	3 3/8	4 1/8	4 1/8	1 1/8	2	4 3/8	36.85	22.11

NOTE: Standard tolerance ±10%.  
NOTE: Brackets supplied at no extra cost.

### TYPE 21 *Chippewa*



Hermetically sealed in metal tubes, the SANGAMO Type 21 paper capacitor is primarily designed for bypass and coupling applications. They are non-inductively wound; and, impregnated and filled with mineral oil assuring greatest stability of capacity and low power factor over the wide range of temperatures from -55°C. to +85°C. These units are built to comply with the electrical requirements of Specification JAN-C-25 Style CP 25-26-27-28-29.

#### TYPE 21 METAL CASES MINERAL OIL PAPER CAPACITORS

600 W.V. D.C.		Size — Dia. Len.		List Price	Resale Net Price
Catalog Number	Capacity mfd.				
2106-.006	.006	1/2 x 1 1/8		\$0.95	\$0.57
2106-.01	.01	1/2 x 1 1/8		.95	.57
2106-.02	.02	1/2 x 1 1/8		1.05	.63
2106-.03	.03	3/4 x 1 1/8		1.10	.66
2106-.05	.05	3/4 x 1 1/8		1.10	.66
2106-.06	.06	3/4 x 1 1/8		1.10	.66
2106-.1	.1	3/4 x 1 1/8		1.25	.75
2106-.25	.25	3/4 x 2 1/8		1.70	1.02
2106-.5	.5	1 1/8 x 2 1/8		2.20	1.32

1000 W.V. D.C.		Size — Dia. Len.		List Price	Resale Net Price
Catalog Number	Capacity mfd.				
2110-.006	.006	1/2 x 1 1/8		\$1.10	\$0.66
2110-.01	.01	1/2 x 1 1/8		1.10	.66
2110-.05	.05	3/4 x 1 1/8		1.30	.78
2110-.1	.1	3/4 x 2 1/8		1.50	.90
2110-.25	.25	1 1/8 x 2 1/8		2.30	1.38

1600 W.V. D.C.		Size — Dia. Len.		List Price	Resale Net Price
Catalog Number	Capacity mfd.				
2116-.0005	.0005	3/4 x 1 1/8		\$1.10	\$0.66
2116-.001	.001	3/4 x 1 1/8		1.10	.66
2116-.002	.002	3/4 x 1 1/8		1.10	.66
2116-.005	.005	3/4 x 1 1/8		1.20	.72
2116-.01	.01	3/4 x 1 1/8		1.20	.72
2116-.02	.02	3/4 x 1 1/8		1.30	.78
2116-.05	.05	3/4 x 2 1/8		1.30	.78
2116-.1	.1	1 1/8 x 2 1/8		2.10	1.26

2000 W.V. D.C.		Size — Dia. Len.		List Price	Resale Net Price
Catalog Number	Capacity mfd.				
2106-.003	.003	1/2 x 1 1/8		\$0.95	\$0.57
2120-.0005	.0005	3/4 x 1 1/8		1.25	.75
2120-.001	.001	3/4 x 1 1/8		1.25	.75
2120-.005	.005	3/4 x 1 1/8		1.25	.75
2120-.01	.01	3/4 x 1 1/8		1.25	.75
2120-.02	.02	3/4 x 1 1/8		1.30	.78
2120-.05	.05	3/4 x 2 1/8		1.45	.87

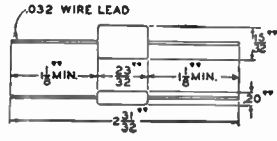


# SANGAMO CAPACITORS

## TYPE K Mica Capacitor



## TYPE KR Silvered Mica



## TYPE C Mica Capacitor



## TYPE CR Silvered Mica



### Type K Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>500 V.D.C. Working— 1000 V.D.C. Test</b>			
K-1550	.000005	\$0.25	\$0.15
K-1410	.00001	.25	.15
K-1415	.000015	.25	.15
K-1420	.00002	.25	.15
K-1425	.000025	.25	.15
K-1430	.00003	.25	.15
K-1439	.000039	.25	.15
K-1448	.000043	.20	.12
K-1450	.00005	.20	.12
K-1475	.000075	.20	.12
K-1310	.0081	.20	.12
K-1346	.00015	.20	.12
K-1320	.0002	.20	.12
K-1326	.00025	.25	.15
K-1330	.0003	.25	.15
K-1340	.0004	.25	.15
K-1350	.0005	.25	.15
K-1370	.0007	.35	.21
K-1380	.0008	.35	.21
K-1210	.001	.35	.21

Standard tolerance,  $\pm 20\%$ , B characteristic.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

### Type KR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>500 V.D.C. Working— 1000 V.D.C. Test</b>			
KR-1550	.000005	\$0.45	\$0.27
KR-1410	.00001	.40	.24
KR-1415	.000015	.40	.24
KR-1420	.00002	.40	.24
KR-1425	.000025	.40	.24
KR-1430	.00003	.40	.24
KR-1439	.000039	.40	.24
KR-1443	.000043	.40	.24
KR-1450	.00005	.40	.24
KR-1475	.000075	.40	.24
KR-1310	.0001	.40	.24
KR-1315	.00015	.45	.27
KR-1320	.0002	.45	.27
KR-1325	.00025	.45	.27
KR-1330	.0003	.55	.33
KR-1340	.0004	.55	.33
KR-1350	.0005	.70	.42
KR-1370	.0007	.75	.45
KR-1380	.0008	.80	.48
KR-1210	.001	.90	.54

Standard tolerance,  $\pm 5\%$ , C characteristic.

### Type C Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>500 V.D.C. Working— 1000 V.D.C. Test</b>			
C-1350	.0005	\$0.25	\$0.15
C-1362	.00062	.25	.15
C-1375	.00075	.25	.15
C-1380	.0008	.25	.15
C-1390	.0009	.25	.15
C-1210	.001	.30	.18
C-1215	.0015	.30	.18
C-1220	.002	.40	.24
C-1225	.0025	.45	.27
*C-1230	.003	.50	.30
*C-1240	.004	.50	.30
*C-1250	.005	.65	.39
*C-1260	.006	.65	.39
<b>300 V.D.C. Working— 600 V.D.C. Test</b>			
*C-06275	.0075	.90	.54
*C-06280	.008	1.00	.60
*C-06290	.009	1.00	.60
*C-06110	.01	1.20	.72

Standard tolerance,  $\pm 20\%$ , B characteristic. \*Thickness  $\frac{1}{16}$ "

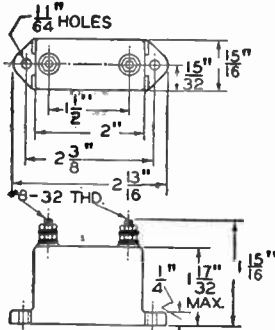
Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

### Type CR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>500 V.D.C. Working— 1000 V.D.C. Test</b>			
CR-1350	.0005	\$0.70	\$0.42
CR-1362	.00062	.80	.48
CR-1375	.00075	.85	.51
CR-1380	.0008	.95	.57
CR-1390	.0009	1.00	.60
CR-1210	.001	1.10	.66
CR-1215	.0015	1.35	.81
CR-1220	.002	1.35	.81
CR-1225	.0025	1.80	1.08
*CR-1230	.003	2.05	1.23
*CR-1240	.004	2.15	1.29
*CR-1250	.005	2.25	1.35
*CR-1260	.006	2.40	1.44
<b>300 V.D.C. Working— 600 V.D.C. Test</b>			
*CR-06275	.0075	2.45	1.47
*CR-06280	.008	2.80	1.68
*CR-06290	.009	2.95	1.77
*CR-06110	.01	3.20	1.92

Standard tolerance,  $\pm 5\%$ , C characteristic. \*Thickness  $\frac{1}{16}$ "

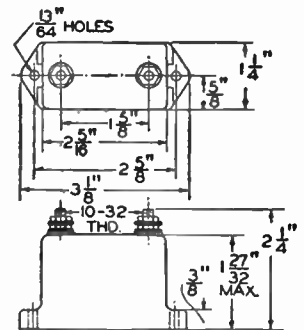
## TYPES F1 AND F2 MICA CAPACITORS



TYPE F1



Types F1 and F2 capacitors, the smallest of the Sangamo line of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and foil sections are permanently clamped, vacuum impregnated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.



TYPE F2

### TYPE F1 MICA CAPACITORS

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
F1-331	.0001	3000	\$12.60	\$7.56
F1-332	.0002	3000	12.60	7.56
F1-3325	.00025	3000	12.60	7.56
F1-335	.0005	3000	12.60	7.56
F1-321	.001	3000	12.60	7.56
F1-322	.002	3000	12.60	7.56
F1-223	.003	2000	12.60	7.56
F1-224	.004	2000	12.60	7.56
F1-225	.005	2000	12.60	7.56
F1-226	.006	2000	12.60	7.56
F1-1528	.008	1500	12.60	7.56
F1-111	.01	1000	12.60	7.56
F1-112	.02	1000	14.30	8.58
F1-0215	.05	250	14.30	8.58
F1-0201	.1	250	15.10	9.06

Standard tolerance  $\pm 5\%$ , B characteristic.

Inquiry should be directed to the factory for availability of capacities and voltages other than those listed above.

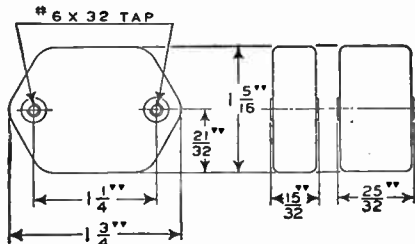
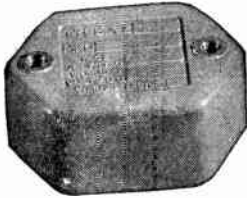
Prices subject to change without notice.

### TYPE F2 MICA CAPACITORS

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
F2-531	.0001	5000	\$17.30	\$10.38
F2-5325	.00025	5000	17.30	10.38
F2-535	.0005	5000	17.30	10.38
F2-536	.0006	5000	17.30	10.38
F2-521	.001	5000	17.30	10.38
F2-522	.002	5000	17.30	10.38
F2-523	.003	5000	17.30	10.38
F2-325	.005	3000	17.30	10.38
F2-326	.006	3000	17.30	10.38
F2-211	.01	2000	17.30	10.38
F2-212	.02	2000	17.30	10.38
F2-1515	.05	1500	17.30	10.38
F2-0501	.1	500	19.20	11.52
F2-0202	.2	250	25.25	15.15
F2-02025	.25	250	27.90	16.74

# SANGAMO CAPACITORS

## TYPE A MICA CAPACITORS



TYPE A THIN AND THICK

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>600 W.V.D.C.— 1200 T.V.D.C.</b>			
A-T1450	.00005	\$1.45	\$.87
A-T1310	.0001	1.45	.87
A-T1315	.00015	1.45	.87
A-T1320	.0002	1.45	.87
A-T1325	.00025	1.45	.87
A-T1350	.0005	1.45	.87
A-T1210	.001	1.45	.87
A-T1220	.002	1.65	.99
A-T1225	.0025	1.70	1.02
A-T1230	.003	1.85	1.11
A-T1240	.004	2.00	1.20
A-T1250	.005	2.10	1.26
A-T1260	.006	2.20	1.32
A-T1280	.008	2.45	1.47
A-T1110	.01	2.80	1.68
A-T1115	.015	3.05	1.83
A-T1120	.02	3.55	2.13
A-T1125	.025	4.35	2.61
A-T1130	.03	4.55	2.73
A-K1140	.04	5.85	3.51
A-K1150	.05	7.10	4.26
A-K1160	.06	8.05	4.83

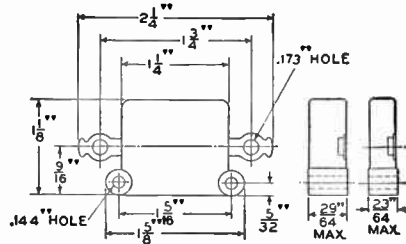
Catalog Number	Capacity Mfd.	List Price	Net Price
<b>1200 W.V.D.C.— 2500 T.V.D.C.</b>			
A-T2450	.00005	\$1.60	\$.96
A-T2310	.0001	1.60	.96
A-T2315	.00015	1.60	.96
A-T2320	.0002	1.60	.96
A-T2325	.00025	1.60	.96
A-T2350	.0005	1.60	.96
A-T2210	.001	1.90	1.14
A-T2220	.002	2.50	1.50
A-T2225	.0025	2.80	1.68
A-T2230	.003	2.95	1.77
A-T2240	.004	3.10	1.86
A-T2250	.005	3.30	1.98
A-T2260	.006	3.45	2.07
A-T2280	.008	4.10	2.46
A-T2110	.01	4.70	2.82
A-K2115	.015	5.80	3.48
A-K2120	.02	7.05	4.23
A-K2125	.025	7.90	4.74
A-K2130	.03	8.10	4.86
<b>2500 W.V.D.C.— 5000 T.V.D.C.</b>			
A-T5450	.00005	\$1.90	\$1.14
A-T5310	.0001	1.90	1.14
A-T5325	.00025	2.15	1.29
A-T5350	.0005	2.55	1.53
A-T5210	.001	2.90	1.74
A-T5220	.002	4.25	2.55
A-T5225	.0025	4.60	2.76
A-T5230	.003	5.10	3.06
A-T5240	.004	5.65	3.39
A-K5250	.005	6.20	3.72
A-K5260	.006	6.35	3.81
A-K5280	.008	6.85	4.11
A-K5110	.01	7.30	4.38
A-K5115	.015	8.05	4.83

\*Thickness 25/32" — Standard Insulators are available if desired. If .144" clearance holes are required, designate by adding letter "A" to Type No. (AA).

Standard tolerance  $\pm 20\%$ , B Characteristic, unless otherwise specified.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

## TYPE H MICA CAPACITORS



TYPE H THICK AND THIN

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>600 W.V.D.C.— 1200 T.V.D.C.</b>			
H-T1450	.00005	\$1.20	\$0.72
H-T1310	.0001	1.20	.72
H-T1320	.0002	1.20	.72
H-T1325	.00025	1.25	.72
H-T1330	.0003	1.20	.72
H-T1340	.0004	1.20	.72
H-T1350	.0005	1.20	.72
H-T1210	.001	1.20	.72
H-T1215	.0015	1.20	.72
H-T1220	.002	1.30	.78
H-T1225	.0025	1.30	.78
H-T1230	.003	1.45	.87
H-T1240	.004	1.50	.90
H-T1250	.005	1.55	.93
H-T1260	.006	1.80	1.08
H-T1270	.007	1.85	1.11
H-T1280	.008	1.90	1.14
H-T1110	.01	2.15	1.29
H-K1115	.015	2.65	1.59
H-K1120	.02	3.05	1.83
H-K1125	.025	3.60	2.16
H-K1130	.03	4.45	2.67

Catalog Number	Capacity Mfd.	List Price	Net Price
<b>1200 W.V.D.C.— 2500 T.V.D.C.</b>			
H-T2450	.00005	\$1.60	\$.96
H-T2310	.0001	1.60	.96
H-T2320	.0002	1.60	.96
H-T2325	.00025	1.60	.96
H-T2330	.0003	1.60	.96
H-T2340	.0004	1.60	.96
H-T2350	.0005	1.60	.96
H-T2210	.001	1.80	1.08
H-T2215	.0015	2.30	1.38
H-T2220	.002	2.40	1.44
H-T2225	.0025	2.80	1.68
H-T2230	.003	3.05	1.83
H-K2240	.004	3.05	1.83
H-K2250	.005	3.30	1.98
H-K2260	.006	3.30	1.98
H-K2280	.008	3.85	2.31
H-K2110	.01	5.10	3.06
<b>2500 W.V.D.C.— 5000 T.V.D.C.</b>			
H-T5450	.00005	\$1.90	\$1.14
H-T5310	.0001	1.90	1.14
H-T5320	.0002	1.90	1.14
H-T5325	.00025	2.20	1.32
H-T5330	.0003	2.25	1.35
H-T5340	.0004	2.30	1.38
H-T5350	.0005	2.40	1.44
H-T5210	.001	2.80	1.68
H-T5215	.0015	3.55	2.13
H-K5220	.002	4.15	2.49
H-K5230	.003	4.90	2.94
H-K5240	.004	5.65	3.39
H-K5250	.005	6.40	3.84

\*Thickness 29/64". For meter mounting bracket add letter "E" to Type designation; if assembled add 30 cents to list price; if unassembled add 20 cents and specify case size.

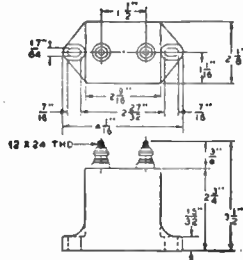
Standard tolerance  $\pm 20\%$ , B Characteristic, unless otherwise specified.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

Prices subject to change without notice.

# SANGAMO CAPACITORS

## TYPE E MICA CAPACITORS



TYPE E

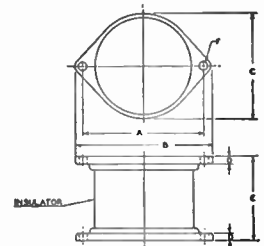
Catalog Number	Capacity Mfd.	Test Volts D.C.	List Price	Resale Net Price
E-1245	.00005	12500	\$11.00	\$ 6.60
E-1231	.0001	12500	11.00	6.60
E-12325	.00025	12500	11.00	6.60
E-1235	.0005	12500	11.00	6.60
E-1221	.001	12500	11.00	6.60
E-12215	.0015	12500	15.05	7.83
E-1222	.002	12500	15.00	9.00
E-1023	.003	10000	18.05	10.83
E-1024	.004	10000	19.05	11.43
E-1025	.005	10000	20.05	12.03
E-721	.001	7000	10.05	6.03
E-722	.002	7000	13.05	7.83
E-723	.003	7000	14.05	8.43
E-711	.01	7000	21.05	12.63
E-3524	.004	3500	14.05	8.43
E-3525	.005	3500	13.05	7.83
E-3511	.01	3500	20.05	12.03
E-3512	.02	3500	20.05	12.03
E-3515	.05	3500	23.05	13.83
E-215	.05	2000	20.05	12.03
E-201	.1	2000	23.05	13.83

Standard tolerance  $\pm 20\%$ .

This type capacitor specifically designed for amateur transmitters. It is not recommended for commercial applications.



## TYPES G1, G2, G3 AND G4 MICA CAPACITORS



TYPE G1, 2, 3 and 4

### TYPE G1

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G1-641	.00001	6000	\$35.45	\$21.27
G1-645	.00005	6000	38.20	22.92
G1-631	.0001	6000	40.60	24.36
G1-632	.0002	6000	40.60	24.36
G1-634	.0004	6000	44.35	26.61
G1-635	.0005	6000	46.65	27.99
G1-621	.001	6000	46.65	27.99
G1-6215	.0015	6000	48.90	29.34
G1-622	.002	6000	48.90	29.34
G1-623	.003	6000	50.60	30.36
G1-624	.004	6000	50.60	30.36
G1-625	.005	6000	50.60	30.36
G1-526	.006	5000	51.45	30.87
G1-511	.01	5000	51.45	30.87
G1-4115	.015	4000	51.45	30.87
G1-312	.02	3000	51.45	30.87

### TYPE G3

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G3-2045	.00005	20000	\$110.80	\$66.54
G3-2031	.0001	20000	121.00	72.60
G3-2032	.0002	20000	131.10	78.66
G3-20325	.00025	20000	131.10	78.66
G3-2033	.0003	20000	131.10	78.66
G3-2035	.0005	20000	137.15	82.29
G3-2038	.0008	20000	137.15	82.29
G3-2021	.001	20000	141.15	84.69
G3-15215	.0015	15000	143.20	85.92
G3-1522	.002	15000	143.20	85.92
G3-1523	.003	15000	151.25	90.75
G3-1524	.004	15000	151.25	90.75
G3-1025	.005	10000	151.25	90.75
G3-1026	.006	10000	151.25	90.75
G3-1028	.008	10000	151.25	90.75
G3-1011	.01	10000	151.25	90.75
G3-512	.02	5000	151.25	90.75
G3-313	.03	3000	151.25	90.75

### TYPE G4

### TYPE G2

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G2-1031	.0001	10000	\$65.55	\$39.33
G2-10315	.00015	10000	65.55	39.33
G2-1032	.0002	10000	65.55	39.33
G2-10325	.00025	10000	65.55	39.33
G2-1035	.0005	10000	65.55	39.33
G2-1021	.001	10000	65.55	39.33
G2-10212	.0012	10000	65.55	39.33
G2-10215	.0015	10000	65.55	39.33
G2-1022	.002	10000	65.55	39.33
G2-823	.003	8000	65.55	39.33
G2-824	.004	8000	65.55	39.33
G2-525	.005	5000	65.55	39.33
G2-526	.006	5000	69.15	41.49
G2-511	.01	5000	69.15	41.49
G2-4115	.015	4000	69.15	41.49
G2-312	.02	3000	69.15	41.49

Catalog Number	Capacity Mfd.	Peak Wkg. Volts	List Price	Resale Net Price
G4-3043	.00003	30000	\$167.90	\$100.74
G4-3045	.00005	30000	167.90	100.74
G4-3031	.0001	30000	210.30	126.18
G4-30315	.00015	30000	210.30	126.18
G4-30325	.00025	30000	221.16	132.69
G4-3035	.0005	30000	221.16	132.69
G4-3038	.0008	30000	221.16	132.69
G4-3021	.001	30000	229.10	137.46
G4-25215	.0015	25000	229.10	137.46
G4-2022	.002	20000	229.10	137.46
G4-2023	.003	20000	229.10	137.46
G4-2024	.004	20000	234.35	140.61
G4-1525	.005	15000	242.00	145.20
G4-1526	.006	15000	252.25	151.35
G4-1228	.008	12000	260.00	156.00
G4-1011	.01	10000	272.44	163.46
G4-612	.02	6000	272.44	163.46
G4-514	.04	5000	272.44	163.46

Standard tolerance  $\pm 5\%$ , B characteristic.

### TYPE G MICA CAPACITOR DIMENSIONS — INCHES

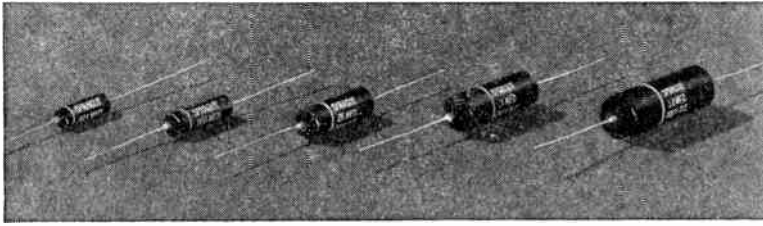
Type	A	B	C	D	E	F
G1	3 1/4	3 1/8	2 1/8	1/4	2 1/2	1 1/2
G2	4 1/4	5	3 1/2	1/4	3	1 3/2
G3	5 3/4	6 1/2	5	3/8	4	1 3/2
G4	5 3/4	6 1/2	5	3/8	5 3/4	1 3/2

Inquiry as to the availability of capacities and voltages other than those listed above should be directed to the factory.

Prices subject to change without notice.

# SPRAGUE CAPACITORS

## TELECAP® BLACK BEAUTY® MOLDED TUBULARS TVQ VITAMIN Q® TUBULARS



- Premium Quality at No Extra Cost
- Made Under Exclusive "Dry" Process, just like Costly Metal-Encased Oil Units
- Molded in Tough Bakelite Phenolic
- Non-Flammable Case
- Only Telecaps are Oil-impregnated in Ratings from 600 to 12,500 WVDC
- Extremely High Insulation Resistance
- Withstand Severe Heat, Moisture, Shock
- Rated for 85°C Operation

Mfd. D. x L. Cat. No. List

### 200 WVDC

.02	3/8 x 1 1/4	2TM-S2	.25
.047	3/8 x 1 1/4	2TM-S47	.25
.05	3/8 x 1 1/4	2TM-S5	.25
.1	7/8 x 1 1/4	2TM-P1	.35
.15	1/2 x 1 1/2	2TM-P15	.35
.22	5/8 x 1 1/8	2TM-P22	.40
.25	3/8 x 1 3/8	2TM-P25	.40
.47	3/8 x 1 3/8	2TM-P47	.60
.5	3/8 x 1 3/8	2TM-P5	.60
1.0	3/4 x 2 1/4	2TM-M1	.90

### 400 WVDC

.01	3/8 x 1	4TM-S1	.25
.02	3/8 x 1 1/4	4TM-S2	.25
.022	3/8 x 1 1/4	4TM-S22	.25
.047	3/8 x 1 1/4	4TM-S47	.30
.05	3/8 x 1 1/4	4TM-S5	.30
.068	1/2 x 1 1/2	4TM-S68	.35
.1	1/2 x 1 1/2	4TM-P1	.35
.15	3/8 x 1 3/8	4TM-P15	.35
.22	3/8 x 1 3/8	4TM-P22	.40
.25	3/8 x 1 3/8	4TM-P25	.40
.5	3/4 x 2 1/4	4TM-P5	.60

### 600 WVDC

.0001	3/8 x 1	6TM-T1	.25
.00025	3/8 x 1	6TM-T25	.25
.0004	3/8 x 1	6TM-T4	.25
.0005	3/8 x 1	6TM-T5	.25
.001	3/8 x 1	6TM-D1	.25
.0015	3/8 x 1	6TM-D15	.25
.002	3/8 x 1	6TM-D2	.25
.0022	3/8 x 1	6TM-D22	.25
.003	3/8 x 1	6TM-D3	.25
.004	3/8 x 1	6TM-D4	.25
.0047	3/8 x 1	6TM-D47	.25
.005	3/8 x 1 1/4	6TM-D5	.25
.006	3/8 x 1 1/4	6TM-D6	.25
.0068	3/8 x 1 1/4	6TM-D68	.30
.01	3/8 x 1 1/4	6TM-S1	.30
.015	3/8 x 1 1/4	6TM-S15	.30
.02	3/8 x 1 1/4	6TM-S2	.30
.022	3/8 x 1 1/4	6TM-S22	.30
.03	3/8 x 1 1/4	6TM-S3	.35

Mfd. D. x L. Cat. No. List

.04	1/2 x 1 1/2	6TM-S4	.35
.047	1/2 x 1 1/2	6TM-S47	.40
.05	1/2 x 1 1/2	6TM-S5	.40
.06	5/8 x 1 3/8	6TM-S6	.40
.1	5/8 x 1 3/8	6TM-P1	.45
.25	3/4 x 2 1/4	6TM-P25	.55
.5	1 1/8 x 2 3/8	*TC-5	.80
1.0	1 x 2 3/8	*TC-10	1.25

### 1600 WVDC

.0005	3/8 x 1 1/4	MB-T5	.65
.001	3/8 x 1 1/4	MB-D1	.65
.0015	3/8 x 1 1/4	MB-D15	.65
.002	3/8 x 1 1/4	MB-D2	.65
.0022	3/8 x 1 1/4	MB-D22	.65
.003	3/8 x 1 1/4	MB-D3	.65
.0033	3/8 x 1 1/4	MB-D33	.65
.004	3/8 x 1 1/4	MB-D4	.65
.0047	3/8 x 1 1/4	MB-D47	.65
.005	3/8 x 1 1/4	MB-D5	.65
.006	3/8 x 1 1/4	MB-D6	.65
.0068	3/8 x 1 1/4	MB-D68	.65
.007	3/8 x 1 1/4	MB-D7	.65
.0075	3/8 x 1 1/4	MB-D75	.65
.008	1/2 x 1 1/2	MB-D8	.65
.01	1/2 x 1 1/2	MB-S1	.70
.015	1/2 x 1 1/2	MB-S15	.70
.02	3/8 x 1 3/8	MB-S2	.70
.022	3/8 x 1 3/8	MB-S22	.70
.03	3/8 x 1 3/8	MB-S3	.70
.04	3/4 x 2 1/4	MB-S4	.70
.05	3/4 x 2 1/4	*TR-15	.70
2 x .015	3/4 x 2	*TR-215	.80

### 6000 WVDC

.0005	1/2 x 1 1/2	TVM-356	1.35
.001	1/2 x 1 1/2	TVM-216	1.35
.005	5/8 x 1 3/8	TVM-256	1.35

### 10,000 WVDC

.0005	3/8 x 1 3/8	TVM-351	1.50
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### 12,500 WVDC

.00025	3/8 x 1 3/8	12TVM-325	1.70
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- High Voltage Units that are Amazingly Small in Size
- High Insulation Resistance
- Exclusive Internal Humidity Barrier
- Heavy Outer Wax Coating

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.01	6000	1 1/8 x 2	TVQ-116	\$1.40
.03	6000	1 x 2 3/8	TVQ-136	1.50
.05	6000	1 1/8 x 3	TVQ-156	1.60

## 68P MIDGET® TUBULARS



- Smallest Reliable Paper Tubular
- Fit Tight Spots in Pocket and Auto Radios
- Outstanding Humidity Performance
- Rated for 85°C Operation

Mfd. Dia. x Length Cat. No. List

### 100 WVDC

.25	1 1/2 x 1 1/8	68P19	.70
.5	5/8 x 1 1/8	68P20	.80

### 200 WVDC

.005	1/4 x 1 1/8	68P11	.35
.006	1/4 x 1 1/8	68P12	.35
.01	3/32 x 1 1/8	68P14	.40
.02	3/32 x 1 1/8	68P15	.45
.05	3/16 x 1	68P16	.50
.1	13/32 x 1	68P17	.60
.2	15/32 x 1 1/8	68P18	.65
.25	17/32 x 1 1/8	68P24	.70
.5	7/8 x 1 3/8	68P25	.80

### 400 WVDC

.001	1/4 x 1 1/8	68P1	.35
.003	1/4 x 1 1/8	68P3	.35
.004	1/4 x 1 1/8	68P4	.35
.005	1/4 x 1 1/8	68P5	.35
.006	1/4 x 1 1/8	68P6	.35
.01	5/16 x 1 3/8	68P8	.40
.02	3/16 x 1	68P9	.45
.05	13/32 x 1	68P10	.50
.1	15/32 x 1 1/8	68P21	.65
.2	5/8 x 1 1/8	68P38	.70
.25	5/8 x 1 3/8	68P22	.75
.5	5/8 x 2 3/8	68P23	.85

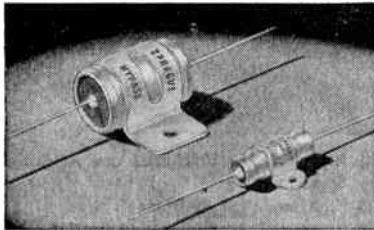
### 600 WVDC

.001	1/4 x 1 1/8	68P26	.35
.002	1/4 x 1 1/8	68P27	.35
.003	3/32 x 1 1/8	68P28	.35
.004	3/32 x 1 1/8	68P29	.35
.005	3/32 x 1 1/8	68P30	.40
.006	5/16 x 1 3/8	68P31	.40
.008	3/16 x 1	68P32	.40
.01	5/16 x 1	68P33	.45
.02	15/32 x 1	68P34	.50
.05	15/32 x 1 1/8	68P35	.55
.1	5/8 x 1 1/8	68P36	.70
.2	5/8 x 1 1 1/8	68P40	.80
.25	5/8 x 2	68P37	.80

\*Supplied in waxed cardboard units pending completion of molds.

# SPRAGUE CAPACITORS

## HYPASS® CAPACITORS



- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

Mfd.	Dia. x Length	Cat. No.	List
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### 250 WVAC

.1	1 1/8 x 1 1/8	*48P9	\$2.60
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### 600 WVDC

.005	1/2 x 1 1/8	46P8	2.15
.01	3/8 x 1 1/8	47P6	2.35

### 1000 WVDC

.005	3/8 x 1 1/8	47P12	2.40
.01	3/8 x 1 1/8	47P13	2.60

### 2500 WVDC

.005	1 x 1 1/8	47P14	2.90
.01	1 x 1 1/8	47P15	3.10

### 5000 WVDC

.002	1 x 1 1/8	47P16	3.20
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\*Has female screw terminals

## 72P RESONANT CAPACITORS

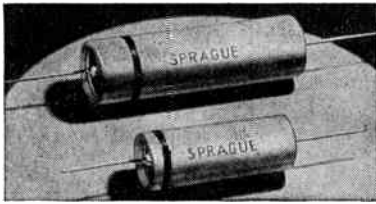


### PEP UP OLD RADIO SETS!

- Stabilize Any ac-dc "Squealer" Receiver
- Stop Self-oscillation, Permitting "On-the-nose" alignment
- Very Low Impedance at 465 KC Intermediate Frequency
- By-pass Unwanted I-F Signals
- Improve Set Performance

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.05	400	1/2 x 1 1/8	72P51	\$ .50
.1	400	1/2 x 1 1/8	72P52	.65
.2	400	3/8 x 1 1/8	72P53	.70

## PX METAL TUBULARS HERMETICALLY SEALED



- Non-inductively Wound
- Oil-filled
- Oil-impregnated
- Insulating Cardboard Sleeve

Mfd.	Dia. x Length	Cat. No.	List
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### 600 WVDC

.0001	1/2 x 1 1/4	PX-316	\$ .95
.00025	1/2 x 1 1/4	PX-3256	.95
.0005	1/2 x 1 1/4	PX-356	.95
.001	1/2 x 1 1/4	PX-216	.95
.002	1/2 x 1 1/4	PX-226	.95
.003	1/2 x 1 1/4	PX-236	.95
.004	1/2 x 1 1/4	PX-246	.95
.005	1/2 x 1 1/4	PX-256	.95
.006	1/2 x 1 1/4	PX-266	.95
.007	1/2 x 1 1/4	PX-276	.95
.008	1/2 x 1 1/4	PX-286	.95
.009	1/2 x 1 1/4	PX-296	.95

.01	1/2 x 1 1/4	PX-116	.95
.02	1/2 x 1 1/4	PX-126	1.05
.03	3/4 x 1 1/4	PX-136	1.10
.04	3/4 x 1 1/4	PX-146	1.10
.05	3/4 x 1 1/4	PX-156	1.10
.06	1 1/8 x 1 1/4	PX-166	1.20
.08	1 1/8 x 1 1/4	PX-186	1.20
.1	1 1/8 x 1 1/4	PX-16	1.25
.25	1 3/8 x 2 1/8	PX-26	1.70
.5	1 1/2 x 2 1/8	PX-56	2.20
1.0	1 1/2 x 3 1/8	PX-106	3.00

### 1000 WVDC

.0001	1 1/8 x 1 1/4	PX-311	1.10
.00025	1 1/8 x 1 1/4	PX-3251	1.10
.0005	1 1/8 x 1 1/4	PX-351	1.10
.001	1 1/8 x 1 1/4	PX-211	1.10
.002	1 1/8 x 1 1/4	PX-221	1.10
.003	1 1/8 x 1 1/4	PX-231	1.10
.004	1 1/8 x 1 1/4	PX-241	1.10
.005	1 1/8 x 1 1/4	PX-251	1.10
.006	1 1/8 x 1 1/4	PX-261	1.10
.007	1 1/8 x 1 1/4	PX-271	1.10
.008	1 1/8 x 1 1/4	PX-281	1.10
.009	1 1/8 x 1 1/4	PX-291	1.10

.01	1 1/8 x 1 1/4	PX-111	1.10
.02	3/4 x 1 1/4	PX-121	1.20
.03	1 1/8 x 1 1/4	PX-131	1.20
.04	1 1/8 x 1 1/4	PX-141	1.20
.05	1 1/8 x 1 1/4	PX-151	1.30
.06	1 1/8 x 2	PX-161	1.35
.08	1 1/8 x 2	PX-181	1.40
.1	1 1/8 x 2	PX-11	1.50
.25	1 1/8 x 2 1/8	PX-21	2.00
.5	1 1/8 x 3 1/8	PX-51	2.85

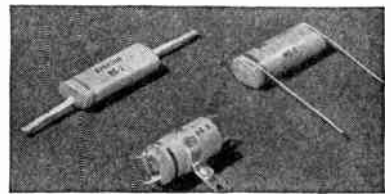
### 1500 WVDC

.002	3/4 x 1 1/4	PX-2215	1.20
.005	3/4 x 1 1/4	PX-2515	1.20
.01	1 1/8 x 1 1/4	PX-1115	1.20
.02	1 1/8 x 1 1/4	PX-1215	1.30

### 2000 WVDC

.0005	1 3/8 x 1 3/8	PX-352	1.25
.001	1 3/8 x 1 3/8	PX-212	1.25
.005	1 3/8 x 1 3/8	PX-252	1.25
.006	1 3/8 x 1 3/8	PX-262	1.25
.0075	1 3/8 x 1 3/8	PX-2752	1.25
.01	1 3/8 x 1 3/8	PX-112	1.25
.02	1 3/8 x 2 1/8	PX-122	1.35
.03	1 3/8 x 2 1/8	PX-132	1.40
.04	1 3/8 x 2 1/8	PX-142	1.40
.05	1 3/8 x 2 1/8	PX-152	1.45

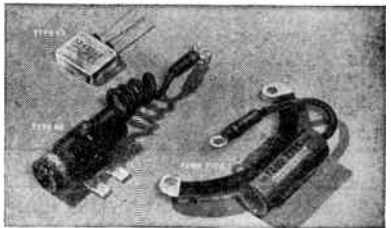
## HC HASH CAPACITORS FOR AUTOMOBILE RADIOS



- HC-1—Braided leads for Low R-F Resistance
- HC-2—Radial Side Leads
- HC-3—Flat Strap Leads for Minimum R-F Impedance

Mfd.	WVDC	Size	Cat. No.	List
.5	120	3/8 x 3/4 x 2 (oval tube)	HC-1	\$ .90
.5	120	3/8 x 3/4 x 2 (oval tube)	HC-2	.90
.5	120	3/4 x 1 1/8 (round tube)	HC-3	1.10

## AR & LR AUTO GENERATOR AND VIBRATOR TYPES



AR LR FORD

- Exceptionally Sturdy Design
- Withstand Bouncing and Vibration
- Oil-impregnated, Metal Encased
- Resist Heat and Humidity

Mfd.	WVDC	Size	Cat. No.	List
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### AR (GENERATOR TYPES)

1.0	1	1 x 2 3/8	AR-1	\$1.75
.5	1 1/8	1 1/8 x 1 1/8	AR-2	.90
.5+.5	1	1 x 2 3/8	AR-25	3.25
.5	1 1/8	1 1/8 x 1 1/8	AR-Ford	1.45

### LR (VIBRATOR TYPES)

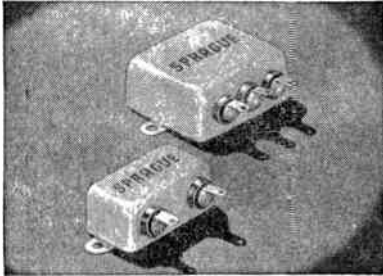
.01	1600	1/4 x 3/8 x 1 1/8	LR-11	\$2.00
.02	1600	1/4 x 3/8 x 1 1/8	LR-12	2.90
.007	1600	1/4 x 3/8 x 1 1/8	LR-27	2.65

### SPECIAL AUTO TYPES

Cat. No.	Mfd.	WVDC	D. X L.	List
DL-1				
Dome Light Filter	.2	200	1 x 2 1/8	\$4.20
GG-5 Gas Gauge Filter	.05	200	7/8 x 1 1/2	1.20
OG-50 Oil Gauge Filter	.25	200	1 1/8 x 1 1/8	1.40
P-2077 Ford Replacement	.5	200	1 1/8 x 1 1/8	1.25
P-3402 Ammeter Capacitor	.5	200	1 1/8 x 2	.90
P-2153 Motorola Replacement	.0008+.0008	1000	3/4 x 1 1/8	.80

# SPRAGUE CAPACITORS

## BP BATHTUB UNITS



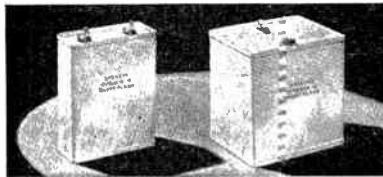
- Hermetically Sealed
- Oil-impregnated
- Drawn Can
- Oil-filled

Mfd.	L. x W. x H.	Cat. No.	List
<b>400 WVDC</b>			
.1	1 1/8 x 1 x 3/4	BP-1	\$2.20
.25	1 1/8 x 1 x 3/4	BP-25	2.50
.5	1 1/8 x 1 x 3/4	BP-50	2.65
1.0	2 x 1 3/4 x 3/4	BP-10	3.15
.1 + .1	1 1/8 x 1 x 3/4	BP-21	3.30
.25 + .25	1 1/8 x 1 x 3/4	BP-225	3.60
.5 + .5	2 x 1 3/4 x 3/4	BP-250	4.15
.1 + .1 + .1	1 1/8 x 1 x 3/4	BP-31	4.00

Mfd.	L. x W. x H.	Cat. No.	List
<b>600 WVDC</b>			
.05	1 1/8 x 1 x 3/4	BP-56	2.90
.1	1 1/8 x 1 x 3/4	BP-16	2.95
.25	1 1/8 x 1 x 3/4	BP-256	3.10
.5	1 1/8 x 1 x 3/4	BP-506	3.30
1.0	2 x 1 3/4 x 3/4	BP-106	3.75
2.0	2 x 2 x 1 1/4	BP-206	5.00
.05 + .05	1 1/8 x 1 x 3/4	BP-2056	3.65
.1 + .1	1 1/8 x 1 x 3/4	BP-216	3.70
.25 + .25	1 1/8 x 1 x 3/4	BP-2256	3.75
.5 + .5	2 x 1 3/4 x 3/4	BP-2506	4.30
1.0 + 1.0	2 x 2 x 1 1/4	BP-116	5.30
.1 + .1 + .1	1 1/8 x 1 x 3/4	BP-316	4.20
.25 + .25 + .25	2 x 1 3/4 x 3/4	BP-3256	4.75
.5 + .5 + .5	2 x 2 x 1 1/4	BP-356	5.75

Mfd.	L. x W. x H.	Cat. No.	List
<b>1000 WVDC</b>			
.05	1 1/8 x 1 x 3/4	BP-51	3.05
.1	1 1/8 x 1 x 3/4	BP-11	3.15
.25	1 1/8 x 1 x 3/4	BP-251	3.25
.5	2 x 1 3/4 x 3/4	BP-501	3.55
1.0	2 x 2 x 1 1/4	BP-101	4.40
.05 + .05	1 1/8 x 1 x 3/4	BP-2051	3.85
.1 + .1	1 1/8 x 1 x 3/4	BP-211	4.00
.25 + .25	2 x 1 3/4 x 3/4	BP-2251	4.20
.5 + .5	2 x 2 x 1 1/4	BP-2501	5.45
.1 + .1 + .1	1 1/8 x 1 x 3/4	BP-311	4.60
.25 + .25 + .25	2 x 2 x 1 1/4	BP-3251	5.50

## PQ PHOTOFLASH CAPACITORS



**DESIGNED EXPRESSLY FOR PHOTOFLASH USE ONLY**  
 NOT COMPARABLE TO STANDARD HEAVY DUTY CAPACITORS SUCH AS THE CR TYPES

- Oil-impregnated
- Oil Filled
- Hermetically Sealed
- High Insulation Resistance
- Smallest Construction with Maximum Dependability—Uniform Energy Storage.

Mfd.	DC Peak* Photoflash Volts	Watt/Sec. Total	Dimensions T. x W. x H.	Weight lbs.	Cat. No.	List Price
10	2500	31	2 1/4 x 3 3/4 x 4 1/2	1 3/4	PQ-2510	\$17.00
15	2500	47	3 3/8 x 3 3/4 x 4 3/8	2 1/2	PQ-2515	20.00
25	2500	78	4 1/8 x 3 3/4 x 5 1/4	4 1/4	PQ-2525	26.50
35	2500	109	4 3/8 x 3 3/4 x 7	6	PQ-2535	32.50
15	3000	67	3 3/8 x 3 3/4 x 4 3/8	3	PQ-315	24.50
25	4000	200	4 3/8 x 3 3/4 x 9 1/4	7 1/4	PQ-425	42.50

\*Do not exceed Peak Voltage Rating under highest line voltage condition

## PC TRANSMITTING TYPES



- Oil-impregnated
- Screwbase Can
- "Lifeguard" Protective Caps
- Oil-filled
- Fit Tight Spaces

Mfd.	Dia. x Length	Cat. No.	List
<b>600 WVDC</b>			
2.0	1 1/2 x 2 3/4	PC-26	\$5.40
3.0	1 1/2 x 3 1/4	PC-36	6.15
4.0	1 1/2 x 4 1/2	PC-46	7.10
<b>1000 WVDC</b>			
1.0	1 1/2 x 2 3/4	PC-11	5.00
2.0	1 1/2 x 4 1/2	PC-21	6.30
<b>1500 WVDC</b>			
0.5	1 1/2 x 2 3/4	PC-515	5.85
1.0	1 1/2 x 3 3/4	PC-115	6.30

## OT TRANSMITTING TYPES

- Oil-impregnated and Filled
- Hermetically Sealed
- Ceramic Terminals
- "Lifeguard" Protective Caps



Mfd.	Dia. x Length	Cat. No.	List
<b>600 WVDC</b>			
2	2 x 2 1/2	OT-26	\$5.45
<b>1000 WVDC</b>			
1	2 x 2 1/2	OT-11	4.65
2	2 x 3 3/4	OT-21	6.30
4	2 x 5 3/4	OT-41	8.00
<b>1500 WVDC</b>			
0.5	2 x 2 1/2	OT-515	5.05
1	2 x 2 1/2	OT-115	5.85
2	2 x 4 1/2	OT-215	8.00
<b>2000 WVDC</b>			
1	2 x 4 3/4	OT-12	7.55
	2 1/2 x 4 1/2	OT-22	8.40
<b>3000 WVDC</b>			
1	2 1/2 x 4 3/4	OT-13	15.15

## CR TRANSMITTING TYPES

- Oil-Filled
- Hermetically Sealed
- High Insulation Resistance
- Universal Mounting
- "Lifeguard" Protective Caps



Mfd.	T. x W. x L.	Cat. No.	List
<b>600 WVDC</b>			
.5	1 1/8 x 1 1/8 x 2 1/4	CR-056	\$4.70
1.0	1 1/8 x 1 1/8 x 2 1/4	CR-16	5.80
2.0	1 1/8 x 1 1/8 x 2 1/4	CR-26	7.15
3.0	1 1/8 x 1 1/8 x 3 1/4	CR-36	8.25
4.0	1 1/8 x 2 1/2 x 3 1/2	CR-46	9.10
6.0	1 1/8 x 2 1/2 x 4 3/4	CR-66	11.30
8.0	1 1/8 x 3 3/4 x 3 3/4	CR-86	13.50
10.0	1 1/8 x 3 3/4 x 4 3/4	CR-106	15.15

Mfd.	T. x W. x L.	Cat. No.	List
<b>1000 WVDC</b>			
.1	1 1/8 x 1 1/8 x 1 1/8	CR-011	4.15
.25	1 1/8 x 1 1/8 x 2 1/4	CR-0251	4.70
.5	1 1/8 x 1 1/8 x 2 1/4	CR-051	4.95
1.0	1 1/8 x 1 1/8 x 3 1/4	CR-11	6.35
2.0	1 1/8 x 1 1/8 x 3 3/4	CR-21	8.25
4.0	1 1/8 x 2 1/2 x 4 3/4	CR-41	10.45
8.0	1 1/8 x 3 3/4 x 4 3/4	CR-81	15.15
10.0	1 1/8 x 3 3/4 x 4 3/4	CR-101	16.80
12.0	2 1/4 x 3 3/4 x 4 3/4	CR-121	18.15
15.0	2 1/2 x 3 3/4 x 4 3/4	CR-151	20.10

Mfd.	T. x W. x L.	Cat. No.	List
<b>1500 WVDC</b>			
.5	1 1/8 x 1 1/8 x 2 3/4	CR-0515	6.35
1.0	1 1/8 x 1 1/8 x 3 3/4	CR-115	7.45
2.0	1 1/8 x 2 1/2 x 4 3/4	CR-215	10.20
4.0	1 1/8 x 3 3/4 x 4 3/4	CR-415	14.05
5.0	1 1/8 x 3 3/4 x 4 3/4	CR-515	15.15
8.0	2 1/2 x 3 3/4 x 4 3/4	CR-815	20.90
10.0	3 3/8 x 3 3/4 x 4 3/4	CR-1015	25.05

Mfd.	T. x W. x L.	Cat. No.	List
<b>2000 WVDC</b>			
.1	1 3/8 x 2 1/4 x 2 1/4	CR-012	6.60
.25	1 3/8 x 2 1/4 x 2 1/4	CR-0252	7.15
.5	1 3/8 x 2 1/4 x 2 1/4	CR-052	7.45
1.0	1 3/8 x 2 1/4 x 3 1/2	CR-12	9.10
2.0	1 3/8 x 3 3/4 x 4 1/4	CR-22	10.75
3.0	1 3/8 x 3 3/4 x 4 3/4	CR-32	13.20
4.0	2 1/4 x 3 3/4 x 3 3/4	CR-42	15.15
6.0	3 3/8 x 3 3/4 x 4 3/2	CR-62	20.10
10.0	4 3/8 x 3 3/4 x 4 3/4	CR-102	30.55

Mfd.	T. x W. x L.	Cat. No.	List
<b>2500 WVDC</b>			
.1	1 3/8 x 2 1/4 x 2 1/4	CR-0125	10.15
.5	1 3/8 x 3 3/4 x 3 3/4	CR-02525	11.55
1.0	1 3/8 x 3 3/4 x 3 3/4	CR-125	13.20
2.0	1 3/8 x 3 3/4 x 4 3/4	CR-225	21.45
4.0	4 3/8 x 3 3/4 x 4 3/4	CR-425	30.00

Mfd.	T. x W. x L.	Cat. No.	List
<b>3000 WVDC</b>			
.1	1 3/8 x 2 1/2 x 2 1/2	CR-013	14.05
.25	1 3/8 x 2 1/2 x 2 1/2	CR-0253	14.85
.5	1 3/8 x 2 1/2 x 4 1/4	CR-053	16.80
1.0	2 1/4 x 3 3/4 x 3 3/4	CR-13	20.10
2.0	3 3/8 x 3 3/4 x 4 1/2	CR-23	25.05
4.0	4 3/8 x 3 3/4 x 4 3/4	CR-43	36.85

Mfd.	T. x W. x L.	Cat. No.	List
<b>4000 WVDC</b>			
.1	2 1/4 x 3 3/4 x 2 3/4	CR-014	18.00
.25	2 1/4 x 3 3/4 x 2 3/4	CR-0254	20.00
.5	2 1/4 x 3 3/4 x 3 3/4	CR-054	23.00
1.0	2 1/4 x 3 3/4 x 5 1/4	CR-14	29.00
2.0	4 3/8 x 3 3/4 x 5 1/4	CR-24	39.00

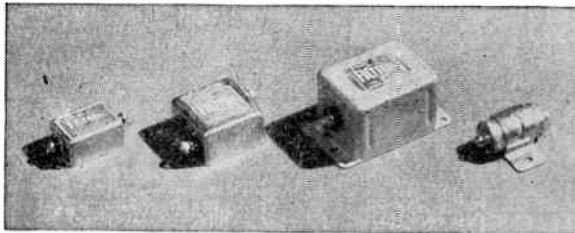
Mfd.	T. x W. x L.	Cat. No.	List
<b>5000 WVDC</b>			
.2	1 3/8 x 3 3/4 x 3 3/4	CR-025	20.00
.5	2 1/4 x 3 3/4 x 4 1/2	CR-055	25.00
1.0	4 3/8 x 3 3/4 x 4 3/4	CR-15	34.00
2.0	4 3/8 x 3 3/4 x 6	CR-25	52.00

Mfd.	T. x W. x L.	Cat. No.	List
<b>6000 WVDC</b>			
.1	2 1/4 x 3 3/4 x 3 3/4	CR-0160	27.00
.2	1 3/8 x 3 3/4 x 4 1/4	CR-0260	30.00
1.0	4 3/8 x 3 3/4 x 7 1/2	CR-160	49.00

Mfd.	T. x W. x L.	Cat. No.	List
<b>7500 WVDC</b>			
.1	2 1/4 x 3 3/4 x 3 3/4	CR-0175	29.00
.2	1 3/8 x 3 3/4 x 4 3/4	CR-0275	33.00

# SPRAGUE FILTERS

## FILTEROL® TYPES



Filterol 1      Filterol 2      Filterol 3      Filterol 4

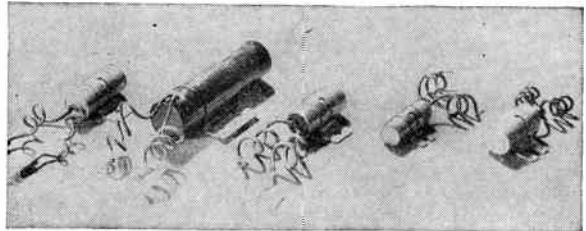
- Suppress Man-made Radio and TV Interference
- Small, Completely Self-contained
- Quickly, Easily Installed

**Filterol Types 1, 2, and 3**—Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

**Filterol Type 4**—A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size	List
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4	\$13.50
Filterol 2	10	115	1 1/8 x 2 x 2	14.80
Filterol 3	35	115	1 7/8 x 2 1/2 x 3 1/8	27.40
Filterol 4	20	115	1" dia. x 1 3/8" long	3.05

## IF TYPES



IF-15      IF-11      IF-21      IF-S1      IF-37

**IF-15**—TRIPLE-SECTION FILTER for all small motor-operated devices such as food and drink mixers, vacuum cleaners, fans, drills, etc. Especially designed to prevent accidental shocks from discharge of filter capacitors.

**IF-11**—DUAL HIGH-CAPACITY FILTER with completely enclosed safety construction. Designed for use on motors over 1 horsepower and up to 220 volts AC or DC. Also used on high-current arcing or sparking devices.

**IF-21**—COMPACT DUAL FILTER for use across brushes of fractional horsepower motors with the can grounded to motor frame. May also be used across line terminals of motors.

**IF-S1**—SINGLE SECTION 2-LEAD FILTER with can completely insulated. For use across make-and-break contacts, such as thermostats, circuit breakers, door-bells, buzzers, relays, etc.

**IF-37**—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Only one IF-37 required for each offending fixture. Also effective on make-and-break governor-type motors. Underwriters' Laboratories approved.

Cat. No.	Volts AC or DC	Dia. x Length	List
IF-15	220	1 x 2 3/8	\$2.60
IF-11	220	1 3/8 x 3 1/2	7.80
IF-21	220	1 x 2 3/8	1.75
IF-S1	220	3/4 x 2 1/8	1.15
IF-37	220	1 x 2 3/8	2.25

## SPRAGUE TO-3 DELUXE TEL-OHMIKE®

UNIVERSAL CAPACITOR and RESISTOR ANALYZER  
with BUILT-IN D-C VOLT-MILLIAMMETER



**\$73.50**  
net

The most comprehensive capacitor analyzer available . . . A sturdy reliable instrument designed to simplify electronic servicing . . . Exclusive "Speedy-check" design locates most open, intermittent, or shorted capacitors WITHOUT REMOVING THEM FROM CIRCUIT . . . A boon to the busy service technician! Also measures insulation resistance of motors, transformers, etc.

### SPECIFICATIONS

**Capacity:** .00001-2,000 Mfd. in 4 ranges.

**Power Factor:** 0-50% at 60 cycles.

**Insulation Resistance:** 0-2500 Megohms (Direct reading on the meter).

**Electrolytic Leakage:** Measured in Ma. at rated D-C voltage. Capacity and power factor of electrolytic condensers measured with rated polarizing voltage applied.

**Resistance:** 2.5 Ohms-25 Megs. in 3 ranges.

**D.C. Meter Range:** 0-15, 150, 750 volts—0-1.5, 15, 75 Milliamperes.

**Size:** 13 1/4" wide, 10 1/8" high,—5" deep.

**Power:** 35 watts at 115 volts—60 cycles.

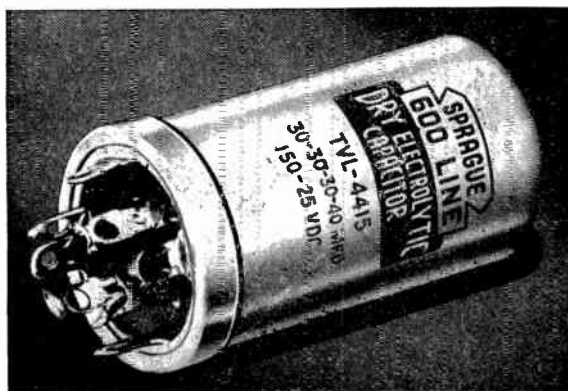
**Shipping Weight:** 15 lbs.

# SPRAGUE CAPACITORS

## TVL TWIST-LOK\* ELECTROLYTICS

- Especially Designed for Tough TV Replacement Applications
- Hermetically Sealed in Aluminum Cans for Long Life
- The Most Dependable Electrolytic in Such Compact Size
- Stand Up Under Extremely High Temperatures, High Ripple Currents, High Surge Voltages
- Easy to Mount—A Twist of the Tabs Locks Unit in Place
- Complete with Bakelite and Metal Washers, They're ideal for Above-chassis Mounting
- Designed for 85°C Operation, Up to 450 WVDC

★ Trademark



Mfd. @ WVDC	Dia. x Length	Cat. No.	List
<b>SINGLE UNITS</b>			
.5 ohm @ 15.75 KC @ 3 N.P.	1 x 2	TVL-1010	\$2.10
1 ohm @ 60 CPS @ 3 N.P.	1 3/8 x 2 1/2	TVL-1015	3.20
2000 @ 6	1 3/8 x 2	TVL-1115	2.55
3000 @ 10	1 3/8 x 2 1/2	TVL-1140	2.90
1000 @ 15	1 x 2 1/2	TVL-1165	2.55
2000 @ 15	1 3/8 x 2	TVL-1168	3.45
40 @ 25	3/4 x 2	TVL-1210	1.35
100 @ 25	3/4 x 2	TVL-1215	1.60
500 @ 25	1 x 2	TVL-1220	2.55
1000 @ 25	1 3/8 x 2	TVL-1230	3.55
150 @ 50	3/4 x 2 1/2	TVL-1320	1.80
500 @ 50	1 3/8 x 2 1/2	TVL-1330	2.65
20 @ 150	1 x 2	TVL-1405	1.45
30 @ 150	1 x 2	TVL-1408	1.55
40 @ 150	1 x 2	TVL-1412	1.60
50 @ 150	1 x 2	TVL-1415	1.65
80 @ 150	1 x 2 1/2	TVL-1420	1.85
80 @ 150	1 3/8 x 2	TVL-1421	1.85
140 @ 150	1 3/8 x 3	TVL-1428	2.15
150 @ 150	1 3/8 x 3	TVL-1430	2.15
200 @ 150	1 3/8 x 4	TVL-1431	2.45
300 @ 150	1 3/8 x 3 1/2	TVL-1434	2.80
40 @ 200	1 x 2	TVL-1460	1.70
15 @ 250	1 x 2	TVL-1505	1.55
20 @ 250	1 x 2	TVL-1509	1.60
30 @ 250	1 x 2	TVL-1516	1.70
40 @ 250	1 x 2	TVL-1519	1.80
50 @ 250	1 x 2 1/2	TVL-1522	1.95
60 @ 250	1 x 3	TVL-1525	2.05
80 @ 250	1 x 3 1/2	TVL-1530	2.15
100 @ 250	1 x 3	TVL-1535	2.70
150 @ 250	1 3/8 x 3	TVL-1540	3.10
15 @ 300	1 x 2	TVL-1560	1.60
30 @ 300	1 x 2	TVL-1563	1.75
50 @ 300	1 x 2 1/2	TVL-1567	2.05
60 @ 300	1 x 3	TVL-1570	2.10
80 @ 300	1 x 3 1/2	TVL-1573	2.55
100 @ 300	1 x 4	TVL-1578	2.90
125 @ 300	1 3/8 x 3 1/2	TVL-1580	3.50
150 @ 300	1 3/8 x 3 1/2	TVL-1584	3.50
40 @ 350	1 x 2	TVL-1621	2.00
50 @ 350	1 x 3	TVL-1622	2.10
80 @ 350	1 3/8 x 3	TVL-1630	2.85
125 @ 350	1 3/8 x 3 1/2	TVL-1638	3.95
10 @ 400	1 x 2	TVL-1655	1.50
20 @ 400	1 x 2	TVL-1660	1.75
80 @ 400	1 3/8 x 3	TVL-1675	2.95
10 @ 450	1 x 2	TVL-1705	1.55
15 @ 450	1 x 2	TVL-1709	1.70

Mfd. @ WVDC	Dia. x Length	Cat. No.	List
20 @ 450	1 x 2	TVL-1714	\$1.80
30 @ 450	1 x 2 1/2	TVL-1720	1.95
40 @ 450	1 x 3	TVL-1725	2.05
125 @ 450	1 3/8 x 4	TVL-1760	3.85
30 @ 475	1 x 3	TVL-1810	2.00
40 @ 475	1 3/8 x 2	TVL-1820	2.50
90 @ 475	1 3/8 x 3 1/2	TVL-1850	3.50
10 @ 525	1 x 2	TVL-1940	1.70

### DUAL UNITS

.5 ohm @ 15.75 KC /			
2.5 ohm @ 60 CPS	1 3/8 x 2	TVL-2010	3.60
1000 + 500 @ 6 N.P.	1 3/8 x 2	TVL-2120	3.90
250 @ 10 / 1000 @ 6	1 3/8 x 2	TVL-2140	2.85
1000 + 1000 @ 15	1 x 3 1/2	TVL-2160	4.40
40 + 40 @ 25	1 x 2	TVL-2210	1.60
150 + 50 @ 25	1 x 2	TVL-2230	1.90
50 + 50 @ 50	1 x 2	TVL-2320	1.70
20 + 20 @ 150	1 x 2	TVL-2415	1.70
30 + 15 @ 150	1 x 2	TVL-2418	1.75
30 + 30 @ 150	1 x 2	TVL-2422	1.85
40 + 20 @ 150	1 x 2	TVL-2425	1.85
40 + 40 @ 150	1 x 2 1/2	TVL-2428	1.90
50 + 30 @ 150	1 x 2 1/2	TVL-2432	2.00
50 + 50 @ 150	1 x 2 1/2	TVL-2435	2.15
60 + 60 @ 150	1 x 3 1/2	TVL-2438	2.35
80 + 40 @ 150	1 3/8 x 2 1/2	TVL-2442	2.30
200 + 125 @ 150	1 3/8 x 3 1/2	TVL-2445	3.75
200 + 200 @ 150	1 3/8 x 4	TVL-2447	4.00
40 + 40 @ 200	1 x 3	TVL-2460	2.30
40 @ 250 / 25 @ 250	1 x 2 1/2	TVL-2505	2.00
10 + 10 @ 250	1 x 2	TVL-2510	1.70
20 + 20 @ 250	1 x 2	TVL-2515	1.90
40 + 40 @ 250	1 x 3 1/2	TVL-2520	2.50
150 + 150 @ 250	1 3/8 x 4	TVL-2535	5.15
20 @ 300 / 20 @ 250	1 x 2	TVL-2555	1.85
10 + 10 @ 300	1 x 2	TVL-2565	1.75
15 + 15 @ 300	1 x 2	TVL-2568	1.90
40 + 40 @ 300	1 3/8 x 2 1/2	TVL-2575	3.00
60 + 60 @ 300	1 3/8 x 2 1/2	TVL-2579	3.40
80 + 40 @ 300	1 3/8 x 2 1/2	TVL-2582	3.55
80 + 80 @ 300	1 3/8 x 3 1/2	TVL-2585	4.05
120 + 20 @ 300	1 3/8 x 3 1/2	TVL-2588	4.00
20 @ 350 / 30 @ 250	1 x 3	TVL-2615	2.30
60 @ 350 / 80 @ 250	1 3/8 x 2 1/2	TVL-2618	3.45
30 @ 350 / 30 @ 300	1 x 3 1/2	TVL-2621	2.65
30 + 20 @ 350	1 x 3 1/2	TVL-2627	2.60
80 + 80 @ 350	1 3/8 x 4	TVL-2635	4.70
15 + 15 @ 400	1 x 2 1/2	TVL-2660	2.25
30 + 10 @ 400	1 x 3	TVL-2663	2.35



# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

Mfd.@WVDC	Dia. x Length	Cat. No.	List	Mfd.@WVDC	Dia. x Length	Cat. No.	List
60+60@400	1 1/8 x 4	TVL-2668	\$4.40	30+20@350/20@25	1 x 3 1/2	TVL-3636	\$3.10
80+10@400	1 1/8 x 3 1/2	TVL-2672	3.40	10+5@350/150@50	1 x 3	TVL-3638	2.70
80+40@400	1 3/8 x 4	TVL-2675	4.10	60+40+20@350	1 3/8 x 4	TVL-3640	4.25
80@450/10@25	1 1/8 x 3	TVL-2705	3.40	80+60+60@350	1 1/8 x 4	TVL-3642	5.55
80+450/50@50	1 1/8 x 3	TVL-2710	3.50	10@400/40@300/10@150	1 1/8 x 2	TVL-3665	2.90
20@450/80@350	1 3/8 x 3 1/2	TVL-2730	3.65	10@400/50@350/30@25	1 x 3 1/2	TVL-3670	3.10
40@450/10@350	1 1/8 x 2 1/2	TVL-2735	2.60	15+15@400/40@25	1 x 3	TVL-3675	2.80
10+10@450	1 x 2	TVL-2750	1.90	20+20@400/20@25	1 x 3	TVL-3678	2.85
15+10@450	1 x 2 1/2	TVL-2752	2.25	80+40@400/150@50	1 3/8 x 4	TVL-3684	5.25
20+20@450	1 x 3	TVL-2755	2.55	10+10+10@400	1 x 2 1/2	TVL-3690	2.40
30+30@450	1 1/8 x 2 1/2	TVL-2759	3.05	30@450/100+25@25	1 1/8 x 2	TVL-3703	2.95
40+40@450	1 3/8 x 3	TVL-2764	3.45	40@450/40@150/130@50	1 3/8 x 3	TVL-3706	3.70
60+40@450	1 1/8 x 3 1/2	TVL-2770	3.95	40@450/90+50@150	1 3/8 x 3	TVL-3708	4.00
80+10@450	1 1/8 x 3	TVL-2776	3.60	20@450/80@200/50@50	1 3/8 x 2 1/2	TVL-3709	3.40
80+30@450	1 3/8 x 4	TVL-2777	4.20	20@450/60@250/100@25	1 3/8 x 2 1/2	TVL-3711	3.65
20@475/100@300	1 1/8 x 3 1/2	TVL-2810	3.95	10@450/80+80@250	1 3/8 x 4	TVL-3712	4.15
40+40@475	1 1/8 x 3	TVL-2830	4.30	20@450/40+10@250	1 3/8 x 2	TVL-3713	3.15
40@500/50@200	1 1/8 x 3	TVL-2920	3.35	20@450/15+10@300	1 x 3 1/2	TVL-3716	2.85
<b>TRIPLE UNITS</b>				10@450/10@350/20@25	1 x 2 1/2	TVL-3719	2.30
20+20+20@25	1 x 2	TVL-3210	1.95	10@450/10@350/50@25	1 x 3	TVL-3721	2.40
40+40+40@25	1 x 2	TVL-3230	2.15	20@450/80@350/100@50	1 3/8 x 3 1/2	TVL-3722	4.50
30+30+30@50	1 x 2	TVL-3320	2.15	30@450/40@350/50@25	1 x 4	TVL-3723	3.70
20@150/250+100@15	1 3/8 x 2	TVL-3403	2.90	15@450/20@350/20@250	1 1/8 x 2	TVL-3724	2.95
100@150/50@50/25@25	1 x 3	TVL-3407	3.00	60@450/20+20@350	1 3/8 x 3 1/2	TVL-3725	4.30
30+20@150/100@6	1 x 2	TVL-3412	2.40	10@450/30@400/30@300	1 3/8 x 2 1/2	TVL-3726	3.35
20+20@150/20@25	1 x 2	TVL-3415	2.20	10+10@450/10@25	1 x 2 1/2	TVL-3729	2.40
30+20@150/20@25	1 x 2	TVL-3417	2.25	10+10@450/20@25	1 x 2 1/2	TVL-3731	2.40
30+30@150/20@25	1 x 2	TVL-3419	2.30	15+15@450/20@25	1 x 3	TVL-3733	2.70
40+20@150/20@25	1 x 2 1/2	TVL-3422	2.30	20+10@450/20@25	1 x 3	TVL-3735	2.70
40+30@150/20@25	1 x 2	TVL-3424	2.35	20+15@450/20@25	1 x 3 1/2	TVL-3737	2.90
40+30@150/25@25	1 x 2 1/2	TVL-3425	2.35	20+20@450/20@25	1 x 3 1/2	TVL-3739	3.05
50+30@150/100@25	1 x 3	TVL-3427	2.70	30+30@450/20@25	1 3/8 x 2 1/2	TVL-3741	3.55
50+50@150/20@25	1 x 3	TVL-3430	2.65	80+40@450/100@25	1 3/8 x 4	TVL-3746	5.05
20+20+20@150	1 x 2 1/2	TVL-3433	2.30	10+10@450/40@50	1 x 2 1/2	TVL-3749	2.50
30+30+10@150	1 x 2	TVL-3435	2.35	20+10@450/50@50	1 x 3	TVL-3751	2.85
40+20+20@150	1 x 2 1/2	TVL-3437	2.40	30+15@450/150@50	1 3/8 x 2 1/2	TVL-3753	3.70
40+40+40@150	1 x 3 1/2	TVL-3440	2.60	40+10@450/40@50	1 3/8 x 2 1/2	TVL-3754	3.25
50+50+50@150	1 x 3	TVL-3442	3.00	40+40@450/40@150	1 3/8 x 3 1/2	TVL-3758	4.15
80+80+80@150	1 3/8 x 3	TVL-3446	3.75	40+10@450/80@200	1 3/8 x 3	TVL-3761	3.90
120+80+40@150	1 3/8 x 3 1/2	TVL-3448	3.80	40+10@450/100@200	1 3/8 x 3 1/2	TVL-3762	4.15
70+70@250/20@50	1 3/8 x 3	TVL-3470	3.90	40+40@450/100@200	1 3/8 x 4	TVL-3764	4.95
100+10@200/40@50	1 3/8 x 2	TVL-3475	3.15	15+10@450/120@300	1 3/8 x 3 1/2	TVL-3765	4.70
15+15@250/20@25	1 x 2	TVL-3510	2.35	15+15@450/10@300	1 x 3 1/2	TVL-3766	2.85
30+30@250/20@25	1 x 3	TVL-3513	2.80	15+5@450/15@350	1 x 3	TVL-3768	2.85
40+20@250/10@150	1 3/8 x 2	TVL-3517	2.75	20+20@450/60@350	1 3/8 x 3 1/2	TVL-3770	5.05
80+80@250/60@200	1 3/8 x 3 1/2	TVL-3525	4.50	40+10@450/10@350	1 3/8 x 3	TVL-3772	3.30
15+15+10@250	1 x 2	TVL-3530	2.45	10+10+10@450	1 x 3	TVL-3776	2.60
30+15+10@250	1 x 2 1/2	TVL-3534	2.70	15+15+10@450	1 x 3 1/2	TVL-3778	2.95
40+20+20@250	1 x 3 1/2	TVL-3540	2.90	20+20+20@450	1 3/8 x 2 1/2	TVL-3780	3.60
100@300/60@150/20@25	1 3/8 x 3	TVL-3560	4.20	30+30+30@450	1 3/8 x 3 1/2	TVL-3782	4.35
100@300/60+20@250	1 3/8 x 4	TVL-3562	4.90	40+40+10@450	1 3/8 x 3 1/2	TVL-3785	4.15
200@300/60+20@250	1 3/8 x 4	TVL-3563	5.50	40+40+40@450	1 3/8 x 3 1/2	TVL-3787	4.90
20+20@300/20@25	1 x 2 1/2	TVL-3565	2.75	60+30+10@450	1 3/8 x 3	TVL-3790	4.50
40+15@300/20@25	1 x 3	TVL-3570	2.95	80+40+10@450	1 3/8 x 4	TVL-3792	5.05
40+20@300/20@25	1 3/8 x 2	TVL-3573	3.10	10@475/100@200/40@50	1 3/8 x 2 1/2	TVL-3800	3.35
10+10@300/15@250	1 x 2	TVL-3578	2.45	20@475/20@300/40@25	1 3/8 x 2	TVL-3805	3.10
10+10+10@300	1 x 2	TVL-3580	2.40	40@475/40@400/25@50	1 3/8 x 3	TVL-3813	4.30
120+50+50@300	1 3/8 x 4	TVL-3585	5.85	20+10@475/100@50	1 3/8 x 2	TVL-3817	3.25
10@350/50@150/100@50	1 x 3 1/2	TVL-3608	2.85	20+20@475/60@400	1 3/8 x 3 1/2	TVL-3820	4.80
20@350/30@250/20@25	1 x 3	TVL-3612	2.80	10+10+10@475	1 x 3	TVL-3835	2.70
30@350/20+10@250	1 x 3 1/2	TVL-3615	3.00	30+30+20@475	1 3/8 x 3	TVL-3840	4.45
20@350/40@300/10@150	1 x 3 1/2	TVL-3619	3.15	40+30+30@475	1 3/8 x 4	TVL-3843	5.15
30@350/30@300/20@25	1 x 3	TVL-3620	3.15	<b>QUADRUPLE UNITS</b>			
40@350/20@300/10@200	1 3/8 x 2	TVL-3623	3.30	30+30+30@150/40@25	1 3/8 x 2	TVL-4415	3.10
10+10@350/20@25	1 x 2	TVL-3628	3.25	40+40+30@150/20@25	1 3/8 x 2	TVL-4420	3.10
15+10@350/20@25	1 x 2 1/2	TVL-3630	2.50	50+50+50@150/20@25	1 3/8 x 2	TVL-4425	3.55
15+15@350/20@25	1 x 2 1/2	TVL-3632	2.70	40+20+10@200/20@25	1 3/8 x 2	TVL-4470	3.20
20+10@350/20@25	1 x 2 1/2	TVL-3634	2.55	100+40+10@250/100@50	1 3/8 x 3 1/2	TVL-4516	5.15
				80+60+40@250/20@150	1 3/8 x 4	TVL-4524	5.10

# SPRAGUE CAPACITORS

Mfd.@VVDC	Dia. x Length	Cat. No.	List
100@300/40@50/ 80+20@25	1 1/8 x 3	TVL-4555	\$4.55
120@300/20@250/20@25/ 100@30	1 1/8 x 3 1/2	TVL-4562	5.25
10+10+10@300/20@25	1 1/8 x 2	TVL-4565	2.95
60+40+20@300/50@25	1 1/8 x 3 1/2	TVL-4570	4.70
40+40+40@300/20@150	1 1/8 x 3	TVL-4575	4.90
40+40+20+10@300	1 1/8 x 3 1/2	TVL-4579	4.55
20@350/150+80@150/ 20@25	1 1/8 x 3	TVL-4603	4.55
40@350/40+20@300/ 20@25	1 1/8 x 3 1/2	TVL-4605	4.50
10+10@350/10+10@300	1 1/8 x 2	TVL-4612	3.10
20+10+5@350/10@25	1 1/8 x 2	TVL-4620	3.10
40+40+40@350/150@50	1 1/8 x 4	TVL-4628	5.65
80@400/40+20+10@300	1 1/8 x 3 1/2	TVL-4641	5.55
20@400/10@350/ 10@200/20@25	1 1/8 x 2	TVL-4652	3.20
40@400/10@350/ 80+10@250	1 1/8 x 4	TVL-4657	4.65
10+10@400/25+25@25	1 1/8 x 2	TVL-4662	2.80
20+20+20@400/20@25	1 1/8 x 2 1/2	TVL-4667	3.85
80+10+10+10@400	1 1/8 x 3 1/2	TVL-4675	4.70
80+25+10+10@400	1 1/8 x 4	TVL-4680	5.25
10@450/80+40@200/ 100@50	1 1/8 x 3	TVL-4700	4.25
20@450/80+20@200/ 50@50	1 1/8 x 3	TVL-4701	4.10
10@450/10@300/ 60@200/100@50	1 1/8 x 2 1/2	TVL-4705	3.80
10@450/100+10@350/ 20@25	1 1/8 x 3	TVL-4706	5.20
10@450/60+40@350/ 25@25	1 1/8 x 4	TVL-4707	4.60
20@450/15+15@350/ 20@25	1 1/8 x 2 1/2	TVL-4708	3.80
80@450/10@400/ 30@300/40@150	1 1/8 x 4	TVL-4710	5.25
20+15@450/20+20@25	1 1/8 x 2	TVL-4712	3.45
20+20@450/30+30@300	1 1/8 x 3 1/2	TVL-4715	4.50
40+10@450/35+10@350	1 1/8 x 3 1/2	TVL-4718	4.60
40+40@450/30+30@350	1 1/8 x 4	TVL-4720	5.90
10+10+10@450/20@25	1 1/8 x 2	TVL-4723	3.15
40+10+10@450/250@25	1 1/8 x 3	TVL-4726	4.70
40+15+10@450/20@25	1 1/8 x 3	TVL-4729	4.10

Mfd.@VVDC	Dia. x Length	Cat. No.	List
40+20+20@450/40@25	1 1/8 x 3	TVL-4732	\$4.65
40+30+10@450/20@25	1 1/8 x 3 1/2	TVL-4734	4.50
40+40+10@450/20@25	1 1/8 x 3 1/2	TVL-4736	4.70
40+40+40@450/40@25	1 1/8 x 4	TVL-4739	5.50
30+30+15@450/30@50	1 1/8 x 3	TVL-4742	4.55
40+40+10@450/25@50	1 1/8 x 3 1/2	TVL-4745	4.70
40+40+10@450/ 100@100	1 1/8 x 3 1/2	TVL-4747	5.55
10+10+10@450/10@150	1 1/8 x 2	TVL-4750	3.15
60+10+10@450/20@150	1 1/8 x 3	TVL-4753	4.55
10+10+10+10@450	1 1/8 x 2	TVL-4760	3.35
20+20+20+20@450	1 1/8 x 3	TVL-4763	4.70
30+15+15+15@450	1 1/8 x 3	TVL-4766	4.45
30+30+15+10@450	1 1/8 x 3 1/2	TVL-4769	4.70
20@475/40@300/ 100@50/80@25	1 1/8 x 3	TVL-4800	4.45
10@475/10@450/ 80@200/50@60	1 1/8 x 3	TVL-4806	3.85
25@475/20@450/ 20@300/100@50	1 1/8 x 3	TVL-4809	4.60
10@475/60@450/ 30@400/125@50	1 1/8 x 4	TVL-4811	5.55
10@475/50+30@450/ 30@25	1 1/8 x 3	TVL-4813	4.75
15+15@475/80@300/ 40@50	1 1/8 x 3	TVL-4815	4.80
40+10@475/4@350/ 40@300	1 1/8 x 3	TVL-4817	4.95
10+5@475/80@450/ 40@50	1 1/8 x 3 1/2	TVL-4819	4.90
40+20+10@475/10@25	1 1/8 x 3	TVL-4822	4.85
20+20+10@475/10@300	1 1/8 x 2 1/2	TVL-4826	4.30
50+30+10@475/20@300	1 1/8 x 3 1/2	TVL-4827	5.60
10+10+10+10@475	1 1/8 x 2	TVL-4830	3.50
40+20+10+10@475	1 1/8 x 3	TVL-4840	5.10

## INSULATING TUBES

These closed-top black insulating sleeves are made of tightly fitting Kraftboard. Order with capacitors as required.

Cat. No.	Description	Cat. No.	Description
HKT-1	For 1" x 2" can	HKT-6	For 1 1/8" x 2 1/2" can
HKT-2	For 1" x 2 1/2" can	HKT-7	For 1 1/8" x 3" can
HKT-3	For 1" x 3" can	HKT-8	For 1 1/8" x 3 1/2" can
HKT-4	For 1" x 4" can	HKT-9	For 1 1/8" x 4" can
HKT-5	For 1 1/8" x 2" can		

# PHOTOFLASH ELECTROLYTICS and ACCESSORIES

*Build your own Electronic Flash!*

Now you can build up-to-the-minute electronic photoflash units using the very latest low voltage circuits. These units are comparable to commercially manufactured gear in size, weight, and efficiency, yet can be built for considerably less than ready-made units. Your electronic flash eliminates flash bulb costs, too, and it stops action with better re-

sults. Sprague Booklet C-703 gives you step-by-step instructions for building four different models. Every detail is clearly illustrated and explained, making it easy to put one together in several hours. Photoflash accessories, listed below, are fully described and illustrated in this invaluable guide.

Description	Cat. No.	Dealer's Net
Sprague Photoflash Booklet	C-703	\$ .35
Plug-in base with built-in trigger coil, 100 w-s nominal rating, Kemlite Type DX, for 450 V operation	FA-100	12.00
Reflector for Type DX lamp as used with vertical adapter	FA-101	2.75
Vertical adapter for medium Edison base sockets with cable	FA-102	2.60
Jaidinger miniature relay for 5-25 m-s delay synchronization from 3 to 4 1/2 V cell flashguns	FA-103	3.50
"U" lamp, 100 w-s nominal rating, wafer base, for 450 V operation, Kemlite "U-5W," interchangeable with GE FT-105	FA-104	7.50
Reflector for Kemlite U-5W or GE FT-105	FA-105	3.50



- Ultra-low Leakage for Either Dry Battery or A-C Operated Power Supplies—Eliminate Rectifier Burnouts
- Weighs Only 11 oz.
- One-half the Size of Competitive Capacitors which Have More Than Twice the Leakage Current
- Highly Stable Film Formation Assures Long Life
- Designed Especially for Photoflash Circuits—Do Not Apply More Than 450 V Under Highest Line Voltage on which A-C Supplies Will Be Used

Mfd.	VVDC	Watt/Sec.	D. x L.	Cat. No.	List
525	450	53	2 1/8 x 4 1/8	FF-1	\$22.50

All prices subject to change without notice.

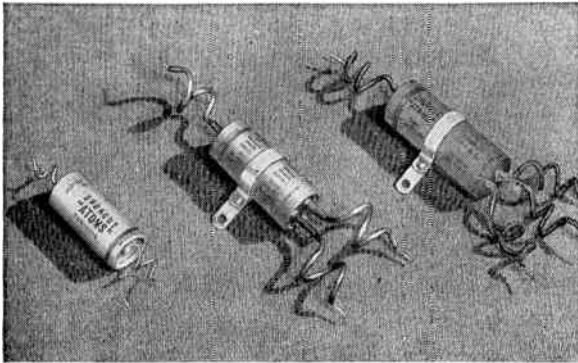
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Radio's Master — 17th Edition

P-53

# SPRAGUE CAPACITORS



## ATOM<sup>®</sup> ELECTROLYTICS

- The Smallest Dependable Dry Electrolytic—the Only Small Size Copocitor Designed for 85°C. operation in Voltages from 6 to 450 WVDC
- Whether for AC-DC Sets, Auto Radios, Home Radio-phonograph Combinations, or TV Sets, the SPRAGUE Line Will Handle All your Replacement Requirements—No Dual Inventory Problems
- Small Enough to Fit Anywhere, Work Anywhere
- Guaranteed to Have Low Leakage and Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages

Mfd. @ WVDC	Dia. x Length	Cat. No.	List	Mfd. @ WVDC	Dia. x Length	Cat. No.	List
<b>SINGLE UNITS</b>							
50@6	3/8 x 1 1/8	TVA-1100	\$ .95	20@250	1 1/16 x 1 1/16	TVA-1508	\$1.35
100@6	1/2 x 1 1/8	TVA-1101	1.20	30@250	1 1/16 x 2 3/16	TVA-1510	1.45
250@6	5/8 x 1 7/16	TVA-1102	1.35	40@250	3/4 x 2 3/16	TVA-1511	1.55
500@6	5/8 x 2 3/16	TVA-1103	1.55	4@350	1/2 x 1 5/8	TVA-1601	1.05
1000@6	1 1/16 x 2 3/16	TVA-1104	1.90	8@350	5/8 x 1 11/16	TVA-1603	1.20
1500@6	1 3/16 x 2 11/16	TVA-1105	2.10	10@350	1 1/16 x 1 11/16	TVA-1604	1.25
2000@6	1 3/16 x 2 15/16	TVA-1106	2.30	12@350	1 1/16 x 1 11/16	TVA-1605	1.30
100@12	5/16 x 1 3/8	TVA-1130	1.20	16@350	3/4 x 1 11/16	TVA-1607	1.40
250@12	5/8 x 1 11/16	TVA-1131	1.45	20@350	1 3/16 x 1 11/16	TVA-1608	1.45
500@12	3/4 x 1 11/16	TVA-1132	1.70	30@350	1 3/16 x 2 3/16	TVA-1610	1.65
1000@12	1 3/16 x 2 3/16	TVA-1133	2.25	40@350	7/8 x 2 3/16	TVA-1611	1.75
100@15	5/8 x 1 3/8	TVA-1160	1.25	60@350	1 x 2 3/16	TVA-1613	1.95
250@15	5/8 x 1 11/16	TVA-1161	1.55	2@450	7/16 x 1 3/8	TVA-1701	1.10
500@15	1 1/16 x 2 3/16	TVA-1162	1.75	4@450	9/16 x 1 11/16	TVA-1702	1.15
1000@15	7/8 x 2 3/16	TVA-1163	2.30	8@450	1 1/16 x 1 11/16	TVA-1704	1.25
2@25	3/8 x 1 1/8	TVA-1201	.90	10@450	1 1/16 x 1 11/16	TVA-1705	1.30
5@25	3/8 x 1 1/8	TVA-1203	1.00	12@450	3/4 x 1 11/16	TVA-1706	1.35
10@25	3/8 x 1 1/8	TVA-1204	1.00	16@450	3/4 x 2 3/16	TVA-1708	1.40
25@25	3/8 x 1 1/8	TVA-1205	1.00	20@450	3/4 x 2 3/16	TVA-1709	1.55
50@25	5/16 x 1 3/8	TVA-1206	1.10	30@450	7/8 x 2 3/16	TVA-1711	1.70
100@25	9/16 x 1 11/16	TVA-1207	1.35	40@450	7/8 x 2 11/16	TVA-1712	1.80
250@25	3/4 x 1 11/16	TVA-1208	1.70	50@450	7/8 x 3 3/16	TVA-1713	2.10
500@25	7/8 x 2 3/16	TVA-1209	2.30	80@450	1 x 3 11/16	TVA-1716	2.80
1@50	3/8 x 1 1/8	TVA-1300	.90	10@475	3/4 x 1 11/16	TVA-1802	1.35
2@50	3/8 x 1 1/8	TVA-1301	.90	20@475	7/8 x 2 3/16	TVA-1804	1.60
5@50	3/8 x 1 1/8	TVA-1303	1.00	8@500	7/8 x 1 11/16	TVA-1902	1.30
10@50	3/8 x 1 1/8	TVA-1304	1.00	16@500	1 5/16 x 2 3/16	TVA-1905	1.50
25@50	7/16 x 1 3/8	TVA-1306	1.05	20@500	1 x 2 3/16	TVA-1906	1.60
50@50	9/16 x 1 11/16	TVA-1308	1.20	<b>DUAL UNITS</b>			
100@50	3/8 x 1 11/16	TVA-1310	1.40	<b>COMMON NEGATIVE—3 LEADS</b>			
150@50	3/4 x 1 11/16	TVA-1311	1.55	10+10@25	7/8 x 1 3/8	TVA-2210	\$1.40
250@50	1 5/16 x 1 11/16	TVA-1312	1.75	10+10@50	7/8 x 1 3/8	TVA-2315	1.40
4@150	3/8 x 1 1/8	TVA-1402	1.00	8+8@150	7/8 x 1 3/8	TVA-2415	1.50
8@150	3/8 x 1 3/8	TVA-1405	1.05	16+16@150	7/8 x 1 3/8	TVA-2420	1.80
10@150	3/8 x 1 3/8	TVA-1406	1.05	20+12@150	7/8 x 1 3/8	TVA-2425	1.60
12@150	3/8 x 1 3/8	TVA-1407	1.10	20+20@150	7/8 x 1 3/8	TVA-2428	1.65
16@150	9/16 x 1 11/16	TVA-1409	1.15	30+20@150	7/8 x 1 11/16	TVA-2421	1.70
20@150	9/16 x 1 11/16	TVA-1410	1.20	30+30@150	7/8 x 1 11/16	TVA-2434	1.80
30@150	5/8 x 1 11/16	TVA-1412	1.30	40+20@150	7/8 x 1 11/16	TVA-2438	1.75
40@150	3/4 x 1 11/16	TVA-1413	1.35	40+30@150	7/8 x 1 11/16	TVA-2442	1.80
50@150	1 3/16 x 1 11/16	TVA-1414	1.40	40+40@150	7/8 x 1 11/16	TVA-2445	1.85
80@150	7/8 x 1 11/16	TVA-1418	1.60	50+30@150	7/8 x 1 11/16	TVA-2450	1.95
100@150	7/8 x 2 3/16	TVA-1420	1.75	50+50@150	7/8 x 2 3/16	TVA-2453	2.10
150@150	1 x 2 3/16	TVA-1422	1.90	80+30@150	7/8 x 2 3/16	TVA-2460	2.20
4@250	7/16 x 1 3/8	TVA-1501	1.00				
8@250	1/2 x 1 3/8	TVA-1503	1.15				
10@250	5/16 x 1 11/16	TVA-1504	1.20				
12@250	9/16 x 1 11/16	TVA-1505	1.25				
16@250	3/8 x 1 11/16	TVA-1507	1.30				

# SPRAGUE CAPACITORS

Mfd. @ WVDC	Dia. x Length	Cat. No.	List
16+ 8@200	3/4 x 2 3/8	TA-816	\$1.55
16+16@250	1 1/8 x 2 3/8	AT-261	1.70
20+20@250	7/8 x 1 1/2	TVA-2515	1.85
40+10@250	7/8 x 2 3/8	TVA-2520	2.05
80+10@250	1 1/8 x 3 1/8	TVA-2525	2.55
8+ 8@450	7/8 x 1 1/4	TVA-2720	1.70
10+10@450	7/8 x 1 1/4	TVA-2722	1.85
16+ 8@450	7/8 x 2 3/8	TVA-2725	2.00
20+20@450	7/8 x 2 1/2	TVA-2730	2.50
30+30@450	1 x 3 1/8	TVA-2735	3.00
40+40@450	1 x 3 1/8	TVA-2740	3.40

## SEPARATE SECTIONS—4 LEADS

Mfd.	WVDC	Dia. x Length	Cat. No.	List
20+20@150		1 x 2 3/8	TU-220	2.05
40+20@150		1 1/8 x 2 3/8	TU-420	2.20
16+16@250		1 x 2 3/8	TU-216	2.20
8+ 8@450		1 1/8 x 3 3/8	TU-88	2.15
16+16@450		1 1/8 x 3 3/8	TU-1616	2.80

Mfd. @ WVDC	Dia. x Length	Cat. No.	List
<b>TRIPLE UNITS</b>			
20+20@150/20@25	7/8 x 2 3/8	TVA-3415	\$2.05
30+30@150/100@12	7/8 x 2 3/8	TVA-3419	2.30
40+30@150/20@25	7/8 x 2 3/8	TVA-3423	2.20
40+40@150/100@25	1 1/8 x 3 3/8	TVA-3427	2.45
50+30@150/20@25	1 1/8 x 2 3/8	TVA-3430	2.35
50+30@150/200@25	1 x 3 3/8	TVA-3433	2.75
50+50@150/20@25	1 x 2 3/8	TVA-3436	2.50
20+20+20@150	1 1/8 x 2 3/8	TVA-3440	2.20
30+30+30@150	1 x 2 3/8	TVA-3444	2.35
40+30+20@150	1 x 2 3/8	TVA-3448	2.35
40+40+40@150	7/8 x 3 3/8	TVA-3451	2.45
80+40+20@150	1 x 3 3/8	TVA-3455	2.75
12+12@450/20@25	1 x 2 3/8	TVA-3716	2.30

## HLV 'LYTICS

### HIGH CAPACITY LOW VOLTAGE



- Especially Designed for Filter Circuits in Motion Picture Amplifiers and Other Critical Equipment
- Eliminates All Hum
- Compact Construction
- Hermetically Sealed in Aluminum Can
- Has Outer Insulating Cardboard Tube

Mfd.	WVDC	Dia. x Length	Cat. No.	List
500	6	1 x 2 1/2	HLV-506	\$3.05
1000	6	1 1/8 x 2 1/4	HLV-106	3.40
1500	6	1 1/8 x 2 3/4	HLV-156	3.60
2000	6	1 1/8 x 3 1/4	HLV-206	3.80
500	12	1 1/8 x 2 1/4	HLV-5012	3.20
1000	12	1 1/8 x 2 1/4	HLV-1012	3.75
1500	12	1 1/8 x 2 3/4	HLV-1512	3.95
2000	12	1 1/8 x 3 1/4	HLV-2012	4.15
500	15	1 1/8 x 2 1/4	HLV-5015	3.25
1000	15	1 1/8 x 2 1/4	HLV-1015	3.80
1500	15	1 1/8 x 3 1/4	HLV-1515	4.00
2000	15	1 1/2 x 3 3/4	HLV-2015	4.70
500	25	1 1/8 x 2 1/4	HLV-525	3.80
1000	25	1 1/8 x 3 1/4	HLV-1025	4.80
2000	25	1 1/8 x 4 1/4	HLV-2025	5.75

## SCREWBASE ELECTROLYTICS

**Type PLS**—Capacitor sections have separate positive leads and common negative lead

**Type LS**—Positive terminal is lug connection, can is negative terminal

**Type SC**—For use where high peaks may occur . . . Lug connection is positive, can is negative

**Type CL**—Same as Type SC, but with can insulated from Sections . . . Separate positive and negative leads

**Type WR**—Designed to replace wet elec-



trolytics . . . Will withstand A-C ripples that may break down ordinary drys . . . Has lug terminals

**Type AP**—For high voltage applications . . . Sections are connected in series . . . Insulated leads

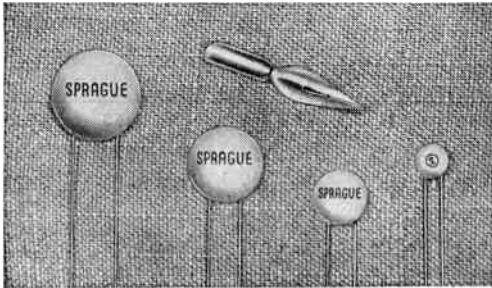
Mfd.	Dia. x Length	Cat. No.	List
<b>TYPE PLS—450 WVDC, 525 V Surge</b>			
4	1 1/8 x 2 1/4	PLS-4	\$2.00
8	1 1/8 x 2 1/4	PLS-8	2.20
12	1 1/8 x 2 1/4	PLS-12	2.40
16	1 1/8 x 2 1/4	PLS-16	2.45
20	1 1/8 x 2 1/4	PLS-20	2.70
25	1 1/8 x 3 1/4	PLS-25	2.90
30	1 1/8 x 3 1/4	PLS-30	3.00
40	1 1/8 x 3 1/4	PLS-40	3.15
4+8	1 1/8 x 2 1/4	PLS-48	2.95
8+8	1 1/2 x 2 1/4	PLS-88	3.00
8+16	1 1/2 x 2 1/4	PLS-816	3.30
16+16	1 1/2 x 3 1/4	PLS-216	3.55
8+8+8	1 1/2 x 2 1/4	PLS-888	5.00

Mfd.	Dia. x Length	Cat. No.	List
<b>TYPE LS—450 WVDC, 525 V Surge</b>			
8	1 1/8 x 2 1/4	LS-8	\$2.20
12	1 1/8 x 2 1/4	LS-12	2.40
16	1 1/8 x 2 1/4	LS-16	2.45
20	1 1/8 x 2 1/4	LS-20	2.70
25	1 1/8 x 3 1/4	LS-25	2.90
30	1 1/8 x 3 1/4	LS-30	3.00
40	1 1/8 x 3 1/4	LS-40	3.15
8+8	1 1/8 x 2 1/4	LS-88	3.00

Mfd.	Dia. x Length	Cat. No.	List
<b>TYPE SC—475 WVDC, 600 V Surge</b>			
4	1 x 3 3/8	SC-4	\$2.55
8	1 1/8 x 4 1/8	SC-8	2.75
12	1 1/8 x 4 7/8	SC-12	2.95
16	1 1/2 x 4 7/8	SC-16	3.15
8+8	1 3/8 x 4 1/4	SC-88	4.10
<b>TYPE CL—475 WVDC, 600 V Surge</b>			
8	1 1/8 x 4 7/8	CL-8	2.75
16	1 1/2 x 4 7/8	CL-16	3.15
8+8	1 1/8 x 4 1/4	CL-88	4.10
<b>TYPE WR—500 WVDC, 600 V Surge</b>			
8	1 1/8 x 3 1/4	WR-8	2.85
16	1 1/8 x 4 7/8	WR-16	3.30
25	1 1/2 x 5 7/8	WR-25	3.75

Mfd.	Dia. x Length	Cat. No.	List
<b>TYPE AP—600 WVDC, 800 V Surge</b>			
4	1 x 4 7/8	AP-46	2.95
8	1 1/8 x 4 7/8	AP-86	3.15
16	1 1/2 x 4 7/8	AP-16	3.75

# SPRAGUE CAPACITORS



## Cera-mite® DISC CERAMICS

- Tiny, Tough, Dependable in Every Application
- Low Self-inductance of Silvered Flat-plate Design means Very High By-pass Efficiency in All V-H-F Circuits
- Moisture-resistant Insulating Coating
- Ceramite Disc Ceramics Easily Fit into Tight Spaces
- Rated at 500 WVDC, 1000 VDC Test under 85°C Continuous Operation

### NPO TYPES

- Zero Temperature-coefficient Capacitors
- Used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and Insulation Resistance

MMF	Dia. x Thick.	Cat. No.	List
**			
10	3/8 x 3/32	5TCC-Q1	\$.50
15	3/8 x 3/32	5TCC-Q15	.50
20	3/8 x 3/32	5TCC-Q2	.50
22	19/32 x 3/32	5TCC-Q22	.50
25	19/32 x 3/32	5TCC-Q25	.50
33	19/32 x 3/32	5TCC-Q33	.50
39	19/32 x 3/32	5TCC-Q39	.55
47	19/32 x 3/32	5TCC-Q47	.55
50	19/32 x 3/32	5TCC-Q5	.55
68	3/4 x 3/32	5TCC-Q68	.55
75	3/4 x 3/32	5TCC-Q75	.55
100	3/4 x 3/32	5TCC-T1	.55
120	3/4 x 3/32	5TCC-T12	.60
150	3/4 x 13/64	5TCC-T15	.60
175	3/4 x 13/64	5TCC-T175	.60
220	29/32 x 13/64	5TCC-T22	.80
270	29/32 x 13/64	5TCC-T27	.70

### N750 TYPES

- Used For Temperature Compensation to Eliminate Frequency Drifts
- Negative Temperature Coefficient is 750 ppm/°C.
- Often Used in Combination with NPO Types

MMF	Dia. x Thick.	Cat. No.	List
**			
10	3/8 x 3/32	5TCU-Q1	\$.50
15	3/8 x 3/32	5TCU-Q15	.50
20	3/8 x 3/32	5TCU-Q2	.50
22	3/8 x 3/32	5TCU-Q22	.50
25	3/8 x 3/32	5TCU-Q25	.50
33	3/8 x 3/32	5TCU-Q33	.50
47	3/8 x 3/32	5TCU-Q47	.50
68	19/32 x 3/32	5TCU-Q68	.50
75	19/32 x 3/32	5TCU-Q75	.50
100	19/32 x 3/32	5TCU-T1	.50
150	19/32 x 3/32	5TCU-T15	.50
200	3/4 x 3/32	5TCU-T2	.50
220	3/4 x 3/32	5TCU-T22	.50
330	29/32 x 3/32	5TCU-T33	.50

### G-A TYPES

- Ideal Where Temperature Coefficient is Not Important, such as By-pass and Coupling Uses
- Alternates for Foil-micas and Tubular Ceramics

MMF	Dia. x Thick.	Cat. No.	List
5	3/8 x 3/32	5GA-V5	\$.25
10	3/8 x 3/32	5GA-Q1	.25
12	3/8 x 3/32	5GA-Q12	.25
15	3/8 x 3/32	5GA-Q15	.25
18	3/8 x 3/32	5GA-Q18	.25
20	3/8 x 3/32	5GA-Q2	.25
22	3/8 x 3/32	5GA-Q22	.25
25	3/8 x 3/32	5GA-Q25	.25
27	3/8 x 3/32	5GA-Q27	.25
30	3/8 x 3/32	5GA-Q3	.25
33	3/8 x 3/32	5GA-Q33	.25
39	3/8 x 3/32	5GA-Q39	.25
47	3/8 x 3/32	5GA-Q47	.25
50	3/8 x 3/32	5GA-Q5	.25
56	3/8 x 3/32	5GA-Q56	.25
68	3/8 x 3/32	5GA-Q68	.25
82	3/8 x 3/32	5GA-Q82	.25
100	3/8 x 3/32	5GA-T1	.25
120	3/8 x 3/32	5GA-T12	.25
150	3/8 x 3/32	5GA-T15	.25
180	3/8 x 3/32	5GA-T18	.25
200	3/8 x 3/32	5GA-T2	.25
220	3/8 x 3/32	5GA-T22	.25
250	3/8 x 3/32	5GA-T25	.25
270	3/8 x 3/32	5GA-T27	.25
300	3/8 x 3/32	5GA-T3	.25
330	3/8 x 3/32	5GA-T33	.25
390	3/8 x 3/32	5GA-T39	.25
470	3/8 x 3/32	5GA-T47	.25
500	3/8 x 3/32	5GA-T5	.25
560	3/8 x 3/32	5GA-T56	.25
680	3/8 x 3/32	5GA-T68	.25
750	3/8 x 3/32	5GA-T75	.25
1000	19/32 x 3/32	5GA-D1	.25
1200	19/32 x 3/32	5GA-D12	.25
1500	19/32 x 3/32	5GA-D15	.25
1800	19/32 x 3/32	5GA-D18	.25
2000	19/32 x 3/32	5GA-D2	.25
2200	19/32 x 3/32	5GA-D22	.25
2500	3/4 x 3/32	5GA-D25	.25
2700	3/4 x 3/32	5GA-D27	.25
3000	3/4 x 3/32	5GA-D3	.25
3300	3/4 x 3/32	5GA-D33	.25
4700	29/32 x 3/32	5GA-D47	.30
5000	29/32 x 3/32	5GA-D5	.30

### HIGH-K TYPES

- Designed Specifically for Minimum Capacitance Requirements
- Intended for By-pass and Coupling Applications where Additional Capacitance is Not Important

MMF	Dia. x Thick.	Cat. No.	List
<b>SINGLE UNITS</b>			
.001	19/32 x 3/32	5HK-D1	\$.25
.0015	19/32 x 3/32	5HK-D15	.25
.002	19/32 x 3/32	5HK-D2	.25
.0022	19/32 x 3/32	5HK-D22	.25
.0025	19/32 x 3/32	5HK-D25	.25
.0033	19/32 x 3/32	5HK-D33	.25
.004	19/32 x 3/32	5HK-D4	.25
.0047	19/32 x 3/32	5HK-D47	.25
.005	19/32 x 3/32	5HK-D5	.25
.0068	3/4 x 3/32	5HK-D68	.25
.01	3/4 x 3/32	5HK-S1	.30
.015	29/32 x 13/64	5HK-S15	.40
.02	29/32 x 13/64	5HK-S2	.60
.03	29/32 x 13/64	5HK-S3	.65
<b>DUAL UNITS</b>			
2 x .001	19/32 x 3/32	5HK-2D1	\$.40
2 x .0015	19/32 x 3/32	5HK-2D15	.40
2 x .002	19/32 x 3/32	5HK-2D2	.40
2 x .0022	19/32 x 3/32	5HK-2D22	.40
2 x .004	3/4 x 3/32	5HK-2D4	.45
2 x .0047	3/4 x 3/32	5HK-2D47	.45
2 x .01	3/4 x 3/32	5HK-2S1	.50
2 x .02	29/32 x 13/64	5HK-2S2	.70

### BULPLATE® CERAMICS LOW VOLTAGE

- These tiny Bulplates meet the same requirements of disc ceramics, but rectangular plates are used instead of round discs. Numbers 5TCCB are NPO Types, and 5TCUB is Type N750.

MMF	WVDC	L. x W. x T.	Cat. No.	List
1.0	500	3/8 x 1/4 x 3/32	5TCCB-V1	\$.50
1.5	500	3/8 x 1/4 x 3/32	5TCCB-V15	.50
2.2	500	3/8 x 1/4 x 3/32	5TCCB-V22	.50
3.3	500	3/8 x 1/4 x 3/32	5TCCB-V33	.50
4.7	500	3/8 x 1/4 x 3/32	5TCCB-V47	.50
5.0	500	3/8 x 1/4 x 3/32	5TCUB-V5	.50
6.8	500	3/8 x 1/4 x 3/32	5TCCB-V68	.50

\*\*For Ratings lower than 10 MMF, see Bulplate Low Voltage Ceramics.

### DOORKNOB CERAMIC

#### MOLDED RUBBER



- Ceramic Slug Encased in Molded Rubber Jacket

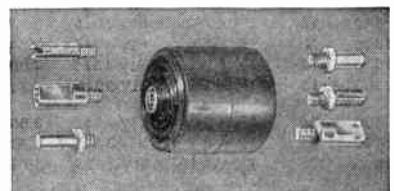
- Will Withstand Corona Atmosphere
- Self-grommet for Easy Mounting

MMF	WVDC	Dia. x Length	Cat. No.	List
500	15,000	1 x 3 1/2	510C1	\$2.00

### DOORKNOB CERAMIC (Molded Plastic)

#### WITH INTERCHANGEABLE TERMINALS

- Furnished With Various Styles of Pin Terminals—There's One for Every Application
- Reduces Inventory Problems—No Need to Stock More Than One Type
- New, Improved Design—Outstanding Quality Construction

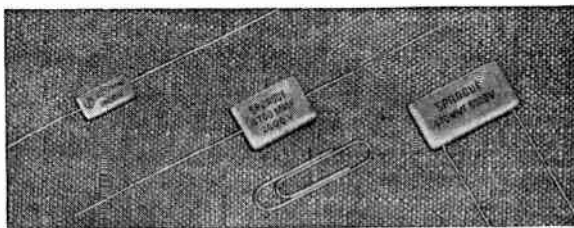


MMF	WVDC	Dia. x Length	Cat. No.	List
500	20,000	1 x 1 3/4	20DK-T5	\$2.25

# SPRAGUE CAPACITORS

## BULPLATE® HIGH-VOLTAGE CERAMICS

- Another FIRST in the Ceramic Field
- Amazingly Small in Size—Can Be Used Almost Anywhere
- Ideal for Replacing Older Types of General Application Capacitors such as Malted Micars, Tubular Ceramics, and Paper Tubulars
- Heavy Moisture-resistant Insulating Coating
- Designed for 85°C. Operation



MMF	L. x W. x T.	Cat. No.	List	MMF	L. x W. x T.	Cat. No.	List	MMF	L. x W. x T.	Cat. No.	List
<b>1000 WVDC</b>											
4.7	3/8 x 1/4 x 3/32	10GAB-V47	\$.30	1000	2 3/32 x 3/8 x 3/32	10GAB-D1	\$.55	150	3/8 x 1/4 x 3/32	15GAB-T15	\$.35
10	3/8 x 1/4 x 3/32	10GAB-Q1	.30	1500	2 3/32 x 3/8 x 3/32	10GAB-D15	.65	180	3/8 x 1/4 x 3/32	15GAB-T18	.35
22	3/8 x 1/4 x 3/32	10GAB-Q22	.30	2200	2 3/32 x 3/8 x 3/32	10GAB-D22	.85	220	3/8 x 1/4 x 3/32	15GAB-T22	.40
33	3/8 x 1/4 x 3/32	10GAB-Q33	.30	3300	2 3/32 x 3/8 x 3/32	10GAB-D33	1.05				
47	3/8 x 1/4 x 3/32	10GAB-Q47	.30	4700	2 3/32 x 3/8 x 3/32	10HKB-D47	1.40				
68	3/8 x 1/4 x 3/32	10GAB-Q68	.30								
100	3/8 x 1/4 x 3/32	10GAB-T1	.35								
150	3/8 x 1/4 x 3/32	10GAB-T15	.35	<b>1500 WVDC</b>							
220	3/8 x 1/4 x 3/32	10GAB-T22	.35	4.7	3/8 x 1/4 x 3/32	15GAB-V47	.30	4.7	1 1/8 x 3/8 x 3/32	60GAB-V47	1.00
270	3/8 x 1/4 x 3/32	10GAB-T27	.40	10	3/8 x 1/4 x 3/32	15GAB-Q1	.30	10	1 1/8 x 3/8 x 3/32	60GAB-Q1	1.00
330	3/8 x 1/4 x 3/32	10GAB-T33	.40	15	3/8 x 1/4 x 3/32	15GAB-Q15	.30	15	1 1/8 x 3/8 x 3/32	60GAB-Q15	1.00
390	3/8 x 1/4 x 3/32	10GAB-T39	.40	22	3/8 x 1/4 x 3/32	15GAB-Q22	.30	18	1 1/8 x 3/8 x 3/32	60GAB-Q18	1.00
470	3/8 x 1/4 x 3/32	10GAB-T47	.45	33	3/8 x 1/4 x 3/32	15GAB-Q33	.30	22	1 1/8 x 3/8 x 3/32	60GAB-Q22	1.00
680	3/8 x 3/8 x 3/32	10GAB-T68	.55	47	3/8 x 1/4 x 3/32	15GAB-Q47	.30	30	1 1/8 x 3/8 x 3/32	60GAB-Q30	1.00
				68	3/8 x 1/4 x 3/32	15GAB-Q68	.30	33	1 1/8 x 3/8 x 3/32	60GAB-Q33	1.00
				100	3/8 x 1/4 x 3/32	15GAB-T1	.35	47	1 1/8 x 3/8 x 3/32	60HKB-Q47	1.00
								100	1 1/8 x 3/8 x 3/32	60HKB-T1	1.00
								470	1 1/8 x 3/8 x 3/32	60HKB-T47	1.00

## BULPLATE® MULTIPLE CERAMICS



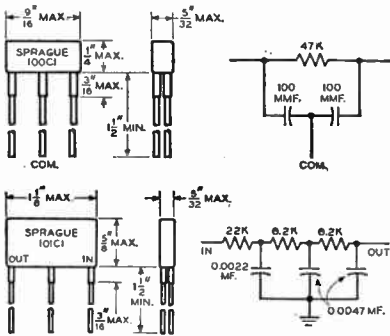
- These Rugged Units Combine in One Compact Assembly All the Capacitors Used in One or More Stages of a Radio Circuit
- Fit Tight Spaces in Miniature Sets
- Rated at 500 WVDC, 1000 VDC Test

Cat. No.	L. x W. x T.	List
34C3	1 1/8 x 3/8 x 3/32	\$.75

Cat. No.	L. x W. x T.	List
34C4	1 1/8 x 3/8 x 3/32	\$.90

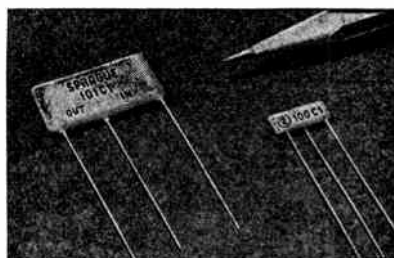
Cat. No.	L. x W. x T.	List
34C5	1 1/8 x 3/8 x 3/32	\$.75

Cat. No.	L. x W. x T.	List
34C6	1 1/8 x 3/8 x 3/32	\$.65



## BULPLATE® PRINTED CIRCUITS

- Especially Designed to Save Space and Reduce Assembly Time
- A Combination of Resistors and Capacitors of Maximum Compactness
- Integral Connections are "Printed" and Brought Out to External Leads Which Are Anchored to the Basic Ceramic Plate
- Completed Unit is Protected by a Moisture-proof Coating
- Cat. No. 100C1 (upper schematic) is a Balanced Diode Filter Plate Which Lists at \$.60
- Cat. No. 101C1 (lower schematic) is a Vertical Integrator Plate Which Lists at \$1.10



All prices subject to change without notice.

# SPRAGUE CAPACITORS

## MICA TYPES

- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality

- Section Foils on Foil Micacs are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Impregnation and Molding

### TYPES MS & 1FM



#### TYPE MS—SILVERED MICA (Standard Capacity Tolerance ± 5%)

Mfd.	Cat. No.	List
<b>500 WVDC, 1000 V TEST</b>		
.000005	MS-55	.45
.00001	MS-41	.40
.000015	MS-41.5	.40
.00002	MS-42	.40
.000025	MS-42.5	.40
.00003	MS-43	.40
.00004	MS-44	.40
.00005	MS-45	.40
.00006	MS-46	.40
.00007	MS-47	.40
.0001	MS-31	.40
.0002	MS-32	.45
.0003	MS-33	.55
.0004	MS-34	.65
.0005	MS-35	.75
.0006	MS-36	.80
.0007	MS-37	.85
.0008	MS-38	.95
.0009	MS-39	1.00
.001	MS-21	1.10
.002	MS-22	1.35
.003	MS-23	2.05
.004	MS-24	2.15
.005	MS-25	2.25
.006	MS-26	2.40
<b>300 WVDC, 600 V TEST</b>		
.007	MS-27	2.60
.008	MS-28	2.80
.009	MS-29	3.10
.01	MS-11	3.40

Catalog Nos.	L x W x T
MS-55 through MS-35	$2\frac{1}{2} \times 1\frac{1}{2} \times \frac{7}{32}$
MS-36 through MS-23	$2\frac{5}{8} \times 2\frac{5}{8} \times \frac{1}{2}$
MS-24 through MS-28	$2\frac{5}{8} \times 2\frac{5}{8} \times 1\frac{1}{2}$
MS-29 through MS-11	$1 \times \frac{3}{8} \times \frac{3}{8}$

#### TYPE 1FM (Standard Capacity Tolerance ± 20%)

Mfd.	Cat. No.	List
<b>500 WVDC, 1000 V TEST</b>		
.00001	1FM-41	.25
.00002	1FM-42	.25
.00004	1FM-44	.25
.00005	1FM-45	.20
.000075	1FM-47.5	.20
.0001	1FM-31	.20
.00015	1FM-31.5	.20
.0002	1FM-32	.20
.00025	1FM-32.5	.25
.00035	1FM-33.5	.25
.0004	1FM-34	.25
.0005	1FM-35	.25
.0007	1FM-37	.25
.0015	1FM-21	.30
.002	1FM-21.5	.30
.003	1FM-22	.40
.004	1FM-23	.50
.004	1FM-24	.55
.005	1FM-25	.60
.006	1FM-26	.65
<b>300 WVDC, 600 V TEST</b>		
.007	1FM-27	\$ .85
.008	1FM-28	1.00
.009	1FM-29	1.00
.01	1FM-11	1.20

Catalog Nos.	L x W x T
1 FM-44	
through 1 FM-35	$5\frac{1}{4} \times 1\frac{1}{2} \times \frac{7}{32}$
1 FM-37	
through 1 FM-23	$5\frac{3}{4} \times 5\frac{3}{4} \times \frac{1}{2}$
1 FM-24	
through 1 FM-28	$5\frac{3}{4} \times 5\frac{3}{4} \times 1\frac{1}{2}$
1 FM-29	
through 1 FM-11	$1 \times \frac{3}{8} \times \frac{3}{8}$

### TYPES 3AFM, 3BFM, & 3CFM



(Standard Capacity Tolerance ± 10%)

Mfd.	Cat. No.	List
<b>3AFM—300 WVDC, 600 V TEST</b>		
.005	3AFM-25	.65
.006	3AFM-26	.70
.007	3AFM-27	.95
.008	3AFM-28	1.10
.01	3AFM-11	1.30
.015	3AFM-115	1.35

Mfd.	Cat. No.	List
<b>3BFM—500 WVDC, 1000 V TEST</b>		
.0001	3BFM-31	.30
.0002	3BFM-32	.30
.00025	3BFM-32.5	.30
.0003	3BFM-33	.30
.0004	3BFM-34	.30
.0005	3BFM-35	.30
.001	3BFM-21	.35
.0015	3BFM-21.5	.35

Mfd.	Cat. No.	List
<b>3CFM—1000 WVDC, 2000 V TEST</b>		
.00005	3CFM-45	1.00
.0001	3CFM-31	1.00
.0002	3CFM-32	1.00
.00025	3CFM-32.5	1.00
.0003	3CFM-33	1.00
.0004	3CFM-34	1.00
.0005	3CFM-35	1.00
.001	3CFM-21	1.25
.0015	3CFM-21.5	1.50
.002	3CFM-22	1.50
.0025	3CFM-22.5	1.50

Catalog Nos.	L x W x T
3AFM Types	$1 \times \frac{3}{8} \times \frac{3}{8}$
3BFM Types	$1 \times \frac{3}{8} \times \frac{3}{8}$
3CFM Types	$1 \times \frac{3}{8} \times \frac{3}{8}$

### TYPES XFM, YFM & ZFM



(Standard Capacity Tolerance ± 10%)

Mfd.	Cat. No.	List
<b>XFM—600 WVDC, 1200 V TEST</b>		
.00005	XFM-45	\$1.20
.0001	XFM-31	1.20
.0002	XFM-32	1.20
.00025	XFM-32.5	1.20
.0003	XFM-33	1.20
.0004	XFM-34	1.20
.0005	XFM-35	1.20
.001	XFM-21	1.20
.0015	XFM-21.5	1.20
.002	XFM-22	1.30
.0025	XFM-22.5	1.30
.003	XFM-23	1.45
.004	XFM-24	1.50
.005	XFM-25	1.55
.006	XFM-26	1.80
.007	XFM-27	1.85
.008	XFM-28	1.90
.01	XFM-11	2.15
.02	XFM-12	3.05
.03	XFM-13	4.45

Catalog Nos.	L x W x T
XFM-45 thru XFM-11	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
XFM-12 thru XFM-13	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

Mfd.	Cat. No.	List
<b>YFM—1200 WVDC, 2500 V TEST</b>		
.00005	YFM-45	1.60
.0001	YFM-31	1.60
.0002	YFM-32	1.60
.00025	YFM-32.5	1.60
.0003	YFM-33	1.60
.0004	YFM-34	1.60
.0005	YFM-35	1.60
.001	YFM-21	1.80
.0015	YFM-21.5	2.30
.002	YFM-22	2.40
.0025	YFM-22.5	2.80
.003	YFM-23	3.05
.004	YFM-24	3.05
.005	YFM-25	3.30
.006	YFM-26	3.30
.007	YFM-27	3.45
.008	YFM-28	3.85
.01	YFM-11	5.10

Catalog Nos.	L x W x T
YFM-45 thru YFM-24	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
YFM-25 thru YFM-11	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

Mfd.	Cat. No.	List
<b>ZFM—2500 WVDC, 5000 V TEST</b>		
.00005	ZFM-45	1.90
.0001	ZFM-31	1.90
.0002	ZFM-32	1.90
.00025	ZFM-32.5	2.20
.0003	ZFM-33	2.25
.0004	ZFM-34	2.30
.0005	ZFM-35	2.40
.001	ZFM-21	2.80
.0015	ZFM-21.5	3.55
.002	ZFM-22	4.15
.003	ZFM-23	4.90
.004	ZFM-24	5.65
.005	ZFM-25	6.40

Catalog Nos.	L x W x T
ZFM-45 thru ZFM-22	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
ZFM-23 thru ZFM-25	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

### TYPES 7FM, 8FM & 9FM



(Standard Capacity Tolerance ± 10%)

Mfd.	Cat. No.	List
<b>7FM—600 WVDC, 1200 V TEST</b>		
.00005	7FM-45	\$1.45
.0001	7FM-31	1.45
.00015	7FM-31.5	1.45
.0002	7FM-32	1.45
.00025	7FM-32.5	1.45
.0005	7FM-35	1.45
.001	7FM-21	1.45
.002	7FM-22	1.65
.0025	7FM-22.5	1.70
.003	7FM-23	1.85
.004	7FM-24	2.00
.005	7FM-25	2.10
.006	7FM-26	2.20
.007	7FM-27	2.45
.01	7FM-11	2.80
.015	7FM-11.5	3.05
.02	7FM-12	3.55
.03	7FM-13	4.55
.04	7FM-14	5.85
.05	7FM-15	7.10
.06	7FM-16	8.05

Catalog Nos.	L x W x T
7FM-45 thru 7FM-13	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
7FM-14 thru 7FM-16	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

Mfd.	Cat. No.	List
<b>8FM—1200 WVDC, 2500 V TEST</b>		
.00005	8FM-45	1.60
.0001	8FM-31	1.60
.00015	8FM-31.5	1.60
.0002	8FM-32	1.60
.00025	8FM-32.5	1.60
.0005	8FM-35	1.60
.001	8FM-21	1.90
.001	8FM-22	2.50
.0025	8FM-22.5	2.80
.003	8FM-23	2.95
.004	8FM-24	3.10
.005	8FM-25	3.30
.006	8FM-26	3.45
.008	8FM-28	4.10
.01	8FM-11	4.70
.015	8FM-11.5	5.80
.02	8FM-12	7.05
.025	8FM-12.5	7.90
.03	8FM-13	8.10

Catalog Nos.	L x W x T
8FM-45 thru 8FM-11.5	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
8FM-12 thru 8FM-13	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

Mfd.	Cat. No.	List
<b>9FM—2500 WVDC, 5000 V TEST</b>		
.00005	9FM-45	1.90
.0001	9FM-31	1.90
.00025	9FM-32.5	2.15
.0005	9FM-35	2.55
.001	9FM-21	2.90
.002	9FM-22	4.25
.0025	9FM-22.5	4.60
.003	9FM-23	5.10
.004	9FM-24	5.65
.005	9FM-25	6.20
.006	9FM-26	6.35
.008	9FM-28	6.85
.01	9FM-11	7.30
.015	9FM-11.5	8.05

Catalog Nos.	L x W x T
9FM-45 thru 9FM-26	$1\frac{3}{8} \times 1\frac{1}{8} \times 1\frac{1}{2}$
9FM-28 thru 9FM-11.5	$1\frac{3}{8} \times 1\frac{1}{8} \times \frac{7}{8}$

# SPRAGUE CAPACITORS

## TYPES 1MC & 2MC



Standard Capacity Tolerance  $\pm 5\%$

Mfd. VAC Peak Cat. No. List

### TYPE 1MC

Mfd.	VAC Peak	Cat. No.	List
.00005	3000	1MC-45	\$12.60
.0001	3000	1MC-31	12.60
.00015	3000	1MC-315	12.60
.0002	3000	1MC-32	12.60
.00025	3000	1MC-325	12.60
.0003	3000	1MC-33	12.60
.0004	3000	1MC-34	12.60
.0005	3000	1MC-35	12.60
.0006	3000	1MC-36	12.60
.0007	3000	1MC-37	12.60
.0008	3000	1MC-38	12.60
.001	3000	1MC-21	12.60
.0015	3000	1MC-215	12.60
.002	3000	1MC-22	12.60
.003	2000	1MC-23	12.60
.004	2000	1MC-24	12.60
.005	2000	1MC-25	12.60
.006	2000	1MC-26	12.60
.007	2000	1MC-27	12.60
.008	1500	1MC-28	12.60
.01	1000	1MC-11	12.60
.015	1000	1MC-115	12.60
.02	1000	1MC-12	14.30
.03	500	1MC-13	14.30
.04	500	1MC-14	14.30
.05	250	1MC-15	14.30
.1	250	1MC-1	15.10

L x W x H  
1MC Dimensions  $2 \times 1\frac{1}{4} \times 1\frac{1}{2}$

### TYPE 2MC

Mfd.	VAC Peak	Cat. No.	List
.00005	5000	2MC-45	17.30
.0001	5000	2MC-31	17.30
.00015	5000	2MC-315	17.30
.0002	5000	2MC-32	17.30
.00025	5000	2MC-325	17.30
.0003	5000	2MC-33	17.30
.0004	5000	2MC-34	17.30
.0005	5000	2MC-35	17.30
.0006	5000	2MC-36	17.30
.0007	5000	2MC-37	17.30
.0008	5000	2MC-38	17.30
.001	5000	2MC-21	17.30
.0015	5000	2MC-215	17.30
.002	5000	2MC-22	17.30
.003	3000	2MC-23	17.30
.004	3000	2MC-24	17.30
.005	3000	2MC-25	17.30
.006	3000	2MC-26	17.30
.007	3000	2MC-27	17.30
.008	2000	2MC-28	17.30
.01	2000	2MC-11	17.30
.015	2000	2MC-115	17.30
.02	2000	2MC-12	17.30
.03	1500	2MC-13	17.30
.04	1500	2MC-14	17.30
.05	1500	2MC-15	17.30
.06	1000	2MC-16	18.60
.07	1000	2MC-17	18.60
.08	500	2MC-18	19.20
.1	500	2MC-1	19.20

L x W x H  
2MC Dimensions  $2\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$

## TYPES 1CC, 2CC, 3CC & 4CC

(Standard Capacity Tolerance  $\pm 5\%$ )

Mfd. Cat. No. List

### TYPE 1CC

#### 6000 VAC Peak

.00005	1CC-45	\$38.20
.000075	1CC-475	40.00
.0001	1CC-31	40.60
.00015	1CC-315	40.60
.0002	1CC-32	40.60
.00025	1CC-325	40.60
.0003	1CC-33	44.35
.0004	1CC-34	44.35
.0005	1CC-35	46.65
.0006	1CC-36	46.65
.0007	1CC-37	46.65
.0008	1CC-38	46.65
.001	1CC-21	46.65
.0015	1CC-215	48.90
.002	1CC-22	48.90
.003	1CC-23	50.60
.004	1CC-24	50.60

#### 4000 VAC Peak

.005	1CC-25	50.60
.006	1CC-26	51.45
.007	1CC-27	51.45
.008	1CC-28	51.45
.01	1CC-11	51.45

#### 3000 VAC Peak

.015	1CC-115	51.45
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#### 2000 VAC Peak

.02	1CC-12	51.45
.025	1CC-125	51.80

#### 1500 VAC Peak

.03	1CC-13	55.75
.04	1CC-14	58.50
.05	1CC-15	60.75
.06	1CC-16	62.80

#### 1000 VAC Peak

.07	1CC-17	64.25
.08	1CC-18	65.75
.1	1CC-1	68.50

Dia. x Height  
1CC Dimensions  $2\frac{1}{16} \times 2\frac{1}{2}$

### TYPE 2CC

#### 10,000 VAC Peak

.00005	2CC-45	65.55
.000075	2CC-475	65.55
.0001	2CC-31	65.55
.00015	2CC-315	65.55
.0002	2CC-32	65.55
.0003	2CC-33	65.55
.0004	2CC-34	65.55
.0005	2CC-35	65.55
.0006	2CC-36	65.55
.0007	2CC-37	65.55
.0008	2CC-38	65.55
.001	2CC-21	65.55
.0015	2CC-215	65.55
.002	2CC-22	65.55

#### 8000 VAC Peak

.003	2CC-23	65.55
.004	2CC-24	65.55

#### 6000 VAC Peak

.005	2CC-25	65.55
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#### 5000 VAC Peak

.006	2CC-26	69.15
.007	2CC-27	69.15
.008	2CC-28	69.15
.01	2CC-11	69.15

Mfd. Cat. No. List

### 4000 VAC Peak

.015	2CC-115	\$ 69.15
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### 3000 VAC Peak

.02	2CC-12	69.15
.025	2CC-125	72.00

### 2000 VAC Peak

.03	2CC-13	73.50
.04	2CC-14	77.80
.05	2CC-15	80.75
.06	2CC-16	83.00

### 1500 VAC Peak

.07	2CC-17	85.00
.08	2CC-18	86.50
.1	2CC-1	90.00

Dia. x Height

2CC Dimensions  $\frac{3}{16} \times 3$

### TYPE 3CC

#### 20,000 VAC Peak

.00005	3CC-45	110.90
.000075	3CC-475	121.00
.0001	3CC-31	121.00
.00015	3CC-315	131.10
.0002	3CC-32	131.10
.0003	3CC-33	131.10
.0004	3CC-34	137.15
.0005	3CC-35	137.15
.0006	3CC-36	137.15
.0007	3CC-37	137.15
.0008	3CC-38	137.15
.001	3CC-21	141.15

#### 15,000 VAC Peak

.0015	3CC-215	143.20
.002	3CC-22	143.20

#### 12,000 VAC Peak

.003	3CC-23	151.25
.004	3CC-24	151.25

#### 10,000 VAC Peak

.005	3CC-25	151.25
.006	3CC-26	151.25
.007	3CC-27	151.25
.008	3CC-28	151.25

#### 8000 VAC Peak

.01	3CC-11	151.25
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#### 5000 VAC Peak

.015	3CC-115	151.25
.02	3CC-12	151.25

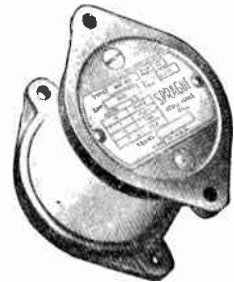
#### 3000 VAC Peak

.025	3CC-125	151.25
.03	3CC-13	151.25
.04	3CC-14	151.25
.05	3CC-15	151.25
.06	3CC-16	158.50

#### 2000 VAC Peak

.07	3CC-17	164.00
.08	3CC-18	172.00
.1	3CC-1	182.00

Dia. x Height  
3CC Dimensions  $5 \times 4$



(Standard Capacity Tolerance  $\pm 5\%$ )

Mfd. Cat. No. List

### TYPE 4CC

#### 30,000 VAC Peak

.0001	4CC-31	\$210.30
.00015	4CC-315	210.30
.0002	4CC-32	221.16
.0003	4CC-33	221.16
.0004	4CC-34	221.16
.0005	4CC-35	221.16
.0006	4CC-36	221.16
.0007	4CC-37	221.16
.0008	4CC-38	221.16
.001	4CC-21	229.10

#### 25,000 VAC Peak

.0015	4CC-215	229.10
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#### 20,000 VAC Peak

.002	4CC-22	229.10
.003	4CC-23	229.10

#### 15,000 VAC Peak

.004	4CC-24	234.35
.005	4CC-25	242.00
.006	4CC-26	252.25
.007	4CC-27	260.00

#### 12,000 VAC Peak

.008	4CC-28	260.00
.009	4CC-29	260.00

#### 10,000 VAC Peak

.01	4CC-11	272.44
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#### 8000 VAC Peak

.015	4CC-115	272.44
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#### 6000 VAC Peak

.02	4CC-12	272.44
.03	4CC-13	272.44

#### 5000 VAC Peak

.04	4CC-14	272.44
.05	4CC-15	272.44
.06	4CC-16	290.00

#### 4000 VAC Peak

.07	4CC-17	300.00
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#### 3000 VAC Peak

.08	4CC-18	308.00
.1	4CC-1	326.00

Dia. x Height  
4CC Dimensions  $5 \times 5\frac{1}{4}$

All prices subject to change without notice.

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3-52

Radio's Master — 17th Edition

P-59



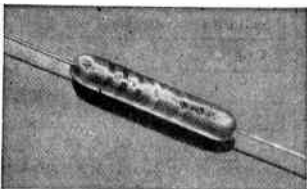
# SPRAGUE CAPACITORS

## MILITARY-GRADE PAPER CAPACITORS IN STOCK AT SPRAGUE INDUSTRIAL DISTRIBUTORS

Always in stock to meet your emergency needs are the Sprague Military-Grade Paper-Dielectric Capacitors listed on these pages. Types and ratings carried here are those we have found to be in greatest demand to meet circuit design problems as they arise in laboratory work. A stock of these military-quality capacitors, made by

the world's largest capacitor manufacturer, is ready for delivery by any Sprague Industrial Distributor. Of course, when time is not of the essence you can order from the whole broad range of Sprague Military capacitors. But when you need capacitors "yesterday," you'll do well to draw on our "emergency" stock as shown here.

### 65P PROKAR® CAPACITORS



sed at 125°C. if derated to 150V.

Subminiature molded capacitors unmatched by any other supplier. Special impregnation gives excellent capacitance stability and high insulation resistance. Operating temperature range is -55°C. to +85°C. The 200 V units may be Tolerance is ±5%.

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.01	200	.195 x 1 1/4	65P10352	\$2.00
.015	200	.195 x 1 1/4	65P15352	2.00
.02	200	.250 x 1 1/4	65P20352	2.20
.022	200	.250 x 1 1/4	65P22352	2.25
.03	200	.250 x 1 1/4	65P30352	2.25
.033	200	.250 x 1 1/4	65P33352	2.25
.039	200	.375 x 1 1/4	65P39352	2.50
.047	200	.375 x 1 1/4	65P47352	2.50
.051	200	.375 x 1 1/4	65P51352	2.50
.056	200	.375 x 1 1/4	65P56352	2.50
.062	200	.375 x 1 1/4	65P62352	2.50
.082	200	.375 x 1 1/4	65P82352	2.50
.091	200	.375 x 1 1/4	65P91352	2.50
.1	200	.375 x 1 1/4	65P10452	2.50
.001	300	.175 x 1 1/4	65P10253	2.00
.0015	300	.175 x 1 1/4	65P15253	2.00
.002	300	.175 x 1 1/4	65P20253	2.00
.0034	300	.175 x 1 1/4	65P39253	2.00
.0047	300	.175 x 1 1/4	65P47253	2.00
.0051	300	.175 x 1 1/4	65P51253	2.00
.0056	300	.175 x 1 1/4	65P56253	2.00
.0068	300	.175 x 1 1/4	65P68253	2.00
.0082	300	.195 x 1 1/4	65P82253	2.00
.0091	300	.195 x 1 1/4	65P91253	2.00

### 96P VITAMIN Q® SUBMINIATURES



These super-JAN capacitors are designed to operate from -55°C. to +125°C. Capacitance tolerance on these glass-to-metal seal high I-R units is ±10%. Terminals are insulated from case. Exclusive Vitamin Q impregnation means unmatched performance at high temperatures.

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.10	100	.312 x 1 1/4	96P1049152	\$5.06
.47	100	.362 x 1 1/4	96P4749152	5.94
.10	200	.400 x 1 1/4	96P1049252	5.28
.47	200	.562 x 1 1/4	96P4749252	6.38
.10	400	.400 x 1 1/4	96P1049452	5.72
.22	400	.562 x 1 1/4	96P2249452	6.38
.47	400	.670 x 1 1/4	96P4749452	7.37
.001	600	.235 x 1 1/4	96P1029652	4.95
.0022	600	.235 x 1 1/4	96P2229652	4.95
.0047	600	.235 x 1 1/4	96P4729652	5.00
.0068	600	.235 x 1 1/4	96P6829652	5.00
.01	600	.312 x 1 1/4	96P1039652	5.17
.022	600	.312 x 1 1/4	96P2239652	5.28
.047	600	.400 x 1 1/4	96P4739652	5.55
.068	600	.400 x 1 1/4	96P6839652	5.77
.10	600	.562 x 1 1/4	96P1049652	6.16
.22	600	.562 x 1 1/4	96P2249652	6.82
.47	600	.750 x 2 1/4	96P4749652	7.97

### TYPE CP26 OIL-FILLED TUBULARS



Hermetically sealed, mineral oil impregnated to meet Characteristic E requirements for operation from -55°C. to +85°C. Capacitor section is insulated from case. Units have plastic outer insulating tube. Capacitance tolerances: K, ±10%; M, ±20%; V, -10% +20%.

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.5	200	1 1/4 x 2 3/4	SP-CP26A1EC504K	\$2.60
.006	600	1/2 x 1 3/4	SP-CP26A1EF602M	1.55
.01	600	1/2 x 1 3/4	SP-CP26A1EF103V	1.55
.02	600	1/2 x 1 1 3/4	SP-CP26A1EF203K	1.80
.05	600	1 1/4 x 1 1 1/4	SP-CP26A1EF503K	1.90

### TYPE CP28 TUBULARS

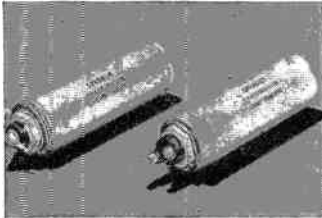
Similar to Type CP26, except for addition of radial mounting bracket. This is usually necessary for higher capacitance range tubulars if capacitor is to withstand equipment vibration tests. Units listed below have ±10% capacitance tolerance. These units are oil-filled and oil-impregnated to meet Characteristic E requirements.

Mfd.	WVDC	Dia. x Length	Cat. No.	List
.1	600	1 1/4 x 2 1/4	SP-CP28A1EF104K	\$2.15
.25	600	1 1/4 x 2 3/4	SP-CP28A1EF254K	2.70
.5	600	1 1/4 x 2 3/4	SP-CP28A1EF504K	3.30

# SPRAGUE CAPACITORS

## SCREWBASE TYPES CP40, 41

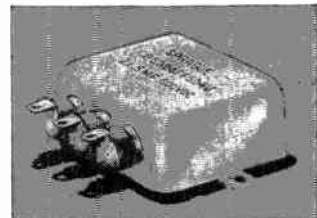
These cylindrical capacitors are easily mounted in small power supplies. They are mineral oil impregnated to meet Characteristic E requirements. Designed to operate from -55°C. to +85°C. The capacitance tolerance for these metal-encased units is ±10%.



Mfd.	WVDC	Dia. x Length	Cat. No.	List
<b>TYPE CP40—GROUNDED CASE</b>				
2	600	1½ x 3¾	SP—CP40C2EF205K	\$5.10
4	600	1½ x 5¼	SP—CP40C2EF405K	6.95
<b>TYPE CP41—INSULATED CASE</b>				
2	600	1½ x 3¾	SP—CP41B1EF205K	\$5.60
4	600	1½ x 5¼	SP—CP41B1EF405K	7.45

## "BATHTUB" TYPE CP53

Drawn-shell case with silicone rubber side-terminal bushings. Will meet Characteristic E requirements. Can be grounded on triple section units. Capacitance tolerances: K, ±10%. V, -10+20%.



Mfd.	WVDC	L. x W. x H.	Cat. No.	List
.1	600	1½ x 1 x ¾	SP—CP53B1EF104K	\$3.25
.25	600	1½ x 1 x ¾	SP—CP53B1EF254K	3.40
.5	600	1½ x 1 x 1	SP—CP53B1EF504K	3.65
1.0	600	2 x 1¾ x 1	SP—CP53B1EF105K	4.15
2.0	600	2 x 2 x 1½	SP—CP53B1EF205K	5.50
.1-.1	600	1½ x 1 x ¾	SP—CP53B4EF104V	4.10
.25-.25	600	1½ x 1 x 1	SP—CP53B4EF254V	4.15
.5-.5	600	2 x 1¾ x 1	SP—CP53B4EF504V	4.75
.1-.1-.1	600	2 x 1¾ x ¾	SP—CP53B5EF104V	4.60
.25	1000	1½ x 1 x ¾	SP—CP53B1EG254K	3.60
.5	1000	2 x 1¾ x ¾	SP—CP53B1EG504K	3.90
1.0	1000	2 x 2 x 1½	SP—CP53B1EG105K	4.85
.25-.25	1000	2 x 1¾ x ¾	SP—CP53B4EG254V	4.60

## TYPE CP61 RECTANGULARS



Characteristic E impregnation for -55°C. to +85°C. operation. Capacitance tolerance: K, ±10%; V, -10+20%. Silicone rubber terminal bushings. Can be grounded on dual units. Spade brackets may be mounted so terminals project through chassis or far above it. List price for all brackets: \$.25 each, when ordered with capacitors.

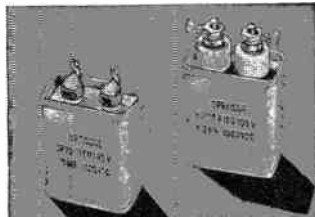
Mfd.	WVDC	W. x T. x H.	Cat. No.	List
.05	600	1½ x ¾ x 1½	SP—CP61B1EF503K	\$4.10
.1	600	1½ x ¾ x 1½	SP—CP61B1EF104K	4.40
.25	600	1½ x ¾ x 1½	SP—CP61B1EF254K	4.70
.5	600	1½ x ¾ x 2	SP—CP61B1EF504K	5.00
1.0	600	1½ x ¾ x 2½	SP—CP61B1EF105K	5.65
.1-.1	600	1½ x ¾ x 1½	SP—CP61B6EF104V	5.50
.25-.25	600	1½ x ¾ x 2	SP—CP61B6EF254V	5.65
.5-.5	600	1½ x ¾ x 2½	SP—CP61B6EF504V	6.50

### BRACKETS

Case Height	Cat. No.	Case Height	Cat. No.
1½	SP—CP06SA1	2	SP—CP06SA4
1¾	SP—CP06SA2	2½	SP—CP06SA6
1⅞	SP—CP06SA3		

## TYPE CP70 RECTANGULARS

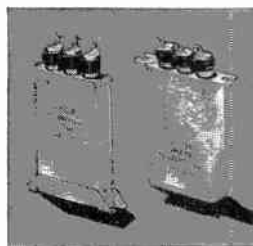
Soldered "squeeze-seam" metal case filter capacitors for power supplies. Units are mineral oil impregnated for -55°C. to +85°C. operation. Capacitance tolerance is ±10%.



**BRACKETS:** List price for all footed brackets: \$.60 pr. when supplied with capacitors. Order separately as indicated.

All prices subject to change without notice.

## TYPES CP67, 69 RECTANGULARS



Channel-bracket mounting capacitors impregnated with mineral oil to meet Characteristic E requirements. Silicone-rubber terminal bushings insure continued hermetic seal. Capacitance tolerance is ±10%

Mfd.	WVDC	W. x T. x H.	Cat. No.	List
<b>TYPE CP67—Mounting Bracket Away from Terminal</b>				
.1	600	1¾ x ¾ x 1½	SP—CP67B1EF104K	\$3.95
.25	600	1¾ x ¾ x 1½	SP—CP67B1EF254K	4.25
.5	600	1¾ x ¾ x 2	SP—CP67B1EF504K	4.55
1.0	600	1¾ x ¾ x 2½	SP—CP67B1EF105K	5.15
<b>TYPE CP69—Mounting Bracket at Terminal End</b>				
.05	600	1¾ x ¾ x 1½	SP—CP69B1EF503K	\$3.95
.1	600	1¾ x ¾ x 1½	SP—CP69B1EF104K	3.95
.25	600	1¾ x ¾ x 1½	SP—CP69B1EF254K	4.25
.5	600	1¾ x ¾ x 2	SP—CP69B1EF504K	4.55
1.0	600	1¾ x ¾ x 2½	SP—CP69B1EF105K	5.15

Mfd.	WVDC	W. x T. x H.	Cat. No.	List
<b>SILICONE RUBBER BUSHINGS</b>				
2	600	1½ x 1½ x 3¼*	SP—CP70B1EF205K	\$ 8.30
4	600	2½ x 1½ x 3¾†	SP—CP70B1EF405K	10.65
6	600	3¾ x 1½ x 4¾‡	SP—CP70B1EF605K	13.35
10	600	3¾ x 1¾ x 4*§	SP—CP70B1EF106K	17.95
.5	1000	1½ x 1½ x 2½§	SP—CP70B1EG504K	5.95
1.0	1000	1½ x 1½ x 2½*§	SP—CP70B1EG105K	7.35
2.0	1000	1½ x 1½ x 4¾‡	SP—CP70B1EG205K	9.65
4.0	1000	3¾ x 1¾ x 3¾‡	SP—CP70B1EG405K	12.30

Mfd.	WVDC	W. x T. x H.	Cat. No.	List
<b>CERAMIC STANDOFF BUSHINGS</b>				
.1	1500	1½ x 1½ x 2½§	SP—CP70E1EH104K	\$ 6.60
.5	1500	1½ x 1½ x 2½*§	SP—CP70E1EH504K	8.15
1.0	1500	1½ x 1½ x 4¾‡	SP—CP70E1EH105K	9.00

\*CP07FA4 †CP07FB4 ‡CP07FC2 §CP07FA6  
 †CP07FB4 ‡CP07FD3 §CP07FC2 ¶CP07FA6  
 ¶CP07FC2

# ARCO ELECTRONICS, INC.

## EL-MENCO CAPACITORS

### MINIATURE MICA CAPACITORS

Known the world over for their reliability under all operating conditions, EL-MENCO CAPACITORS are chosen by manufacturers who want successful performance and long life from their products.

**SMALLER THAN YOUR FINGERNAIL  
BUT SKY HIGH IN PERFORMANCE**

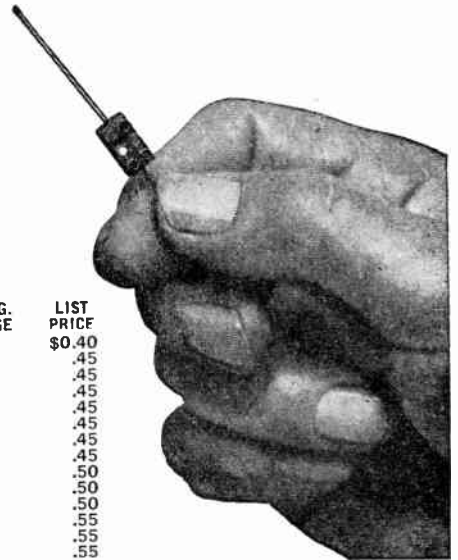
EL-MENCO fixed mica dielectric capacitors are compact, precision made Manufactured in accordance with American military standards to meet Army and Navy JAN-C-5 Specifications. All impregnated and JAN, RMA and RCM color coded. Standard specification limits are shown below.

Moulded in low loss bakelite, tested at double the working voltage. Tests for dielectric strength, insulation resistance, temperature co-efficient and capacitance drift, humidity and life tests according to JAN and RCM STANDARDS. All units are wax dipped for salt water immersion seal.

#### TYPE CM-15

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE
CM-15-C-010-M	1	500	\$0.50	CM-15-E-750-J	75	500	\$0.40
CM-15-C-020-M	2	500	.50	CM-15-E-820-J	82	500	.45
CM-15-C-030-M	3	500	.50	CM-15-E-910-J	91	500	.45
CM-15-C-050-K	5	500	.40	CM-15-E-101-J	100	500	.45
CM-15-C-100-J	10	500	.40	CM-15-E-111-J	110	500	.45
CM-15-C-120-J	12	500	.40	CM-15-E-121-J	120	500	.45
CM-15-C-150-J	15	500	.40	CM-15-E-131-J	130	500	.45
CM-15-C-180-J	18	500	.40	CM-15-E-151-J	150	500	.45
CM-15-C-200-J	20	500	.40	CM-15-E-161-J	160	500	.50
CM-15-C-220-J	22	500	.40	CM-15-E-181-J	180	500	.50
CM-15-E-240-J	24	500	.40	CM-15-E-201-J	200	500	.50
CM-15-E-270-J	27	500	.40	CM-15-E-221-J	220	500	.55
CM-15-E-300-J	30	500	.40	CM-15-E-241-J	240	500	.55
CM-15-E-330-J	33	500	.40	CM-15-E-251-J	250	500	.55
CM-15-E-360-J	36	500	.40	CM-15-E-271-J	270	500	.60
CM-15-E-390-J	39	500	.40	CM-15-E-301-J	300	500	.60
CM-15-E-430-J	43	500	.40	CM-15-E-331-J	330	500	.65
CM-15-E-470-J	47	500	.40	CM-15-E-361-J	360	500	.70
CM-15-E-500-J	50	500	.40	CM-15-E-391-J	390	500	.70
CM-15-E-510-J	51	500	.40	CM-15-E-431-J	430	300	.75
CM-15-E-560-J	56	500	.40	CM-15-E-471-J	470	300	.80
CM-15-E-620-J	62	500	.40	CM-15-E-501-J	500	300	.80
CM-15-E-680-J	68	500	.40	CM-15-E-511-J	510	300	.80

All the above are silver mica only. Temperature Co-efficient: 50 Parts per Million per degree C. (Characteristic "E"). Standard Tolerance: ±5%. Closest Tolerance: ±.5 mmfd.



Actual Size  
1-300 mmf.  
9/32" x 1/2" x 3/16"  
301-510 mmf.  
9/32" x 1/2" x 7/32"  
For Television, Radio and other  
Electronic Applications,  
1 - 420 mmf. cap. at 500v DCW,  
1 - 510 mmf. cap. at 300v DCW,  
Temperature Co-efficient ±50  
parts per million per degree  
C for most capacity values.  
6-dot color coded.

**Special! — HANDY KIT**

**FOR EXPERIMENTAL WORK**

*Don't Get Caught Short...*

**ALWAYS HAVE THE CORRECT  
CAPACITY ON HAND**

This Handy Kit consists of 46 most commonly used Capacitors . . . five of each capacity packed in moisture-proof transparent cellophane envelope, properly identified for permanent use.

**LIST PRICE ONLY \$90<sup>00</sup>**

The complete set of capacitors amounts to \$106.00 at list prices. You get the entire set during this introductory offer, for only \$90.00.

**COMPARE COST!**



**THESE MINIATURES FIT  
INTO THE SMALLEST  
AREA CAPACITOR SIZE  
(9/32" x 1/2" x 3/16")**

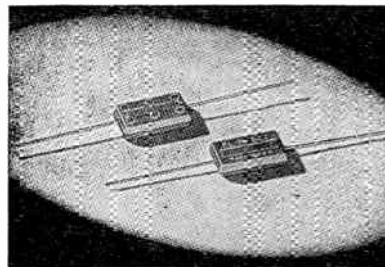
# ARCO ELECTRONICS, INC.

E L - M E N C O C A P A C I T O R S

## MICA CAPACITORS

### CM-19 & CM-20

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	
			REGULAR MICA	SILVERED MICA
CM-20-050	5	500	\$0.30	\$0.40
CM-20-100	10	500	.30	.40
CM-20-120	12	500	.30	.40
CM-20-150	15	500	.30	.40
CM-20-180	18	500	.30	.40
CM-20-200	20	500	.30	.40
CM-20-220	22	500	.30	.40
CM-20-240	24	500	.30	.40
CM-20-270	27	500	.30	.40
CM-20-300	30	500	.30	.40
CM-20-330	33	500	.20	.40
CM-20-360	36	500	.20	.40
CM-20-390	39	500	.20	.40
CM-20-430	43	500	.20	.40
CM-20-470	47	500	.20	.40
CM-20-500	50	500	.20	.40
CM-20-510	51	500	.20	.40
CM-20-560	56	500	.20	.40
CM-20-620	62	500	.20	.40
CM-20-680	68	500	.20	.40
CM-20-750	75	500	.20	.40
CM-20-820	82	500	.20	.40
CM-20-910	91	500	.20	.40
CM-20-101	100	500	.20	.40
CM-20-111	110	500	.20	.45
CM-20-121	120	500	.20	.45
CM-20-131	130	500	.25	.45
CM-20-151	150	500	.25	.45
CM-20-161	160	500	.25	.45
CM-20-181	180	500	.25	.45
CM-20-201	200	500	.25	.45
CM-20-221	220	500	.25	.45
CM-20-241	240	500	.30	.55
CM-20-251	250	500	.30	.55
CM-20-271	270	500	.30	.55
CM-20-301	300	500	.30	.55
CM-20-331	330	500	.30	.55
CM-20-361	360	500	.30	.55
CM-20-391	390	500	.30	.65
CM-20-431	430	500	.30	.65
CM-20-471	470	500	.30	.70
CM-20-501	500	500	.30	.70
CM-20-511	510	500	.30	.70
CM-20-561	560	500	.35	.75
CM-20-621	620	500	.35	.80
CM-20-681	680	500	.35	.85
CM-20-751	750	500	.35	.90
CM-20-821	820	500	.40	.95
CM-20-911	910	500	.45	1.00
CM-20-102	1000	500	.45	1.10
CM-20-112†	1100	500	.50	1.20
CM-20-122†	1200	500	.50	1.30
CM-20-132†	1300	500	.50	1.40
CM-20-152†	1500	500	.60	1.50
CM-20-162†	1600	500	.60	1.60
CM-20-182†	1800	500	.70	1.70
CM-20-202†	2000	500	.75	1.80



CM-19—11/16" x 7/16" x 7/32"  
 CM-20—25/32" x 7/16" x 7/32"  
 CM-25— 7/16" x 1-7/64" x 7/32"

### CM-25

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	
			REGULAR MICA	SILVERED MICA
CM-25-510	51	500	\$0.25	\$0.40
CM-25-560	56	500	.25	.40
CM-25-620	62	500	.25	.40
CM-25-680	68	500	.25	.40
CM-25-750	75	500	.25	.40
CM-25-820	82	500	.25	.40
CM-25-910	91	500	.25	.40
CM-25-101	100	500	.25	.40
CM-25-111	110	500	.25	.45
CM-25-121	120	500	.25	.45
CM-25-131	130	500	.25	.45
CM-25-151	150	500	.25	.45
CM-25-161	160	500	.25	.45
CM-25-181	180	500	.25	.45
CM-25-201	200	500	.25	.45
CM-25-221	220	500	.25	.45
CM-25-241	240	500	.30	.55
CM-25-251	250	500	.30	.55
CM-25-271	270	500	.30	.55
CM-25-301	300	500	.30	.55
CM-25-331	330	500	.30	.55
CM-25-361	360	500	.30	.55
CM-25-391	390	500	.30	.65
CM-25-431	430	500	.30	.65
CM-25-471	470	500	.30	.70
CM-25-501	500	500	.30	.70
CM-25-511	510	500	.30	.70
CM-25-561	560	500	.35	.75
CM-25-621	620	500	.35	.80
CM-25-681	680	500	.35	.85
CM-25-751	750	500	.35	.90
CM-25-821	820	500	.40	.95
CM-25-911	910	500	.45	1.00
CM-25-102	1000	500	.45	1.10
CM-25-112†	1100	500	.50	1.20
CM-25-122†	1200	500	.50	1.30
CM-25-132†	1300	500	.50	1.40
CM-25-152†	1500	500	.60	1.50
CM-25-162†	1600	500	.60	1.60
CM-25-182†	1800	500	.70	1.70
CM-25-202†	2000	500	.75	1.80

### STANDARD TOLERANCES:

Regular mica  $\pm 20\%$  (A and B Characteristics)  
 For  $\pm 10\%$  tolerance add 10% to list price.  
 For  $\pm 5\%$  tolerance add 25% to list price.  
 Silvered Mica  $\pm 5\%$  (C, D and E Characteristics)  
 For  $\pm 2\%$  tolerance add 15% to list price.  
 For  $\pm 1\%$  tolerance add 25% to list price.

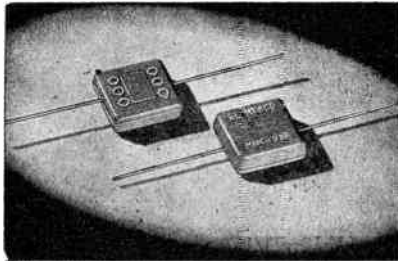
### NOTE:

CM19 capacitors available only up to 1000 mmf.  
 CM20 and CM25 available to 2000 mmf.

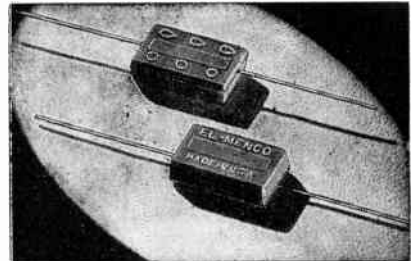
# ARCO ELECTRONICS, INC.

## E L - M E N C O C A P A C I T O R S

### MICA CAPACITORS



CM-30—13/16" x 13/16" x 9/32"  
 CM-35—13/16" x 13/16" x 11/32"



CM-40—1" x 5/8" x 11/32"

#### CM-30

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	
			REGULAR MICA	SILVERED MICA
CM-30-511	510	500	\$0.30	\$0.70
CM-30-561	560	500	.30	.75
CM-30-621	620	500	.30	.80
CM-30-681	680	500	.30	.85
CM-30-751	750	500	.30	.90
CM-30-821	820	500	.30	.95
CM-30-911	910	500	.30	1.00
CM-30-102	1000	500	.35	1.10
CM-30-112	1100	500	.35	1.10
CM-30-122	1200	500	.35	1.25
CM-30-132	1300	500	.35	1.25
CM-30-152	1500	500	.40	1.35
CM-30-162	1600	500	.40	1.35
CM-30-182	1800	500	.45	1.35
CM-30-202	2000	500	.45	1.50
CM-30-222	2200	500	.45	1.50
CM-30-242	2400	500	.50	1.80
CM-30-252	2500	500	.50	1.80
CM-30-272	2700	500	.50	1.90
CM-30-302	3000	500	.60	2.05
CM-30-332	3300	500	.60	2.05
CM-30-362	3600	500	.60	2.10
CM-30-392	3900	500	.65	2.15
CM-30-432	4300	500	.65	2.15
CM-30-472	4700	500	.65	2.15
CM-30-502	5000	500	.70	2.25
CM-30-512	5100	500	.70	2.25
CM-30-562	5600	500	.70	2.50
CM-30-622	6200	500	.90	2.90

#### CM-35

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	
			REGULAR MICA	SILVERED MICA
CM-35-682	6800	300	\$0.95	\$3.00
CM-35-752	7500	300	1.00	3.25
CM-35-822	8200	300	1.15	3.50
CM-35-912	9100	300	1.15	4.00
CM-35-103	10000	300	1.40	4.00
CM-35-123	12000	300	1.60	4.50
CM-35-153	15000	300	2.00	5.25
CM-35-682	6800	500	1.05	3.30
CM-35-752	7500	500	1.15	3.65
CM-35-822	8200	500	1.30	3.85
CM-35-912	9100	500	1.30	4.40
CM-35-103	10000	500	1.55	4.40

#### CM-40

CM-40-272	2700	500	.55	1.90
CM-40-302	3000	500	.60	2.05
CM-40-332	3300	500	.60	2.05
CM-40-362	3600	500	.65	2.10
CM-40-392	3900	500	.70	2.15
CM-40-432	4300	500	.70	2.15
CM-40-472	4700	500	.70	2.15
CM-40-502	5000	500	.75	2.25
CM-40-512	5100	500	.75	2.25
CM-40-562	5600	500	.75	2.50
CM-40-622	6200	500	1.05	2.90
CM-40-682	6800	500	1.15	3.30
CM-40-752	7500	500	1.40	3.65
CM-40-822	8200	500	1.40	3.85
CM-40-912	9100	500	1.40	4.40
CM-40-103	10000	500	1.70	4.40
CM-40-912	9100	300	1.30	4.00
CM-40-103	10000	300	1.50	4.00
CM-40-123	12000	300	1.80	4.50
CM-40-153	15000	300	2.20	5.25

#### STANDARD TOLERANCES

Regular mica  $\pm 20\%$  (A and B Characteristics)  
 For  $\pm 10\%$  tolerance add 10% to list price.  
 For  $\pm 5\%$  tolerance add 25% to list price.

Silvered mica  $\pm 5\%$  (C, D and E Characteristics)  
 For  $\pm 2\%$  tolerance add 15% to list price.  
 For  $\pm 1\%$  tolerance add 25% to list price.

# ARCO ELECTRONICS, INC.

EL - M E N C O C A P A C I T O R S

## TELEVISION • TRANSMITTING • INDUSTRIAL HIGH VOLTAGE MICA CAPACITORS

DC WORKING VOLTAGES: FROM 1000 TO 3000 VOLTS

Molded in CM-20 and CM-35 Cases

Demand for smaller units in higher voltages designed to meet the requirements for TELEVISION, POWER AMPLIFIERS, LOW POWER TRANSMITTERS, and various INDUSTRIAL USES has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of TELEVISION RECEIVERS.

In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. NO SPECIAL MOUNTINGS ARE NECESSARY; just wire right into the circuit.

The capacitors are molded in low-loss bakelite and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient, capacitance drift, susceptibility to humidity, and length of life, according to RCM Standards. All units are wax-dipped for protection against salt water immersion.

VCM-20						VCM-35							
TYPE DESIGNATION	CAP. MMF.	5000 VDC TEST	4000 VDC TEST	3000 VDC TEST	2000 VDC TEST	TYPE DESIGNATION	CAP. *3000 VDC MMF.	6000 VDC TEST	5000 VDC TEST	4000 VDC TEST	3000 VDC TEST	2000 VDC TEST	
		WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE			WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE	WKG. LIST PRICE
VCM-20-B-050	5	\$0.35	\$0.35	\$0.35	\$0.30	VCM-35-B-121	120	\$0.55					
VCM-20-B-100	10	.35	.35	.35	.30	VCM-35-B-151	150	.60					
VCM-20-B-120	12	.35	.35	.35	.30	VCM-35-B-161	160	.65					
VCM-20-B-150	15	.35	.35	.35	.30	VCM-35-B-181	180	.65					
VCM-20-B-180	18	.35	.35	.35	.30	VCM-35-B-221	220	.75					
VCM-20-B-200	20	.35	.35	.35	.30	VCM-35-B-241	240	.80	\$0.60				
VCM-20-B-220	22	.35	.35	.35	.30	VCM-35-B-251	250	.80	.60				
VCM-20-B-240	24	.35	.35	.35	.30	VCM-35-B-271	270	.80	.60				
VCM-20-B-270	27	.35	.35	.35	.30	VCM-35-B-301	300	.85	.65				
VCM-20-B-300	30	.40	.35	.35	.30	VCM-35-B-331	330	.90	.65				
VCM-20-B-330	33	.40	.35	.35	.30	VCM-35-B-361	360	.95	.75				
VCM-20-B-360	36	.40	.35	.35	.30	VCM-35-B-391	390	1.05	.80				
VCM-20-B-390	39	.40	.35	.35	.30	VCM-35-B-431	430	1.15	.80	\$0.65			
VCM-20-B-430	43	.40	.35	.35	.30	VCM-35-B-471	470	1.20	.80	.75			
VCM-20-B-470	47	.40	.35	.35	.30	VCM-35-B-501	500	1.30	.85	.75			
VCM-20-B-500	50	.40	.40	.35	.30	VCM-35-B-511	510	1.30	.85	.75			
VCM-20-B-510	51	.40	.40	.35	.30	VCM-35-B-561	560	1.40	.90	.75			
VCM-20-B-560	56	.40	.40	.35	.30	VCM-35-B-621	620	1.45	.95	.80			
VCM-20-B-620	62	.40	.40	.35	.30	VCM-35-B-681	680	1.60	1.05	.80	\$0.75		
VCM-20-B-680	68	.45	.40	.35	.30	VCM-35-B-821	820	1.80	1.15	.90	.85		
VCM-20-B-750	75	.50	.40	.35	.30	VCM-35-B-911	910		1.35	.95	.90		
VCM-20-B-820	82	.50	.40	.35	.30	VCM-35-B-102	1000		1.40	1.10	.90		
VCM-20-B-910	91	.50	.40	.40	.35	VCM-35-B-112	1100		1.40	1.15	.95		\$0.60
VCM-20-B-101	100	.55	.40	.40	.35	VCM-35-B-122	1200		1.50	1.20	1.10	.65	
VCM-20-B-111	110	.60	.45	.40	.35	VCM-35-B-132	1300		1.65	1.30	1.15	.65	
VCM-20-B-121	120	.60	.45	.40	.35	VCM-35-B-152	1500		1.85	1.45	1.30	.75	
VCM-20-B-131	130	.60	.45	.40	.35	VCM-35-B-162	1600		2.00	1.50	1.30	.80	
VCM-20-B-151	150	.65	.45	.40	.35	VCM-35-B-182	1800			1.70	1.45	.80	
VCM-20-B-161	160	.70	.50	.40	.35	VCM-35-B-202	2000			1.80	1.60	.85	
VCM-20-B-181	180	.70	.50	.40	.35	VCM-35-B-222	2200				1.70	.95	
VCM-20-B-201	200	.80	.60	.45	.40	VCM-35-B-242	2400				1.80	1.05	
VCM-20-B-221	220	.85	.60	.45	.40	VCM-35-B-272	2700					1.05	
VCM-20-B-241	240	.85	.65	.45	.40	VCM-35-B-302	3000					1.15	
VCM-20-B-251	250		.65	.55	.40	VCM-35-B-332	3300					1.20	
VCM-20-B-271	270		.65	.55	.40	VCM-35-B-362	3600					1.35	
VCM-20-B-301	300		.70	.60	.45	VCM-35-B-392	3900					1.40	
VCM-20-B-331	330		.80	.60	.45	VCM-35-B-432	4300					1.50	
VCM-20-B-361	360		.80	.60	.45	VCM-35-B-472	4700					1.65	
VCM-20-B-391	390		.85	.65	.45	VCM-35-B-502	5000					1.70	
VCM-20-B-431	430			.65	.50	VCM-35-B-512	5100					1.70	
VCM-20-B-471	470			.70	.50								
VCM-20-B-501	500			.70	.50								
VCM-20-B-511	510			.70	.50								
VCM-20-B-561	560			.80	.55								
VCM-20-B-621	620			.85	.55								
VCM-20-B-681	680				.60								
VCM-20-B-751	750				.60								
VCM-20-B-821	820				.65								
VCM-20-B-911	910				.70								
VCM-20-B-102	1000				.75								

All units supplied in "A" or "B" Characteristic at list price. Case Size Dimensions (See preceding pages for illustrations):  
VCM-20— $\frac{1}{2}$ " x  $\frac{1}{4}$ " x  $\frac{1}{8}$ " VCM-35— $\frac{1}{2}$ " x  $\frac{1}{8}$ " x  $\frac{1}{8}$ "  
Standard Tolerance:  $\pm 20\%$ .  
Prices will be quoted for closer tolerances in "Silvered" mica upon request.

# ARCO ELECTRONICS, INC.

## EL - M E N C O C A P A C I T O R S



**MINERAL OIL IMPREGNATION  
NON-INDUCTIVE WINDING  
SYNTHETIC RESIN END SEALS  
STEATITE CASE**

## PAPER TUBULAR CAPACITORS CP TYPE

EL-MENCO CP type paper tubular capacitors are sealed into STEATITE TUBES which serve to insulate the capacitor electrically as well as against moisture and heat. The capacitor insert is impregnated with MINERAL OIL, thereby assuring long life at 85° C operating conditions. This feature insures successful operation at the high ambient temperatures existing in small, compact enclosures.

The NON-INDUCTIVELY wound paper and foil units are sealed in the CERAMIC TUBES by means of baked SYNTHETIC RESIN END FILLS which cannot melt at any conceivable operating temperature. The end fills will not dissolve in wax, permitting the capacitors to be potted without damage to in the insert. Leads are of tinned copper 21/4" long.

Many of the large TELEVISION, TRANSMITTER and HIGH VOLTAGE AMPLIFIER manufacturers have found these capacitors to be of highest quality. Breakdown tests have exceeded the required standards.

### DIMENSIONS FOR CP TYPE CAPACITORS

	DIAMETER	LENGTH
CP-1	3/8"	1 1/8"
CP-2	3/8"	1 3/8"
CP-3	1/2"	1 3/8"
CP-5	3/4"	1 5/8"
CP-5	3/4"	2 1/8"
CP-6	1 1/8"	2 1/8"

STANDARD TOLERANCE ON  
ABOVE UNITS IS ± 20%.

CAPACITY MFD.	1000 WVDC		600 WVDC		400 WVDC		200 WVDC	
	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE
.001	CP-2-102	\$0.40	CP-1-102	\$0.25				
.0015	CP-2-152	.40	CP-1-152	.25				
.002	CP-2-202	.40	CP-1-202	.25				
.0022	CP-2-222	.40	CP-1-222	.25				
.0025	CP-2-252	.40	CP-1-252	.25				
.003	CP-3-302	.40	CP-1-302	.25				
.0033	CP-3-332	.40	CP-1-332	.25				
.004	CP-3-402	.40	CP-1-402	.25				
.0047	CP-3-472	.45	CP-1-472	.25				
.005	CP 3-502	.45	CP-1-502	.25				
.006	CP-3-602	.45	CP-2-602	.25				
.0068	CP-3-682	.45	CP-2-682	.25				
.0075	CP-3-752	.45	CP-2-752	.30				
.01	CP-3-103	.50	CP-2-103	.30				
.015	CP-4-153	.50	CP-2-153	.30				
.02	CP-5-203	.50	CP-3-203	.30	CP-2-203	\$0.25		
.022	CP-5-223	.50	CP-3-223	.30	CP-3-223	.30		
.025	CP-5-253	.50	CP-4-253	.35	CP-3-253	.30		
.03	CP-5-303	.50	CP-4-303	.35	CP-3-303	.30		
.033	CP-5-333	.60	CP-4-333	.35	CP-3-333	.30		
.04	CP-6-403	.60	CP-4-403	.35	CP-3-403	.30		
.047	CP-6-473	.60	CP-4-473	.35	CP-4-473	.30		
.05	CP-6-503	.60	CP-4-503	.40	CP-4-503	.30		
.056	CP-6-563	.65	CP-5-563	.40	CP-4-563	.30		
.068			CP-6-683	.40	CP-4-683	.35		
.075			CP-6-753	.45	CP-5-753	.35		
.1			CP-6-104	.45	CP-5-104	.35	CP-4-104	\$0.35
.15					CP-6-154	.45	CP-4-154	.40
.22					CP-6-224	.55	CP-5-224	.45
.25					CP-6-254	.55	CP-5-254	.45
.33							CP-6-334	.55
.47							CP-6-474	.70
.5							CP-6-504	.70

# ARCO ELECTRONICS, INC.

## EL-MENCO CAPACITORS

### Single and Dual PADDERS

EL-MENCO PADDING CONDENSERS have been acclaimed by engineers as the finest development in adjustable mica condensers.

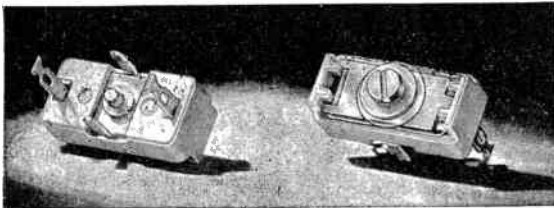
The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

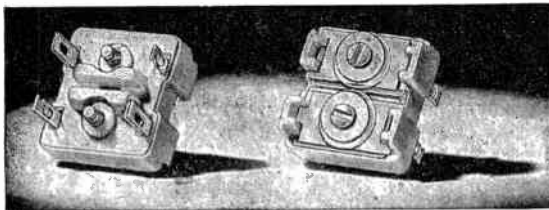
#### TYPE 30 350 Volts DC Flash-Test — 175 WVDC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At 1½ Inch Pounds Cap. Will Be More Than MMF.	At 2½ Turns Open Cap. Will Be Less Than MMF.	
302	2 Pl.	130	15	\$0.60
303	3 Pl.	340	65	.65
304	4 Pl.	550	100	.75
305	5 Pl.	760	190	.85
306	6 Pl.	970	275	.90
307	7 Pl.	1180	350	1.00
308	8 Pl.	1390	450	1.05
309	9 Pl.	1600	550	1.15
310	10 Pl.	1890	650	1.25
311	11 Pl.	2110	780	1.35
312	12 Pl.	2330	880	1.40
313	13 Pl.	2605	1150	1.50
314	14 Pl.	2830	1300	1.60
315	15 Pl.	3055	1400	1.65

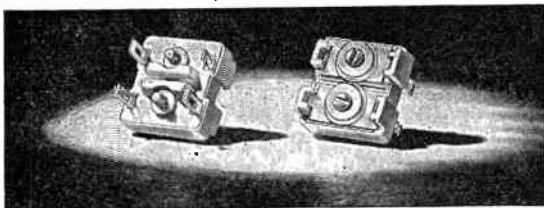
Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 1½ to 1¾ Mil Mica films.



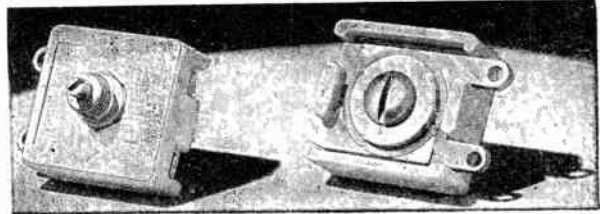
TYPE 58 PADDER 1.000" x .468"



TYPE 50 DUAL PADDER  
(will fit any size shield having dimensions exceeding 1-1/16" x 1-1/16")



TYPE 60 DUAL PADDER  
(will fit any size shield having dimensions exceeding ¾" x ¾")



TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

#### TYPE 30-M 1000 Volts DC Flash-Test — 500 Working Volts DC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At 1½ Inch Pounds Cap. Will Be More Than MMF.	At 2½ Turns Open Cap. Will Be Less Than MMF.	
302-M	2 Pl.	120	15	\$0.60
303-M	3 Pl.	320	65	.65
304-M	4 Pl.	500	100	.80
305-M	5 Pl.	690	180	.85
306-M	6 Pl.	880	265	.90
307-M	7 Pl.	1070	340	1.05
308-M	8 Pl.	1260	425	1.10
309-M	9 Pl.	1415	525	1.15
310-M	10 Pl.	1600	615	1.25
311-M	11 Pl.	1785	730	1.35
312-M	12 Pl.	1970	800	1.45
313-M	13 Pl.	2155	1000	1.50
314-M	14 Pl.	2340	1100	1.60
315-M	15 Pl.	2525	1200	1.70

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2½ Mil Mica.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
582	2 Pl.	80	7.5	\$0.40
583	3 Pl.	160	19	.45
584	4 Pl.	240	50	.50

◀ TYPE 58 Padder is a single variable trimmer section provided with a two-pronged staple mounting; for attachment to bracket or chassis. Base is made of lowest loss st-atite and the mica is India Ruby.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
502	2 Pl.	80	7.5	\$0.60
503	3 Pl.	160	19	.70
504	4 Pl.	240	50	.80

◀ TYPE 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1½" x 1½".

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
602	2 Pl.	55	7	\$0.50
603	3 Pl.	100	15	.60
604	4 Pl.	160	35	.70

▲ TYPE 60 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding ¾" x ¾".

See page 7 for Mica Trimmer Capacitors



# ARCO ELECTRONICS, INC.

## E L - M E N C O C A P A C I T O R S

### TYPE 46 TRIMMER

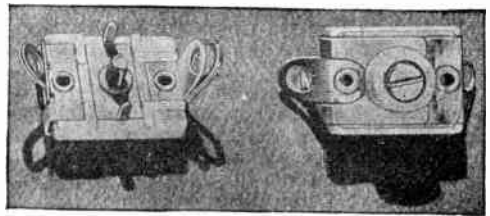
The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

EL-MENCO TRIMMING CONDENSERS are treated for resistance to humidity and for permanence of capacity setting.

Trimmers shown here are standard sizes and capacities.

TYPE 46W NUMBER PART	PLATES NUMBER OF	GUARANTEEO RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2½ Turns Open Cap. Will Be Less Than MMF.	
460	1 ¼ Pl.	15	1.5	\$0.35
461	1 ¾ Pl.	30	2.7	.35
462	2 Pl.	80	5	.40
463	3 Pl.	180	9	.45
464	4 Pl.	280	25	.50
465	5 Pl.	380	50	.55
466	6 Pl.	480	80	.60
467	7 Pl.	580	110	.70
468	8 Pl.	680	140	.75
469	9 Pl.	780	170	.80



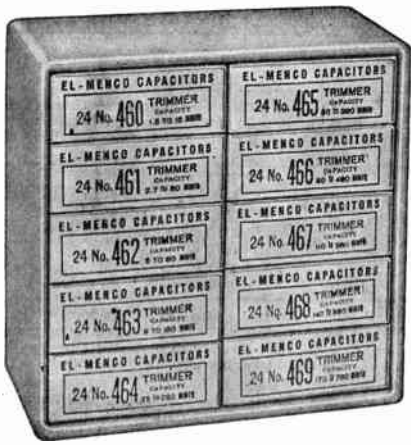
TYPE 46 TRIMMER ¾" x 5/8"

**Metal Mounting Brackets for these trimmers can be supplied from stock**

	LIST PRICE
Bracket for mounting 2 Trimmers . . . . .	\$0.10
Bracket for mounting 3 Trimmers . . . . .	.12
Bracket for mounting 4 Trimmers . . . . .	.14
Bracket for mounting 5 Trimmers . . . . .	.16
Bracket for mounting 6 Trimmers . . . . .	.18

### Type 46 Trimmer and Type 30 Padder Kits

A complete stock of trimmers and padders is provided in these compact, easily handled, and readily accessible kits. Always have a full line of El-Menco trimmers and padders available for immediate use.



TYPE 46 TRIMMER KIT

Provides a capacity range from 1½ to 780 mmfd. Twenty-four units of each size available in type 46 trimmers (see page 7). The total list price for all units included in the kit is \$115.20. Yet you may have this complete kit for only

**List Price Only \$90.00\***



TYPE 30 PADDER KIT

Provides a capacity range from 15 to 3055 mmfd. (30M:15 to 2525 mmfd.) Twelve units of each size available in type 30 or type 30M (see page 6). The total list price for all units included in the kit is \$163.20. Yet you may have this complete kit for only

**List Price Only \$125.00\***

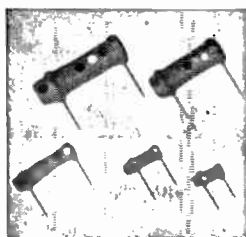
# ARCO ELECTRONICS, INC.

E L - M E N C O C A P A C I T O R S

## CERAMIC CAPACITORS

Use primarily for coupling and by-pass in RF and higher frequency circuits, ELMENCO ceramic capacitors are wax impregnated with low-loss phenolic coating. Insulation resistance far exceeds the 10,000 megohm minimum requirements. Voltage rating is 1500VDCI, 500VDCW. 90% relative humidity test for 100 hours. Radial leads are 1 $\frac{1}{4}$ " minimum No. 22 tinned copper wire.

### SILVER HIGH "K" TUBULAR

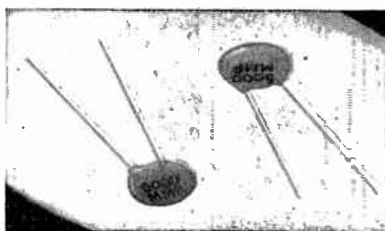


For general and higher frequency applications RMA Color Code. Tolerance  $\pm 20\%$ .

See Note below for Lower Capacities.

TYPE DESIGNATION	CAP. MMF.	S I Z E		LIST PRICE
		LENGTH	DIAM.	
CC-1-301	300	$\frac{1}{8}$ "	.250"	\$0.25
CC-1-401	400	$\frac{1}{8}$ "	.250"	.25
CC-1-501	500	$\frac{1}{8}$ "	.250"	.25
CC-2-751	750	$\frac{3}{8}$ "	.250"	.25
CC-2-102	1000	$\frac{3}{8}$ "	.250"	.25
CC-2-122	1200	$\frac{3}{8}$ "	.250"	.25
CC-2-152	1500	$\frac{3}{8}$ "	.250"	.25
CC-2-202	2000	$\frac{3}{8}$ "	.250"	.25
CC-3-252	2500	$\frac{1}{2}$ "	.350"	.30
CC-3-302	3000	$\frac{1}{2}$ "	.350"	.30
CC-3-402	4000	$\frac{1}{2}$ "	.350"	.35
CC-4-502	5000	1"	.350"	.40
CC-4-682	6800	1"	.350"	.40
CC-5-752	7500	1.20"	.350"	.45
CC-5-103	10000	1.20"	.350"	.50
CC-6-123	12000	1.325"	.350"	.50

### SILVER HIGH "K" DISC



Reduced self-inductance due to flat design makes these units particularly adaptable to VHF applications.

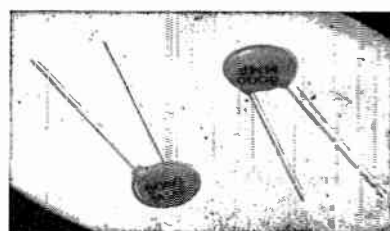
Capacity and tolerance stamped on capacitor.

Maximum dimensions:

.575" diameter  
.150" thickness

TYPE DESIGNATION	CAP. MMF.	LIST PRICE (MIN. GUAR. CAP.)	LIST PRICE ( $\pm 20\%$ TOL.)
CCD-152	1500	.25	.30
CCD-202	2000	.25	.30
CCD-272	2700	.25	.35
CCD-332	3300	.25	.35
CCD-392	3900	.25	.35
CCD-472	4700	.25	.35
CCD-502	5000	.25	.40
CCD-682	6800	.25	.45
CCD-822	8200	.30	.50
CCD-103	10000	.30	.50
CCD-123	12000	.40	
CCD-153	15000	.40	
CCD-203	20000	.40	

### N-750 DISC



Negative temperature coefficient ceramics for compensation and reduction of temperature drift.

Capacity and tolerance stamped on capacitor.

Maximum dimensions:

.575" diameter  
.150" thickness

TYPE DESIGNATION	CAP. MMF.	LIST PRICE ( $\pm 20\%$ TOL.)	LIST PRICE ( $\pm 10\%$ TOL.)
CCDN-560	56	.40	.50
CCDN-620	62	.40	.50
CCDN-680	68	.40	.50
CCDN-750	75	.40	.50
CCDN-820	82	.40	.50
CCDN-101	100	.40	.50
CCDN-121	120	.40	.50
CCDN-151	150	.40	.50

### FOR USE AS SUBSTITUTES FOR LOW CAPACITY GENERAL PURPOSE CERAMICS:

Our type CM15 miniature silvered mica capacitors are now available  $\pm 20\%$  tolerance. These units are comparable in size to ceramics and have the highly stable characteristics of silvered mica capacitors. SEE PAGE 2 FOR PHYSICAL AND ELECTRICAL SPECIFICATIONS.

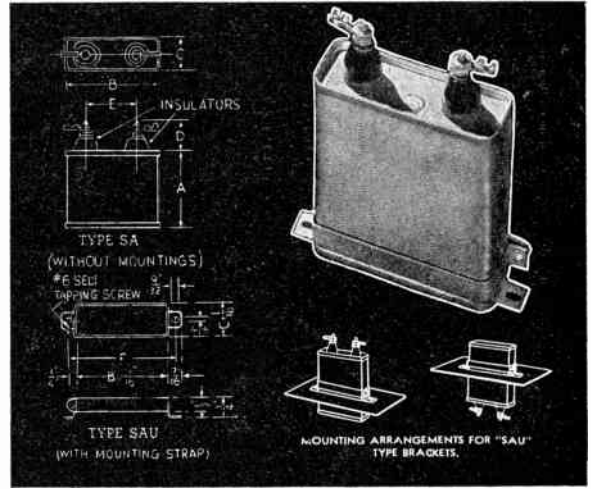
### PRICES:

All JAN capacity values from 10 to 180 mmf ( $\pm 20\%$  tolerance) ..... \$0.25 list  
All JAN capacity values from 200 to 250 mmf ( $\pm 20\%$  tolerance) ..... 0.30 list

## TYPE "SA" OIL FILLED

1. INCCO OIL "A" IMPREGNATED AND FILLED—permitting efficient operation over widest range of temperatures.
2. HERMETICALLY SEALED CASE—is unaffected by time, humidity, or operating temperatures.
3. Use of HIGHEST GRADE CONDENSER TISSUES insures a long uninterrupted life.
4. HIGH-GLAZE PORCELAIN INSULATORS—insure low moisture absorption and high terminal to case flash over.
5. CONSERVATIVELY RATED—SAFE FOR CONTINUOUS OPERATION AT 10 PER CENT OVER-LOAD.
6. Use of "SPACE SAVER" UNIVERSAL MOUNTING BRACKET provides adjustable capacitor heights.
7. LEAD COATED STEEL CASE—IS NON-CORROSIVE and lacquer finished.
8. TESTED FOUR TIMES BEFORE SHIPMENT—guarantees a 100 per cent perfect product electrically and mechanically.

If riveted terminal construction is wanted in place of porcelain stand-off insulators add "R" to catalog number. For example, 6SA50 changes to 6SAR50. Submersion proof terminal construction to meet Army and Navy Specifications is optional; specify on order. Standard capacity tolerance plus or minus 10 per cent. Mounting brackets supplied in accordance with following catalog designations: **TYPE SA**—No mounting brackets. **TYPE SAU**—"Space Saver" universal bracket. **TYPE SAJ**—Soldered vertical mounting bracket. **TYPE SAL**—Reversible mounting foot bracket. **TYPE SAH**—Re-



versible spade bolt bracket. For example: The 8mfd. 600V. type with "Space Saver" bracket has catalog number 6SAU800.

**NOTE:** To facilitate delivery we have standardized on container heights. In many cases units can be supplied in shorter containers if required.

### 600 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	H	List Price
6SA50	.5	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	\$4.55
6SA100	1.0	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	5.85
6SA200	2.0	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	7.10
6SA400	4.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	9.20
6SA600	6.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	11.30
6SA800	8.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	13.35
6SA1000	10.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	15.00

### 1000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	H	List Price
10SA10	.1	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	4.20
10SA25	.25	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	4.55
10SA50	.5	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	5.00
10SA100	1.0	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	6.25
10SA200	2.0	4 1/8	2 1/2	1 7/8	7/8	3/4	2 1/4	2 1/4	8.35
10SA400	4.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	10.45
10SA600	6.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	14.05
10SA800	8.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	15.00
10SA1000	10.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	16.70

### 1500 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	H	List Price
15SA50	.5	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	6.25
15SA100	1.0	4 1/8	2 1/2	1 7/8	7/8	3/4	2 1/4	2 1/4	7.55
15SA200	2.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	10.45
15SA400	4.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	13.90
15SA600	6.0	4 1/8	2 1/2	1 7/8	7/8	1 1/8	3	3	17.05

### 2000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	H	List Price
20SA10	.1	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	6.65
20SA25	.25	2 7/8	1 1/4	1 1/8	7/8	3/4	2 1/4	2 1/4	7.10

\* Where G dimension is given, two spade lugs or mountings holes are supplied on each bracket.

### 2000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
20SA50	.5	2 7/8	1 1/4	1 1/8	7/8	1 1/8	3		3	\$7.55
20SA100	1.0	4 1/8	2 1/2	1 7/8	7/8	2	4 3/8		4 3/8	9.20
20SA200	2.0	4 1/8	2 1/2	1 7/8	7/8	2	4 3/8		4 3/8	10.85
20SA400	4.0	4 1/8	2 1/2	1 7/8	7/8	2	4 3/8	2	4 3/8	15.00
20SA600	6.0	4 1/8	2 1/2	1 7/8	7/8	2	4 3/8	2	4 3/8	19.65

### 2500 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
25SA50	.5	4	3 3/4	1 3/4	1 3/4	2	4 3/8		4 3/8	11.70
25SA100	1.0	3 1/4	3 3/4	1 3/4	1 3/4	2	4 3/8		4 3/8	13.35
25SA200	2.0	4 3/4	3 3/4	1 3/4	1 3/4	2	4 3/8		4 3/8	21.55
25SA400	4.0	4 1/4	3 3/4	4 3/8	1 3/4	2	4 3/8	3 3/8	4	29.90

### 3000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
30SA10	.1	2 5/8	2 1/2	1 7/8	1 1/4	1 1/8	3		3	13.90
30SA25	.25	3 3/8	2 1/2	1 7/8	1 1/4	1 1/8	3		3	15.00
30SA50	.5	4 5/8	2 1/2	1 7/8	1 1/4	1 1/8	3		3	16.70
30SA100	1.0	4 1/4	3 3/4	2 3/4	1 1/4	2	4 3/8		4 3/8	20.10
30SA200	2.0	4 3/4	3 3/4	3 3/8	1 1/4	2	4 3/8	2	4 3/8	25.10

### 4000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
40SA10	.1	2 3/4	3 3/4	2 1/4	1 1/4	2	4 3/8		4 3/8	25.10
40SA25	.25	2 3/4	3 3/4	2 1/4	1 1/4	2	4 3/8		4 3/8	26.45
40SA50	.5	4 1/4	3 3/4	2 1/4	1 1/4	2	4 3/8		4 3/8	29.90
40SA100	1.0	5	3 3/4	2 1/4	1 1/4	2	4 3/8		4 3/8	36.75

### 5000 V.D.C. WORKING

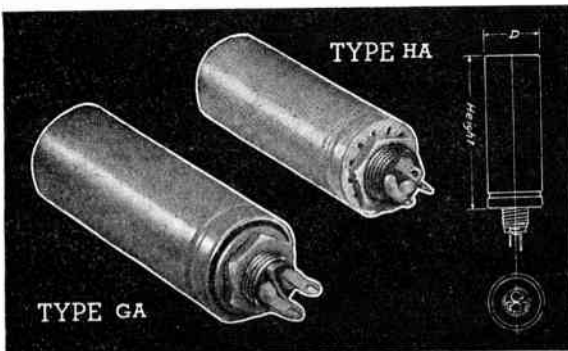
Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
50SA50	.5	4 1/4	3 3/4	2 1/4	1 1/4	2	4 3/8		4 3/8	33.45
50SA100	1.0	4 1/4	3 3/4	4 3/8	1 1/4	2	4 3/8	3 3/8	4 3/8	41.80

### 6000 V.D.C. WORKING

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
60SA50	.5	7	3 3/4	3 3/8	2 3/8	1 7/8	4 3/8	2	4 3/8	51.64
60SA100	1.0	6 1/2	3 3/4	4 3/8	2 3/8	2	4 3/8	3 3/8	4 3/8	83.55

## TYPES "GA" and "HA" OIL FILLED

These inverted mounting capacitors fill a definite need where chassis space is the prime factor.



Types "GA" and "HA" are INCCO Oil "A" impregnated and filled. The case is a one-piece metal extrusion with a "locked-in" molded neck. This construction meets and surpasses the Army and Navy requirements for a submersion-proof capacitor.

Type "GA" is available in the twelve standard ratings listed below, but can also be supplied in other capacities and/or voltages to manufacturers' specifications.

In the standard "GA" and "HA" types the container is insulated. A grounding lug can be supplied for connecting one terminal to the case. Fiber washer for insulating container from chassis, when case is grounded, and insulating cover for insulating the container from adjacent equipment, can also be supplied on special order.

Catalog Number	Cap. Mfd.	Working V.D.C.	Case Size Dia.	Case Size Height	Size of Mounting Neck	List Price
6GA200	2	600	1 1/2	2 7/8	3/4" x 16 thread	\$4.55
6GA300	3	600	1 1/2	3 3/8	3/4" x 16 thread	5.45
6GA400	4	600	1 1/2	4 1/2	3/4" x 16 thread	6.25
6GA800	8	600	2	4 3/8	1" x 14 thread	9.60
6GA2X400	4-4	600	2	4 3/8	1" x 14 thread	10.10
10GA100	1	1000	1 1/2	2 7/8	3/4" x 16 thread	4.20
10GA200	2	1000	1 1/2	4 1/2	3/4" x 16 thread	5.45
10GA400	4	1000	2	4 1/2	1" x 14 thread	8.00
10GA2X200	2-2	1000	2	4 1/2	1" x 14 thread	8.60
15GA50	0.5	1500	1 1/2	2 7/8	3/4" x 16 thread	5.00
15GA100	1	1500	1 1/2	4 1/2	3/4" x 16 thread	5.45
15GA200	2	1500	2	4 1/2	1" x 14 thread	7.75

# INDUSTRIAL CONDENSER CORPORATION

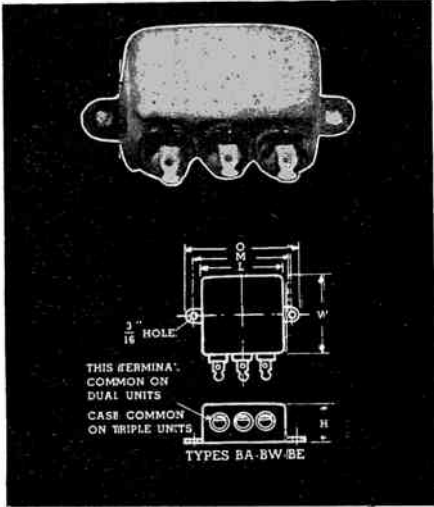
# CONDENSER

## Built to U. S. Signal Corps and Navy Specifications TYPE "BA" OIL FILLED

1. INCCO OIL "A" permits efficient operation of these compact units over the widest range of temperature.
2. The use of the HIGHEST GRADE CONDENSER TISSUE insures greater safety factor and longer life.
3. Specially PROCESSED RIVETED TERMINALS are designed to withstand total submersion in salt water and changes in temperature from 50° below zero Centigrade to 90° above zero Centigrade without loosening or losing their integrity.
4. CONDENSER MOUNTINGS form an integral part of these drawn shell containers insuring permanent and rigid fastenings.
5. All units are NON-INDUCTIVELY WOUND providing efficient operation over the widest range of frequencies.
6. HERMETICALLY SEALED, they are unaffected by time, temperature or humidity.
7. CONSERVATIVELY RATED for safe and continuous uninterrupted operation at 10% above rated voltage for the lifetime of associated equipment.
8. Tested at twice the rated voltage between terminals and twice the rated voltage plus 1000 from each terminal to case.

Cat. No.	Cap. in MFDS.	Dimensions in Inches				List Price
		L	W	H	M	
<b>600 V. D. C. WORKING</b>						
6BA05	.05	1 13/16	1	1 3/8	2 1/8	\$2.85
6BA10	.1	1 13/16	1	1 3/8	2 1/8	2.90
6BA25	.25	1 13/16	1	1 3/8	2 1/8	3.10
6BA50	.5	1 13/16	1	7/8	2 1/8	3.30
6BA100	1.0	2 1/16	1 3/4	7/8	2 3/8	3.75
6BA0505	.05-.05	1 13/16	1	1 3/8	2 1/8	3.65
6BA11	.1-1	1 13/16	1	1 3/8	2 1/8	3.70
6BA22	.25-.25	2	1 3/4	7/8	2 3/8	3.75
6BA55	.5-.5	2	1 3/4	7/8	2 3/8	4.30
6BA111	.1-1-1	1 13/16	1	1 3/8	2 1/8	4.20
6BA200	2	2	2	1 1/8	2 1/8	5.00
<b>1000 V. D. C. WORKING</b>						
10BA05	.05	1 13/16	1	1 3/8	2 1/8	3.05
10BA10	.1	1 13/16	1	1 3/8	2 1/8	3.15
10BA25	.25	1 13/16	1	1 3/8	2 1/8	3.25
10BA50	.5	2	1 3/4	7/8	2 3/8	3.50
10BA100	1.0	2	2	1 1/8	2 1/8	4.40
10BA0505	.05-.05	1 13/16	1	1 3/8	2 1/8	3.85
10BA11	.1-1	1 13/16	1	1 3/8	2 1/8	3.95
10BA22	.25-.25	2	1 3/4	7/8	2 3/8	4.20

Above units also available in 200 V. D. C., 400 V. D. C. and 1500 V. D. C. on request.



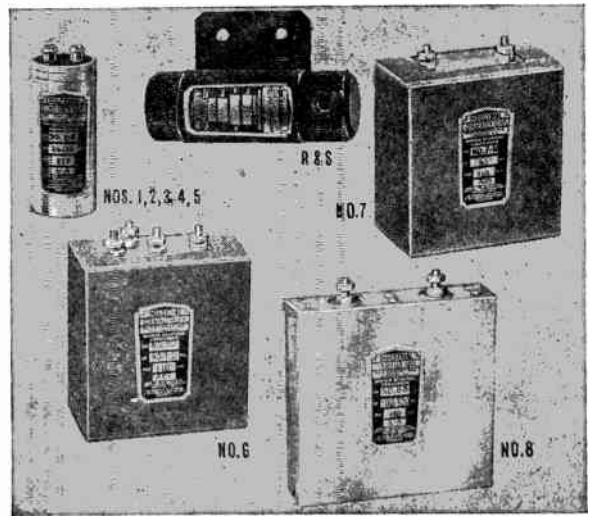
### DRY ELECTROLYTICS

Type "B" electrolytic capacitor is the first commercially available unit of this type with the reliability of the total submersion type, oil filled capacitors.

Wound with the highest purity aluminum foil and cellulose separators available; impregnated in electrolyte having excellent temperature characteristics, these units will outlive their associated equipment.

Cat. No.	Cap. in Mfds.	Volts	Dimen. in Inches				List Price
			L	W	H	M	
52BE10	10	25	1 1/8	1	1 1/8	2 1/8	\$2.70
52BE25	25	25	1 1/8	1	1 1/8	2 1/8	2.70
52BE50	50	25	1 1/8	1	1 1/8	2 1/8	2.80
05BE10	10	50	1 1/8	1	1 1/8	2 1/8	2.75
05BE25	25	50	1 1/8	1	1 1/8	2 1/8	2.75
05BE50	50	50	1 1/8	1	1 1/8	2 1/8	3.00

**NOTICE**—Most units are available with TERMINALS ON TOP, BOTTOM, OR ENDS. When ordering, add "T" for top terminals, "B" for terminals on bottom, or "E" for end terminals, i.e., 6BAT100 for terminals on top. Type "B" also available in WAX FILLED. When ordering, change catalog number A to W, i.e., 6BW100. If terminal position is not designated, side terminals are furnished. STANDARD CAPACITY tolerance of plus 20 per cent minus 10 per cent furnished on oil filled and wax filled units unless otherwise specified when ordering. Can be furnished in plus or minus 1 per cent capacity tolerance on special request.



### MOTOR STARTING CONDENSERS

These motor starting condensers are all heavy duty three second start. Built of the finest materials obtainable, these capacitors are engineered to the Nth degree of perfection. They are used by all the leading manufacturers of high quality motors.

The listings shown will take care of 90% of all your replacement requirements.

Number	Size, Inches	Capacity	List Price
MS145	1 3/8 Dia. x 3 1/4	45 - 70	\$2.10
MS170	1 3/8 Dia. x 3 1/4	70 - 85	2.30
MS185	1 3/8 Dia. x 3 1/4	85 - 115	2.60
MS1108	1 3/8 Dia. x 3 1/4	108 - 120	2.85
MS1120	1 3/8 Dia. x 3 1/4	120 - 150	2.95
MS1145	1 3/8 Dia. x 3 1/4	145 - 162	3.20
MS1161	1 3/8 Dia. x 3 1/4	161 - 190	3.25
MS1191	1 3/8 Dia. x 3 1/4	191 - 240	3.90
MS285	1 1/2 Dia. x 3 3/4	85 - 115	2.75
MS2120	1 1/2 Dia. x 3 3/4	120 - 150	3.00
MS3161	2 Dia. x 4 1/8	161 - 190	3.50
MS3191	2 Dia. x 4 1/8	191 - 240	3.85
MS3218	2 Dia. x 4 1/8	218 - 262	4.05
MS3234	2 Dia. x 4 1/8	234 - 286	4.50
MS3245	2 Dia. x 4 1/8	245 - 300	4.70
MS3324	2 Dia. x 4 1/8	324 - 389	5.40
MS690	3 1/2 x 4 x 2	90 - 115	3.35
MS6124	3 1/2 x 4 x 2	124 - 138	3.80
MS6145	3 1/2 x 4 x 2	145 - 182	4.50
R	Mounting Bracket for 1 3/8 x 3 1/4		.95
S	Mounting Bracket for 2 x 4 1/8		1.15

SEND FOR BULLETIN No. 1075 WHICH LISTS OUR OIL FILLED MOTOR RUNNING CAPACITORS

## CAPACITORS TO 250,000 V.D.C.W.

INCCO OIL "A" IMPREGNATED AND FILLED assures smaller size, low power factor, and widest range of operating temperatures.

ELECTRIC ARC WELDED HEAVY GAUGE HOT TINNED STEEL CASES are non-corrosive—finished in durable lacquer.

GLAZED WET-PROCESS PORCELAIN INSULATORS—low moisture absorption and high terminal to case flash over.

WOUND WITH HIGHEST GRADE CONDENSER TISSUES—insures a long, uninterrupted life.

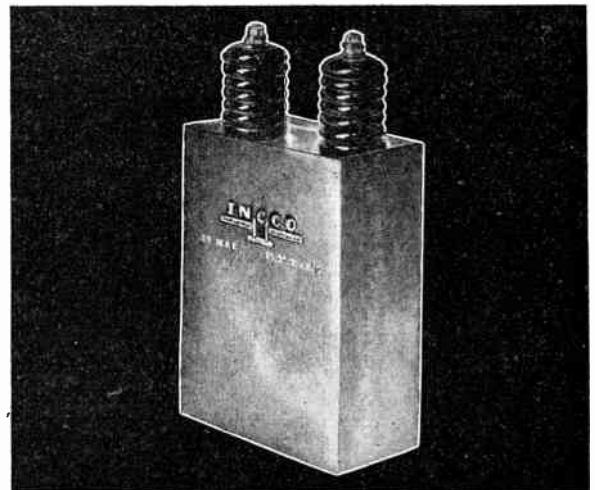
CONSERVATIVELY RATED—Safe for continuous operation at 10 per cent overload.

HERMETICALLY SEALED STEEL CASE — unaffected by time, humidity or operating temperatures.

AVAILABLE TO MEET U. S. SIGNAL CORPS AND NAVY SALT WATER SUBMERSION REQUIREMENTS.

### TYPE "WA" — HIGH VOLTAGE OIL FILLED CAPACITORS

Cat. No.	Cap. Mfd.	Case Dimensions in Inches			List Price
		Width	Length	Height	
<b>6,000 V. D. C. WORKING</b>					
60WA200	2.	4	8	11	\$140.00
60WA400	4.	4	12	11	172.00
60WA500	5.	4	12	11	195.00
60WA600	6.	4	12	13	218.00
60WA1000	10.	6	12	13	273.00
<b>7,500 V. D. C. WORKING</b>					
75WA50	.5	4	8	11	78.00
75WA100	1.	4	8	11	101.00
75WA200	2.	4	8	11	156.00
75WA400	4.	4	12	13	234.00
75WA600	6.	6	12	13	281.00
<b>10,000 V. D. C. WORKING</b>					
100WA100	1.	4	8	11	203.00
100WA200	2.	4	8	13	257.00
100WA400	4.	6	12	13	312.00
100WA500	5.	6	12	13	343.00
<b>12,500 W. D. C. WORKING</b>					
125WA50	.5	4	8	11	172.00
125WA100	1.	4	12	11	218.00
125WA200	2.	6	12	13	273.00
125WA500	5.	9 1/2	12	15	515.00

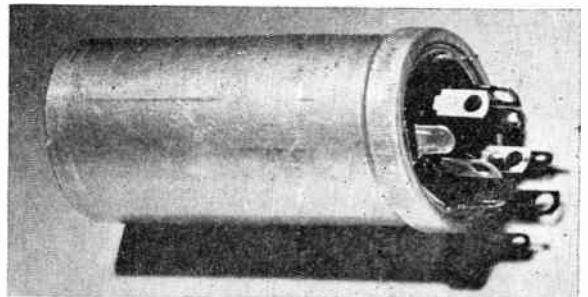


Cat. No.	Cap. Mfd.	Case Dimensions in Inches			List Price
		Width	Length	Height	
<b>15,000 V. D. C. WORKING</b>					
150WA25	.25	4	8	11	\$164.00
150WA50	.5	4	12	11	195.00
150WA100	1.	4	12	13	273.00
150WA200	2.	9 1/2	12	15	359.00
150WA300	3.	9 1/2	12	15	491.00
<b>20,000 V. D. C. WORKING</b>					
200WA25	.25	4	8	11	195.00
200WA50	.5	4	12	11	250.00
200WA100	1.	6	12	13	335.00
200WA150	1.5	9 1/2	12	15	452.00
200WA200	2.0	9 1/2	12	15	538.00
<b>25,000 V. D. C. WORKING</b>					
250WA20	.2	4	12	11	203.00
250WA25	.25	4	12	11	273.00
250WA50	.5	6	12	13	296.00
250WA100	1.	9 1/2	12	15	445.00
<b>50,000 V. D. C. WORKING</b>					
500WA25	.25	6	13 1/2	16 3/4	*
500WA50	.5	7 1/4	18	20	*
<b>80,000 V. D. C. WORKING</b>					
800WA25	.25	7 1/4	18	20	*
<b>100,000 V. D. C. WORKING</b>					
1000WA20	.2	7 1/4	18	20	*

\* Prices on application.

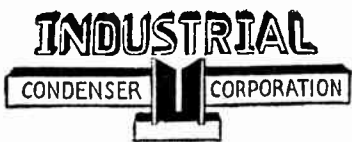
Catalog Number	Cap. Mfd.	D.C. Voltage		Dim. in Ins.		List Price
		Working	Surge	Diam.	Lg.	
52ET100	100	25	35	1	2	\$1.60
15ET30	30	150	225	1	2	1.55
15ET50	50	150	225	1	2	1.65
45ET10	10	450	550	1	2	1.55
45ET15	15	450	550	1	2	1.70
45ET20	20	450	550	1	2 1/2	1.80
45ET30	30	450	550	1	3	1.95
15ET2x20	20-20	150	225	1	2	1.70
15ET2x30	30-30	150	225	1	2	1.85
15ET2x50	50-50	150	225	1	3	2.15
30ET2x15	15-15	300	400	1	2	1.90
35ET3020	30-20	350	450	1	3	2.60
45ET2x10	10-10	450	550	1	2 1/2	1.90
45ET2x20	20-20	450	550	1 3/8	2 1/2	2.55
ET100	30-20/20	150/25	225/35	1	2	2.25
ET101	40-30/20	150/25	225/35	1	2 1/2	2.35
15ET3x20	20-20-20	150	225	1	2	2.30
ET102	40-20-20	150	225	1	2 1/2	2.40
15ET3x40	40-40-40	150	225	1	3	2.60
ET103	10-10/25	450/25	550/35	1	3	2.40
45ET3x10	10-10-10	450	550	1	3	2.60

### ET SERIES ELECTROLYTIC CAPACITORS



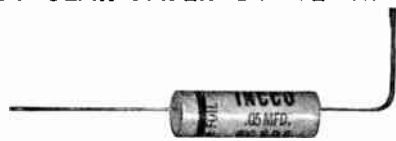
"ET" series capacitors have been designed for ease in installation and reliability. They are constructed to withstand the most severe operating conditions encountered in industrial and electronic equipment. Especially controlled manufacturing processes insure that the equipment in which these capacitors are used will function without interruption. Capacitors can be supplied for operation at temperatures ranging from minus 40 to plus 85 degrees Centigrade. Mounting is effected by inserting the capacitor through the slots in either the chassis or mounting plate, and twisting the mounting prongs 90 degrees.

# INDUSTRIAL



# CONDENSER

## TUBULAR PAPER CONDENSERS



TYPE PT

INDUSTRIAL By-Pass Capacitors are non-inductively wound and designed for maximum efficiency up to the highest frequencies. The units themselves are completely impregnated and sealed with a special non-hygroscopic sealing compound, thus preventing moisture penetration under the most humid conditions.

Catalog Number	Capacity Mfd.	Working Volts D.C.	List Price
PT100	.0001	1000	\$0.45
PT101	.00025	1000	.45
PT102	.0005	1000	.45
PT103	.001	1000	.45
PT104	.002	1000	.45
PT105	.005	1000	.45
PT106	.006	1000	.45
PT107	.01	1000	.45
PT131	.001	600	.23
PT132	.002	600	.23
PT133	.005	600	.23
PT134	.006	600	.23
PT135	.01	600	.27
PT136	.02	600	.27
PT137	.03	600	.32
PT130	.04	600	.32
PT138	.05	600	.36
PT139	.1	600	.41
PT140	.25	600	.50
PT141	.5	600	.72
PT142	1.0	600	1.13
PT170	.01	400	.23
PT171	.02	400	.23
PT172	.05	400	.27
PT173	.1	400	.32
PT174	.25	400	.41
PT175	.5	400	.54
PT176	1.0	400	1.00
PT200	.02	200	.30
PT201	.05	200	.30
PT202	.1	200	.35
PT203	.25	200	.40
PT204	.5	200	.60
PT205	1.0	200	.90
PT260*	.005	2000	.65
PT261*	.0075	2000	.75
PT262*	.01	2000	.75
PT263*	.02	2000	.85
PT264	.015-.015	1600	.80

\*Vibrator Capacitor

## MIGHTY MIDGET METAL TUBULAR TYPE "MM"

Catalog Number	Cap. Mfd.	Peak W.V. Volts	Dimen. Dia. L.	List Price
MM406	100	10	1/8 x 1 1/8	\$1.20
MM407	250	10	3/8 x 2 3/8	1.45
MM408	500	10	1 1/8 x 2 3/8	2.30
MM409	750	10	1 1/8 x 2 1/8	3.00
MM400	5	25	3/8 x 1 1/8	1.00
MM401	10	25	3/8 x 1 1/8	1.00
MM402	25	25	3/8 x 1 1/8	1.00
MT403*†	10-10	25	3/8 x 2 3/8	1.40
MM410	250	25	3/8 x 2 3/8	1.70
MM411	500	25	3/8 x 2 1/8	2.30
MM404	10	50	7/8 x 1 1/8	1.00
MM405	25	50	7/8 x 1 1/8	1.05
MM412	100	50	7/8 x 2 3/8	1.40
MM413	200	50	7/8 x 2 3/8	2.00
MM414	300	50	7/8 x 2 1/8	2.75
MM360	8	150	225 1/8 x 1 1/8	1.05
MM368	12	150	225 1/8 x 1 1/8	1.10
MM361	16	150	225 1/8 x 1 1/8	1.15
MM362	20	150	225 1/8 x 2 3/8	1.20
MM369	30	150	225 1/8 x 2 3/8	1.30
MM363	40	150	225 1/8 x 2 3/8	1.35
MM373	60	150	225 1 1/8 x 2 3/8	1.50
MM374	80	150	225 1 1/8 x 2 3/8	1.60
MM370†	20-20	150	225 1/8 x 2 3/8	1.65
MM375†	30-30	150	225 1 1/8 x 2 3/8	1.80
MM376†	40-40	150	225 1 1/8 x 2 3/8	1.85
MM364	4	475	600 1/8 x 1 1/8	1.15
MM365	8	475	600 1/8 x 2 3/8	1.25
MM371	12	475	600 1/8 x 2 3/8	1.35
MM366	16	475	600 1/8 x 2 3/8	1.40
MM372	20	475	600 1 1/8 x 2 3/8	1.60
MM367†	8-8	475	600 1 1/8 x 2 3/8	1.70

\*In cardboard tube with wax filled ends.  
†3 leads.

## "SM" TYPE

Catalog Number	Cap. Mfd.	Peak W.V. Volts	Dimen. Dia. L.	List Price
SM605*	20-20	150	225 1/8 x 2 1/2	\$1.40
SM606†	20-20	150	225 1 x 2 1/2	2.15
SM601*	30-30	150	225 1/8 x 3	1.55
SM608*	40-40	150	225 1 x 3	1.75
SM607*	50-30	150	225 1 x 3	1.75
SM609†	30-20-20	150	225 1 x 3	2.05
SM604*	8-8	475	600 1 x 3	2.00
SM610*	40-20	150	225 1/8 x 3	1.55

\*SM605, SM601, SM608, SM607, SM610: 3 leads.  
†SM606, SM609: 4 leads.



Type MM

An extremely popular type of condenser due to its exceptional high quality and midget size. Hermetically sealed in a small metal case and scientifically vented, to protect against adverse operating conditions of voltage, temperature and humidity. Container is insulated by a high grade tube which is spun over the ends of the can to eliminate shorts when wires are bent close to container. Easily mounted by their rigid wire leads.



Type SM

Type "SM" units are embedded in a high temperature wax and then sealed in a thoroughly impregnated cardboard tube, affording complete immunity to moisture penetration. New high voltage formation gives complete protection against surges and high peak voltages. The addition of the strap mounting bracket has proved favorable in its use due to its wide application in AC-DC and portable sets in the replacement field. The strap can be moved to the best mounting position and then bolted or soldered. Supplied with color-coded, Underwriters' Approved, rubber covered leads.

## RADIO INTERFERENCE ELIMINATORS

INDUSTRIAL CONDENSER CORP. has made a special study of the suppression of noises caused by fluorescent lighting. No. 7249 capacitor is designed with three leads, two leads to be connected across the 110 volt line and the single lead to be grounded. No. 4219 is housed in a metal container and is self grounding. It is supplied with strap mounting for easy installation. No. 4252 is a flat type unit designed to mount on the ballast support of circline ballasts. The convenient mounting flap grounds the unit when the stem of the lamp is placed through the mounting hole.

Catalog Number	Dimensions in Inches	List Price
7249	3/4 x 1 3/8	\$1.30
4219	3/4 x 2	1.75
4252	2 1/8 x 5/8 x 1 1/4	1.95

## AUTO GENERATOR CONDENSER

ALSO AVAILABLE IN HERMETICALLY SEALED SUBMERSION-PROOF CONSTRUCTION



TYPE F



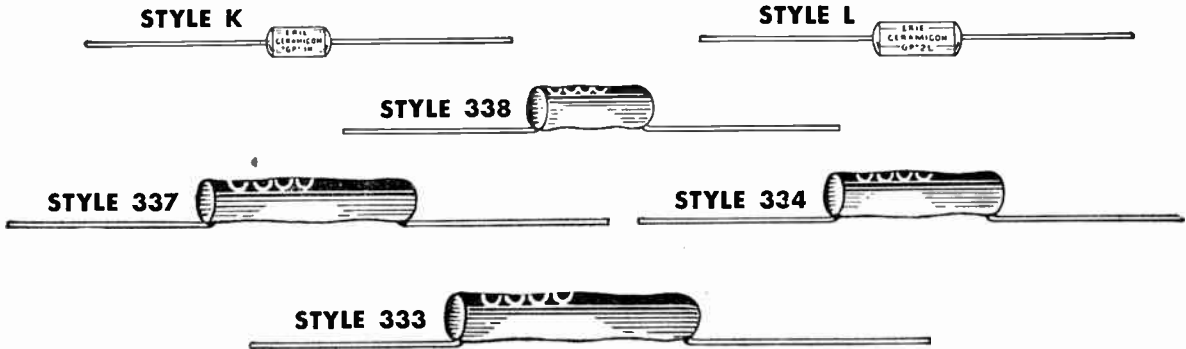
TYPE G

Completely enclosed in a metal container to overcome severe operating conditions of temperature and humidity. Sturdily built to withstand constant vibration.

Cat. No.	Cap. Mfd.	List Price	Cat. No.	Cap. Mfd.	List Price
G325	.25	\$0.77	G328	1.0	\$1.15
G326	.5	.85	F330	.5	1.06



# ERIE CERAMICONS®



## DIMENSION SPECIFICATION CHART

Style	Length	Diameter	Leads	Insulation
K	.562"	.250"	Axial 1 1/4" Min.	Molded
L	.812"	.250"	Axial 1 1/4" Min.	Molded
338	.550"	.312"	Radial 1 1/4" Min.	Dipped

Style	Length	Diameter	Leads	Insulation
337	.937"	.312"	Radial 1 1/4" Min.	Dipped
334	1.213"	.415"	Radial 1 1/4" Min.	Dipped
333	1.250"	.315"	Radial 1 1/4" Min.	Dipped

**ERIE CERAMICONS\*** are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicons are outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.

**"GP" GENERAL PURPOSE CERAMICONS** are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important—in other words for all receiver applications except in frequency determining circuits. Working voltage—500 volts D. C. Use Erie **"GP"** Ceramicons as replacements for molded mica and paper tubular capacitors.

## ORDER BY PART NUMBER FROM TABLE BELOW

Part No.	Capacity (MMF)	List
GP1K-050	5	.25
GP1K-100	10	.25
GP1K-120	12	.25
GP1K-150	15	.25
GP1K-180	18	.25
GP1K-200	20	.25
GP1K-220	22	.25
GP1K-240	24	.25
GP1K-250	25	.25
GP1K-270	27	.25
GP1K-300	30	.25
GP1K-330	33	.25
GP1K-390	39	.25
GP1K-470	47	.25
GP1K-500	50	.25
GP1K-510	51	.25
GP1K-560	56	.25
GP1K-680	68	.25
GP1K-750	75	.25
GP1K-820	82	.25
GP1K-101	100	.25
GP2K-121	120	.25
GP2K-151	150	.25
GP2K-181	180	.25
GP2K-201	200	.25
GP2K-221	220	.25
GP2K-241	240	.25
GP2K-251	250	.25
GP2K-271	270	.25

Part No.	Capacity (MMF)	List
GP2K-301	300	.25
GP2K-331	330	.25
GP2K-361	360	.25
GP2K-391	390	.25
GP2K-471	470	.25
GP2K-501	500	.25
GP2K-511	510	.25
GP2K-561	560	.25
GP2K-681	680	.25
GP2L-751	750	.25
GP2L-102	1,000	.25
GP2L-122	1,200	.25
GP2L-152	1,500	.25
GP2-333-182	1,800	.25
GP2-333-202	2,000	.25
GP2-333-222	2,200	.25
GP2-333-252	2,500	.25
GP2-333-272	2,700	.25
GP2-333-302	3,000	.25
GP2-333-332	3,300	.25
GP2-333-402	4,000	.25
GP2-333-472	4,700	.25
GP2-333-502	5,000	.25
GP2-333-562	5,600	.25
GP2-333-602	6,000	.25
GP2-333-682	6,800	.25
GP2-333-752	7,500	.25
GP2-333-103	10,000	.25

Note: All GP values supplied in standard  $\pm 20\%$  tolerance.



ERIE RESISTOR CORPORATION—ERIE, PA.

## NPO Zero Temperature Coefficient CERAMICONS®

NPO zero temperature coefficient Ceramicons are highly recommended for frequency determining applications where no capacity change with change in temperature is desired. "Q" for NPO Cerami-

cons above 30 mmf is 1000 or higher. Below 30 mmf "Q" decreases slightly as capacity decreases. Working voltage—500 volts D.C. Can be used as replacements for silver mica condensers.

ORDER BY PART NUMBER FROM TABLE BELOW

Part No.	Capacity (MMF)	List
NPOK-1R5	1.5	.50
NPOK-2R2	2.2	.50
NPOK-030	3	.50
NPOK-3R3	3.3	.50
NPOK-4R7	4.7	.50
NPOK-050	5	.50
NPOK-6R8	6.8	.50
NPOK-8R2	8.2	.50
NPOK-100	10	.50

Part No.	Capacity (MMF)	List
NPOK-200	20	.50
NPOL-250	25	.50
NPOL-330	33	.50
NPO-333-500	50	.55
NPO-333-750	75	.55
NPO-333-101	100	.55
NPO-334-151	150	.60
NPO-334-1750	175	.60

Note: Standard tolerance supplied is  $\pm 10\%$

## Negative Temperature Coefficient CERAMICONS

N080 and N750 units provide temperature compensation to eliminate drift. Positive and Negative Temperature

Coefficient Ceramicons P100 through N1400 are available on special order through your distributor.

ORDER BY PART NUMBER FROM TABLE BELOW

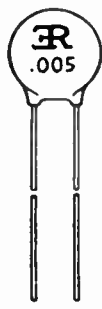
### ERIE TUBULAR TYPE N750 CERAMICONS

Part No.	Capacity (MMF)	List
N750K-050	5	.50
N750K-100	10	.50
N750K-470	47	.50
N750L-750	75	.50
N750L-101	100	.50

### ERIE TUBULAR TYPE N080 CERAMICONS

Part No.	Capacity (MMF)	List
N080-331-100	10	.60
N080-331-220	22	.60
N080-338-330	33	.60
N080-338-470	47	.60
N080-338-620	62	.60

Note: Standard tolerance supplied is  $\pm 10\%$



STYLE 811

## ERIE DISC and PLATE CERAMICONS

Erie Disc and Plate Ceramicons consist of a flat Hi-K\* ceramic dielectric with silver fired onto the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a protective coating of phenolic. Very efficient at high frequencies.

ORDER BY PART NUMBER FROM TABLE BELOW

Part No.	Size	Value (MFD)	List
801-.001	3/8" Max. Dia.	.001 (Min.)	.25
801-.0015	3/8" " "	.0015 " "	.25
801-.002	3/8" " "	.002 " "	.25
811-.005	19/32" " "	.005 " "	.25
811-.01	19/32" " "	.01 " "	.25
821-.01	3/4" " "	.01 " "	.30
812-.001	19/32" " "	.001 " Dual	.40
812-.0015	19/32" " "	.0015 " Dual	.40
812-.002	19/32" " "	.002 " Dual	.40
822-.003	3/4" " "	.003 " Dual	.45
822-.004	3/4" " "	.004 " Dual	.45



STYLE 812

## ERIE UNIVERSAL 20 KV CERAMICONS



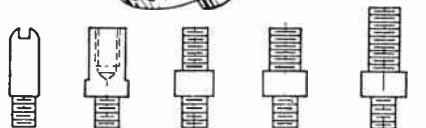
STYLE 413

A highly universal 20 KV television power supply filter Ceramicon. Five types of terminals are available. By selecting the correct combinations of these, the correct replacement is provided for practically any existing receiver. Approved by leading TV manufacturers for replacement units.

ORDER BY PART NUMBER FROM TABLE BELOW

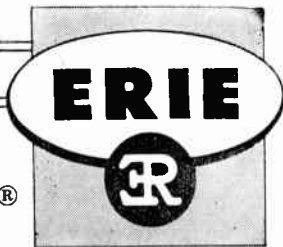
Part No.	Capacity (MMF)	List
413-501	500	2.25

Note: Standard tolerance supplied is  $\pm 20\%$



413-203 413-204 413-205 413-206-1 413-206-2





## ERIE FEED-THRU CERAMICONS®

These very practical feed-thru capacitors are highly recommended for by-passing R. F. to ground in feed-thru applications. Wire terminals of Style 362 and hook type terminals of Style 327 are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point wiring. Style 327 is hermetically sealed and ruggedized, and is primarily for military and similar commercial usage.

ORDER BY PART NUMBER FROM TABLE BELOW

Part No.	Capacity (MMF)	List
362-152	1,500	1.00
327-102	1,000	1.25

Note: Standard tolerance supplied is  $\pm 20\%$



STYLE  
362



STYLE  
327

## ERIE STAND-OFF CERAMICONS

Stand-off Ceramicons, an original Erie development, are now widely used for the dual purposes of by-passing R. F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for V.H.F. and U.H.F. applications, due to their low-inductance electrical paths and resultant high resonant frequency.

ORDER BY PART NUMBER FROM TABLE BELOW

Part No.	Capacity (MMF)	List
323-500	50	.60
323-101	100	.60
323-501	500	.60
324-102	1,000	.60
324-152	1,500	.60
325-102	1,000	.70
325-152	1,500	.70
326-102	1,000	1.10
326-152	1,500	1.10
2322-252	2,500	1.25
2336-252	2,500	1.15
2336-502	5,000	1.15

Note: Standard tolerance supplied is  $\pm 20\%$



STYLE  
324



STYLE  
325



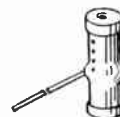
STYLE  
326



STYLE  
2336



STYLE  
323



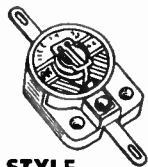
STYLE  
2322

## ERIE CERAMICON TRIMMERS

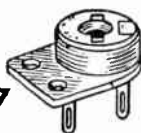
Erie Ceramicon trimmers give maximum stability and ease of adjustment. Capacity change is constant per degree of rotation. Silver electrodes are fired onto ceramic rotor and base. 360 degree rotor completely covers entire track on stator thus preventing dust and other foreign matter from affecting characteristics of the unit.

ORDER BY PART NUMBER FROM TABLE BELOW

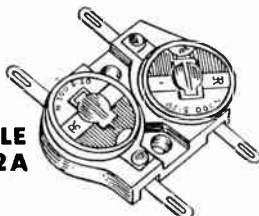
Part No.	Capacity Range (MMF)	Temperature Coefficient	List
TS2A-1.5	1.5-7	NPO	1.50
TS2A-3	3-12	NPO	1.50
TS2A-4	4-30	N500	1.50
TS2A-7	7-45	N500	1.50
TD2A-1.5	1.5-7	NPO	2.50
TD2A-3	3-12	NPO	2.50
TD2A-4	4-30	N500	2.50
TD2A-7	7-45	N500	2.50
557-3	3-12	NPO	1.25
557-5	5-25	NPO	1.25
557-8	8-50	N750	1.25



STYLE  
TS2A

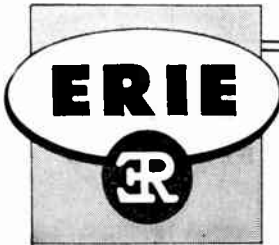


STYLE 557



STYLE  
TD2A

"Hi-K", "Ceramicon" and "GP" are registered trade names and refer to ceramic dielectric condensers manufactured by Erie Resistor Corp.



## ERIE TUBULAR TRIMMERS

Here is a compact, economical tubular trimmer that is ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Has molded plastic dielectric. Can be mounted on panels having a thickness of .040" to .065"



STYLE 532

ORDER BY PART NUMBER FROM TABLE BELOW

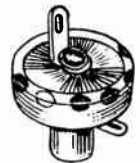
Part No.	Capacity Range (MMF)	List
532-08-OR5	0.5-5	.55
532-10	1-8	.55

## ERIE BUTTON<sup>®</sup> SILVER MICA CAPACITORS

These are midget silver-mica capacitors, for use where compact size, minimum series inductance, and high leakage resistance are essential. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at 1 MC is not less than 1000 above 100 mmf; not less than 700 between 50 and 100 mmf; not less than 500 below 50 mmf. Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with 3-48 screw.



STYLE  
CB



STYLE  
FA

ORDER BY PART NUMBER FROM TABLE BELOW

Part No. FA Styles	Part No. CB Styles	Cap. (MMF)	Tol.	List
370-FA-150M 370-FA-150K 370-FA-150J	370-CB-150M 370-CB-150K 370-CB-150J	15 15 15	20% 10% 5%	1.55 1.55 1.95
370-FA-250M 370-FA-250K 370-FA-250J	370-CB-250M 370-CB-250K 370-CB-250J	25 25 25	20% 10% 5%	1.55 1.55 1.95
370-FA-500M 370-FA-500K 370-FA-500J	370-CB-500M 370-CB-500K 370-CB-500J	50 50 50	20% 10% 5%	1.55 1.55 1.95
370-FA-101M 370-FA-101K 370-FA-101J	370-CB-101M 370-CB-101K 370-CB-101J	100 100 100	20% 10% 5%	1.55 1.55 1.95
370-FA-151M 370-FA-151K 370-FA-151J	370-CB-151M 370-CB-151K 370-CB-151J	150 150 150	20% 10% 5%	1.55 1.55 1.95
370-FA-201M 370-FA-201K 370-FA-201J	370-CB-201M 370-CB-201K 370-CB-201J	200 200 200	20% 10% 5%	1.55 1.55 1.95

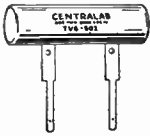
Part No. FA Styles	Part No. CB Styles	Cap. (MMF)	Tol.	List
370-FA-251M 370-FA-251K 370-FA-251J	370-CB-251M 370-CB-251K 370-CB-251J	250 250 250	20% 10% 5%	1.55 1.55 1.95
370-FA-301M 370-FA-301K 370-FA-301J	370-CB-301M 370-CB-301K 370-CB-301J	300 300 300	20% 10% 5%	1.65 1.65 2.00
370-FA-401M 370-FA-401K 370-FA-401J	370-CB-401M 370-CB-401K 370-CB-401J	400 400 400	20% 10% 5%	1.70 1.70 2.15
370-FA-501M 370-FA-501K 370-FA-501J	370-CB-501M 370-CB-501K 370-CB-501J	500 500 500	20% 10% 5%	1.80 1.80 2.30
370-FA-751M 370-FA-751K 370-FA-751J	370-CB-751M 370-CB-751K 370-CB-751J	750 750 750	20% 10% 5%	2.60 2.60 3.35
370-FA-102M 370-FA-102K 370-FA-102J	370-CB-102M 370-CB-102K 370-CB-102J	1000 1000 1000	20% 10% 5%	3.15 3.15 3.75

"Button" is a registered trade name of Erie Resistor Corp.



## CERAMIC CAPACITORS

### TV6 MOLDED 6000 VOLT REPLACEMENT TUBULARS



Used in capacity deflection circuits in electrostatic TV sets, also in voltage divider circuits in electro dynamic TV sets. Molded casing assures adequate external insulation. Tolerance GMV. Body size  $\frac{3}{4}$ " diam. x  $2\frac{3}{4}$ ".

Cat. No.	Cap. Mfd.	V.D.C. Working	List Price
TV6-502	.005	6000	\$1.10

### TV6-200 TO TV6-600 SERIES

A smaller, tubular type high voltage capacitor, especially suited for conversion of TV sets for larger size picture tubes. Reliable, lasting performance. All units rated with  $\pm 20\%$  tolerance.



Cat. No.	Cap. Mfd.	V.D.C. Working	Body Size Diam.	Body Size Length	List Price
TV6-200	20	6000	.255"	.885"	\$ .50
TV6-300	30	6000	.310"	1.640"	.50
TV6-400	40	6000	.310"	1.180"	.50
TV6-500	50	6000	.310"	1.180"	.50
TV6-600	60	6000	.310"	1.180"	.50

### CERAMIC MIN-KAPS



Tiny flat-plate capacitors, size  $\frac{1}{32}$ " x  $\frac{1}{32}$ " x  $\frac{1}{4}$ ". Tolerance  $-20\%$   $+80\%$ . Space savers for low voltage applications. 5 per package.

Cat. No.	Cap. Mfd.	V.D.C. Working	List Price	Cat. No.	Cap. Mfd.	V.D.C. Working	List Price
DM-201	.0002	150	\$0.35	DM-202	.002	150	\$0.45
DM-501	.0005	150	.35	DM-502	.005	150	.45
DM-102	.001	150	.35	DM-103	.01	150	.65

### FT FEED THROUGH HI-KAPS



For single hole mounting where capacity ground to chassis or shield is desired. 1000 volts D.C. test, 600 volts D.C. working. Packaged singly.

Cat. No.	Cap. Mfd.	Tol.	List Price
FT-500	500	$\pm 20\%$	\$1.00
FT-1000	1000	$\pm 20\%$	1.00
FT-1500	1500	$-20\%$ $+50\%$	1.00

### HIGH ACCURACY CAPACITORS



Precision ceramic capacitors for applications involving rigid frequency control. Excellent as prime or secondary standards.  $\frac{1}{16}$ " diameter. Metal case grounded with mounting stud  $\frac{11}{32}$ " long  $\frac{1}{32}$ " thread. Other terminal opposite end, plain stud  $\frac{1}{4}$ " long. Tolerance  $\pm 1\%$ .

Cat. No.	Cap. Mfd.	V.D.C. Working	Length	List Price
950-501	500	500	9/16"	\$40.00
950-102	1000	500	11/16"	40.00
950-202	2000	500	15/16"	40.00

### TRANSMITTING CAPACITORS



Type 851 ceramic capacitors are high voltage units, held to  $\pm 10\%$  tolerance. Size  $\frac{1}{2}$ " diam. x  $1\frac{1}{2}$ ". End terminal plates are center tapped 10-32.

Cat. No.	Cap. Mfd.	V.D.C. Working	Temp. Coef.	List Price
851-25Z	25	15,000	NPO	\$10.00
851-50Z	50	15,000	NPO	10.00
851-100N	100	15,000	N750	10.00
851-200N	200	7,500	N750	10.00



Type 850S high voltage ceramic capacitors are  $\pm 10\%$  tolerance, Type "S" with centered hex studs, one each end, projecting  $\frac{1}{8}$ ", tapped 6-32,  $\frac{1}{4}$ " deep. Type SL have off center solder lugs  $\frac{1}{16}$ " long with 6-32 tapped hole.

Cat. No.	Cat. No.	Cap. Mmf.	V.D.C. Working	Temp. Coef.	List Price
850S-25Z	850SL-25Z	25	7500	NPO	\$3.00
850S-50Z	850SL-50Z	50	7500	NPO	3.00
850S-50N	850SL-50N	50	7500	N750	3.00
850S-75N	850SL-75N	75	7500	N750	3.00
850S-100N	850SL-100N	100	5000	N750	3.00

### SMALL HIGH VOLTAGE UNITS

#### TYPES 853-853A, 854-854A, 855-855A

The three series which follow are exceedingly compact ceramic capacitors, similar in appearance to type 850S above. Mounting is with axial screw type terminals tapped 2-56. Tolerance  $\pm 10\%$ . Sizes: 853,  $\frac{3}{16}$ " diam. x  $\frac{1}{2}$ ". 854,  $\frac{1}{16}$ " diam. x  $\frac{1}{16}$ ". 855,  $\frac{1}{16}$ " diam. x  $\frac{3}{8}$ ". Types 853, 854 and 855 also available with axial leads,  $1\frac{1}{2}$ " long, in place of screw terminals. For lead types, use same Cat. Nos., omitting "A". Same list prices.

Cat. No.	Cap. Mmf.	V.D.C. Wkg.	Temp. Coef.	List Price
853A-10Z	10	5000	NPO	\$3.00
853A-20Z	20	5000	NPO	3.00
853A-40N	40	5000	N750	3.00
854A-5Z	5	5000	NPO	3.00
854A-10Z	10	5000	NPO	3.00
854A-20N	20	5000	N750	3.00
855A-3Z	3	5000	NPO	3.00
855A-5Z	5	5000	NPO	3.00
855A-10N	10	5000	N750	3.00

### CERAMIC TRIMMERS

#### Type 820, at left; $\frac{21}{32}$ " x $\frac{5}{8}$ ".

Cat. No.	Cap. Range	Mmf.	List Price
840-A	2.6 - 6.		\$0.75
820-B	6. - 20.		.75
820-C	7. - 35.		.75



#### Type 822, at left, $\frac{21}{32}$ " x $\frac{21}{32}$ ". Nos. ending in Z, zero temp. coef. (NPO) ending in N, neg. temp. coef. (N650).



Cat. No.	Range	Mmf.	List Price
822-EZ	1.5 - 7.0		\$1.50
822-CZ	2. - 7.5		1.50
822-BZ	2.5 - 13.		1.50
822-AZ	4.5 - 25.		1.50
822-DN	2.0 - 6.0		1.50
822-CN	4.5 - 25.		1.50
822-BN	7. - 45.		1.50
822-AN	5. - 50.		1.50

#### Type 823, at left, $1\frac{1}{4}$ " x $\frac{1}{16}$ " W. Neg. temp. coef.

Cat. No.	Range	Mmf.	List Price
823-EZ	5 - 12.		\$2.50
823-DZ	6 - 25.		2.50
823-BZ	10 - 50.		2.50
823-AZ	12 - 60.		2.50
823-EN	8 - 25.		2.50
823-DN	8 - 50.		2.50
823-BN	10 - 100.		2.50
823-AN	20 - 125.		2.50



### TYPE 829 TUBULAR TRIMMERS



Tiny, tubular trimmer, used widely in TV and FM circuits.

Cat. No.	Range	Mmf.	List Price
829-3	.5 - 3.		\$0.50
829-4	1. - 4.		.50
829-6	1. - 6.		.50
829-7	1. - 7.5		.60
829-10	1.5 - 10.		.60

## PRINTED ELECTRONIC CIRCUITS (P. E. C.)

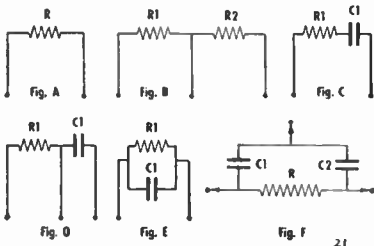
Since their introduction a few short years ago, Centralab printed electronic circuits have skyrocketed in popularity. First developed for the manufacturing trade, increasing demand from the industry at large brought about a line of stock P. E. C. items for servicemen, hams and laboratory experimenters. Printed electronic circuits consist of capacitors and resistors, including the use of pure metallic silver fired to Ceramic-X plates . . . with integral "printed" circuit connections, brought out to convenient external leads which are anchored mechanically. The complete unit is protected with a moisture-proof phenolic coating. The result is a unit group of components of ultra compactness and permanence. No other modern development in electronic circuitry offers so many advantages in low powered applications as regards small size, low cost assembly and utmost reliability. A complete P. E. C. replacement guide is available FREE at any Centralab Distributor.

### RESISTOR AND RESIS.-CAP. UNITS

Plate size,  $1\frac{1}{2}'' \times \frac{3}{8}'' \times \frac{1}{4}''$  thick max. Capacitors 150 V.D.C.W. Resistors, 1/5 watt.



Cat. No.	Dwg.	Consists of	List Price
PC-2	A	2 meg. Resis.	\$0.35
PC-21	B	$\frac{1}{2}$ meg.; 110,000 ohms	.50
PC-30	C	R = 240,000 ohms. C = 1000 mmf.	.50
PC-33	D	R = meg. C = 1000 mmf.	.50
PC-36	E	R = 100,000 ohms. C = 100 mmf.	.50



### FILPEC BALANCED DIODE LOAD FILTER

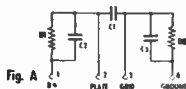
Plate size,  $1\frac{1}{2}'' \times \frac{3}{8}'' \times \frac{1}{4}''$  thick max. Capacitors, 100 V.D.C.W. Resistors, 1/5 watt.

Cat. No.	Dwg.	Consists of	List Price
PC-50	F	C1 = 100 mmf. C2 = 100 mmf. R = 47,000 ohms.	\$0.60
PC-51	F	C1 = 150 mmf. C2 = 150 mmf. R = 47,000 ohms.	.60
PC-52	F	C1 = 50 mmf. C2 = 50 mmf. R = 47,000 ohms.	.60

### P. E. C. INTERSTAGE COUPLING PLATES AND VERTICAL INTEGRATORS



The couplate combines three capacitors and two resistors and is designed to replace the normal components of the audio circuit.



#### MIDGET NO. 2 TRIODE COUPLATES

Plate size,  $1\frac{1}{2}'' \times \frac{3}{8}'' \times \frac{1}{4}''$  thick—Capacitors rated at 450 V.W.V.D.C. Resistors 1/5 watt.

#### CAT. NO. PC-70 MIDGET NO. 2 COUPLATE

Consisting of  
C1 = .005 mfd. C2 and C3 = 250 mmf. R1 = 500,000 ohms. R2 = 500,000 ohms. **\$0.70**

#### CAT. NO. PC-71 MIDGET NO. 2 COUPLATE

Consisting of  
C1 = .005 mfd. C2 and C3 = 250 mmf. R1 = 250,000 ohms. R2 = 500,000 ohms. **\$0.70**

#### STANDARD TRIODE COUPLATES

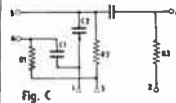
Plate size,  $1\frac{3}{8}'' \times 1\frac{1}{8}'' \times \frac{1}{4}''$  thick, max. Capacitors, 450 V.D.C.W. Resistors, 1/5 watt.

#### CAT. NO. PC-80 STANDARD COUPLATE

Consisting of  
C1 = .01 mfd. C2 and C3 = 250 mmf. R1 = 500,000 ohms. R2 = 500,000 ohms. **\$0.75**

#### CAT. NO. PC-81 STANDARD COUPLATE

Consisting of  
C1 = .01 mfd. C2 and C3 = 250 mmf. R1 = 250,000 ohms. R2 = 500,000 ohms. **\$0.75**



#### PENTODE COUPLATES

Plate size,  $1\frac{1}{2}'' \times \frac{3}{8}'' \times \frac{1}{4}''$  thick max. Capacitors, 450 V.D.C.W. Resistors, 1/5 watt.

#### CAT. NO. PC-90 PENTODE COUPLATE

Consisting of  
C1 = .005 mfd. C2 = 50 mmf. C3 = 2000 mmf. R1 = 4.7 megohms. R2 = 1 megohm. R3 = 2.2 megohms. **\$0.90**

#### CAT. NO. PC-91 PENTODE COUPLATE

Consisting of  
C1 = .005 mfd. C2 = 100 mmf. C3 = .005 mfd. R1 = 4.7 megohms. R2 = 1 megohm. R3 = 2.2 megohms. **\$0.90**

#### CAT. NO. PC-92 PENTODE COUPLATE

Consisting of  
C1 = .005 mfd. C2 = 100 mmf. C3 = 2000 mmf. R1 = 4.7 megohms. R2 = 1 megohm R3 = 2.2 megohms. **\$1.00**

### TV VERTICAL INTEGRATOR PLATES

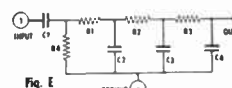
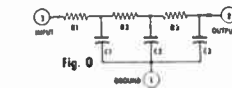
Due to great saving in assembly costs, this Centralab printed circuit is being used widely in television vertical integrator networks. Two forms are available. Either one has only three external leads. Size, PC-100  $1\frac{3}{8}'' \times 1\frac{1}{8}'' \times 1\frac{1}{4}''$  thick, max. PC-101,  $1\frac{3}{8}'' \times 1\frac{1}{8}'' \times \frac{3}{8}''$  thick, max. Capacitors, 450 V.D.C.W. Resistor, 1/5 watt.

#### CAT. NO. PC-100 VERTICAL INTEGRATOR PLATES

Consisting of  
C1 = .002 mfd. C2 = .005 mfd. C3 = .005 mfd. R1 = 2200 ohms. R2 = 8200 ohms. R3 = 8200 ohms. **\$1.10**

#### CAT. NO. PC-101 VERTICAL INTEGRATOR PLATES

Consisting of  
C1 = .01 mfd. C2 = .002 mfd. C3 = .005 mfd. C4 = .005 mfd. R1 = 22000 ohms. R2 = 8200 ohms. R3 = 8200 ohms. R4 = 22000 ohms. **\$1.25**

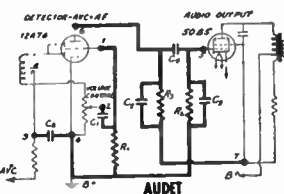


### AUDET—P. E. C. OUTPUT STAGE FOR A.C.-D.C. RECEIVERS



AUDET is a compact ( $1\frac{5}{8}'' \times \frac{7}{8}'' \times 1\frac{1}{4}''$ ), highly efficient and dependable audio-detector plate with 7 leads, furnishing the values of all components generally found in the output stage of 5 tube A.C.-D.C. radio receivers. Where trouble develops in this part of a set, it is simple and economical to replace the entire stage with AUDET.

The values of the components may differ slightly from the original circuit, but the slight difference may be overlooked as no noticeable change in performance will be noted. With only 7 leads, you have installed 8 modern components—3 resistors and 5 capacitors—an economical repair.



#### CAT. NO. PC-150 AUDET

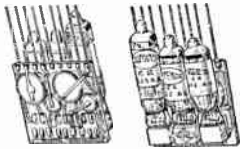
Consisting of  
C1 = .002 mfd. C2 = 220 mmf. C3 and C5 = 250 mmf. C4 = .005 mfd. R1 = 6.8 megohms. R2 = 470,000 ohms. R3 = 470,000 ohms. **List Price \$1.00**

#### CAT. NO. PC-151 AUDET

(For use where greater low frequency response is required)  
Consisting of  
C1 = .005 mfd. C2 = 220 mmf. C3 and C5 = 250 mmf. C4 = .005 mfd. R1 = 6.8 megohms. R2 = 470,000 ohms. R3 = 470,000 ohms. **List Price \$1.15**

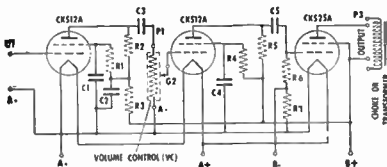
## PRINTED CIRCUITS P. E. C.

### AMPEC—COMPLETE THREE STAGE AMPLIFIER



There's never been an electronic device like Centralab's Ampec. In this compact unit—permanently bonded to a master plate—are all the components of an audio amplifier—tube socket, capacitors, resistors, wiring—a three tube, three stage speech amplifier. Similar Centralab units are used widely in hearing aids, for the most trouble-free performance ever attained. Ampec has

other interesting applications such as mike preamplifier, miniature or portable radio receiver (pocket type), amplification for walkie-talkie or portable amateur field equipment. Each unit packaged in a hinged cover plastic box, with complete instructions for use.



Size, 1 1/4" x 1 1/2" x .340" over tube sockets. Capacitors, 100 V.D.C.W. Resistors, 1/5 watt. Recommended tube complement, T-1 and T-2 (see dwg.) Raytheon type CK512AX; T-3 Raytheon type CK525AX. Gain frequency performance—A voltage 1.2; input voltage, 1 millivolt; B voltage 22. 50,000 ohm plate output load. At 1000 cycles per second the amplification factor is 4000. Volume control (VC in dwg.) not furnished. The ideal control is Centralab Cat. No. B16-128 or switch type Cat. No. B16-228.

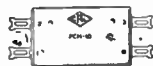
Cat. No.	Type	Consisting of	List Price
PC-200	AMPEC	Complete Three Stage Speech Amplifier, including three built-in sockets, less tubes.	\$15.00
PC-201	AMPEC	Same as PC-200, but furnished complete with tubes, two CK512AX and one CK525AX.	26.00

**Tubes**—Listed separately as a matter of convenience.

Cat. No.	Consisting of	List Price
CK512AX	Raytheon Subminiature Voltage Amplifier Pentode Tube	\$3.40
CK525AX	Raytheon Subminiature Output Pentode Tube	4.25

### TELEVISION H-PADS

#### FOR ATTENUATION OF SIGNAL STRENGTH



These handy Centralab P. E. C. units are specially designed for use in television antenna installations where signal strength needs attenuation to secure optimum performance. The proper H-Pad, in many instances will match the signal strength to the requirements of the receiver. This can prevent overloading, can eliminate tearing of the image, and improve both audio and video results. They are especially valuable where the television set is located too close to the broadcast station. In connection with a switching arrangement, they are helpful in balancing signals from stations which, because of high power or location, are too strong in relation to other stations. H-pads also are useful in matching impedance between the antenna and the receiver.

The H-Pad has four terminals, and is for installation in series with the standard 300 ohm antenna. Full directions are included.

**Size**—1 1/4" x 1 1/2" x 3/16" thick.

**Terminals**—Solder terminals, 5/16" long.

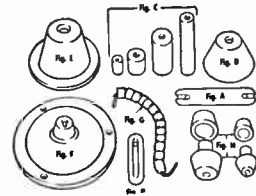
**Packaged**—Singly in envelopes. In sets of four (PCH-100) in a plastic box.

Cat. No.	Type	Attenuation Rating	List Price
PCH-10	H-Pad	10 db	\$0.80
PCH-20	H-Pad	20 db	.80
PCH-30	H-Pad	30 db	.80
PCH-40	H-Pad	40 db	.80
PCH-100 SET OF FOUR H-PADS. One each of the above, in plastic box			3.00

## STEATITE

Centralab has been producing fine ceramics since 1928 . . . primarily for its own use in fixed resistors, ceramic capacitors, switches—and more recently, printed electronic circuits. Often called upon by other manufacturers to produce many "standard" and custom designs, some very intricate, Centralab is the only ceramic manufacturer capable of producing many of these in quantity. All items listed are Grade L-5 Steatite, approved without limitation for Army and Navy use.

Characteristics: Uniform, white appearance, high dielectric strength, exceedingly low loss at high frequencies, and strong mechanically. Impervious to moisture and common acids, will not warp, withstands high temperatures; harder than hardest quartz.



### SPREADERS—STRAIN INSULATORS

**Deluxe Grade**—Fig. "A". Rounded and grooved. Packaged singly.

Cat. No.	O.A. Length	Diam.	Line Spacing	List Price
X-1	2 3/4"	1/2"	2"	\$0.70
X-2	4"	3/8"	3"	1.00
X-3	6"	3/8"	5"	1.25

**Standard Grade**—Not illustrated. Square and rectangular bars. Packaged singly.

Cat. No.	O.A. Length	Size	Line Spacing	List Price
X-4	3"	1/2" x 3/8"	2"	\$0.15
X-5	5"	1/2" x 1/2"	4"	.25
X-6	7"	1/2" x 1/2"	6"	.45

**Deluxe Aircraft Type Insulator**—Fig. B. Fully glazed. Packaged singly.

Cat. No.	O.A. Length	Diam.	Line Spacing	List Price
X-7	1 1/2"	17/32"	3/4"	\$0.65

### STANDOFF OR PILLAR INSULATORS

See Figure "C". Circumference glazed, tapped for screw sizes shown. "X" numbers below are catalog numbers.

Length	1/4" Diam.* #6-32 Thd.	List Price	1/2" Diam.** #6-32 Thd.	List Price
1/2"	X-8	\$0.55	X-12	\$0.12
3/4"	X-9	.55	X-13	.15
1"	X-10	.60	X-14	.16
1 1/4"	X-11	.70	X-15	.17
1 1/2"			X-16	.17
2"			X-17	.18
2 1/2"			X-18	.19
3"			X-19	.20

\* Packaged 5 per carton.

Length	3/4" Diam.** #10-32 Thd.	List Price	1" Diam.** #10-20 Thd.	List Price
1 1/4"	X-20	\$0.16		
1 1/2"	X-21	.17	X-28	\$0.18
1 3/4"	X-22	.18	X-29	.19
2"	X-23	.18	X-30	.20
2 1/4"	X-24	.19	X-31	.21
2 1/2"	X-25	.20	X-32	.23
3"	X-26	.22	X-33	.28
4"	X-27	.25	X-34	.33
5"			X-35	.37

\*\* Packaged singly.

### FEED-THROUGH INSULATORS

**Glazed Surface**—No hardware included. Packaged singly.

Cat. No.	Fig.	Height	Base Diam.	Max. Screw Size	List Price
X-36	D	3/8"	1 1/4"	10-32	\$0.25
X-37	D	1 1/8"	1 1/2"	1/4"-20	.30
X-38	E	1 3/8"	2 1/2"	3/8"-16	1.50
X-39	F	1"	3 1/2"	8-32	1.50

### FISH SPINE BEADS

See Fig. G. Four beads will cover 1", or package of 100 covers 25" of buss wire. 3/8" O.D., 1/8" I.D. Packaged 100 per envelope. **CAT. NO. X-40.** Carton of 100 Beads. List Price..... \$1.25

### THROUGH PANEL BUSHINGS

See Fig. "H". Matched pairs of male and female bushings for feeding through chassis, panels, shields, racks or cases. No hardware included. Packaged—One matched pair per carton.

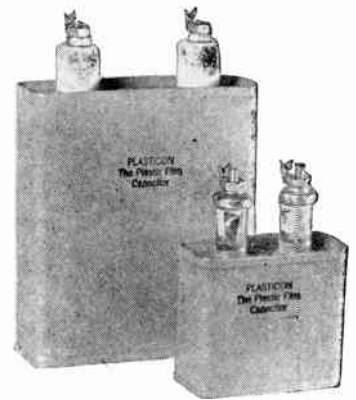
Cat. No.	Top Height	Max. Diam.	Panel Hole	Panel Thickness	Max. Screw Size	List Price
X-41	1/2"	1/2"	5/16"	to 1/4"	6-32	\$0.30
X-42	7/32"	3/8"	7/16"	to 1/4"	8-32	.40
X-43	3/8"	3/8"	1/2"	to 3/16"	6-32	.35
X-44	3/8"	3/8"	1/2"	to 1/4"	8-32	.40
X-45	3/8"	1 1/8"	1 1/8"	to 3/8"	10-32	1.00
X-46	1 1/4"	1 1/4"	1 1/4"	to 2"	10-32	1.70

FOR MORE COMPLETE INFORMATION ON CRL COMPONENTS SEE YOUR DISTRIBUTOR.



# PLASTICON DC RECTANGULARS

Mineral oil impregnated and filled. Hermetically sealed. Can be operated in any position, continuously at 10% over rated voltage. Tolerance 10%. Ambient temperature range -40° C. to +85° C. Insulators: Two ceramic type bushings for standard temperature range. Two soldered-in metalized glass insulators for extended temperature range. All DC rectangulars have 8-32 screw and hex nut terminals with removable hot-tinned solder lugs. Case: Rectangular base, lead coated steel with heavy finish of grey organic lacquer.



Mfr's. No.	Cap. Mfd.	Volts DC	Dimensions - Inches			Term. Height	Dist. Bet. Ter.	List
			Height	Width	Depth			
AOC6C1	1.0	600	2 1/8	1 3/4	1	3/8	1 3/8	\$ 4.49
AOC6C2	2.0	600	2 3/8	1 3/4	1	3/8	1 3/8	5.41
AOC6C4	4.0	600	3 1/2	2 1/2	1 1/8	3/8	1 1/8	6.73
AOC6C8	8.0	600	4	3 3/4	1 3/4	3/8	2	10.16
AOC6C10	10.0	600	4	3 3/4	1 3/4	3/8	2	11.42
AOC1M1	1.0	1000	2 3/8	1 3/4	1	3/8	1 3/8	4.82
AOC1M2	2.0	1000	4	1 3/4	1	3/8	1 3/8	6.47
AOC1M4	4.0	1000	4	2 1/2	1 1/8	3/8	1 1/8	7.85
AOC1M8	8.0	1000	4 5/8	3 3/4	1 3/4	3/8	2	11.09
AOC1M10	10.0	1000	4 5/8	3 3/4	2 1/4	3/8	2	12.80
AOC2M05	0.5	2000	2 3/8	1 3/4	1	3/8	1 3/8	5.81
AOC2M1	1.0	2000	3 1/2	1 3/4	1	3/8	1 3/8	7.06
AOC2M2	2.0	2000	3 1/2	2 1/2	1 1/8	3/8	1 1/8	8.18
AOC2M4	4.0	2000	3 1/2	3 3/4	1 3/4	3/8	2	11.09
AOC3M1	1.0	3000	4	2 1/2	1 1/8	3/8	1 1/8	14.52
AOC3M2	2.0	3000	4	3 3/4	1 3/4	3/8	2	18.48
AOC3M4	4.0	3000	4 5/8	3 3/4	2 1/4	3/8	2	25.54
AOC4M1	1.0	4000	4	3 3/4	1 1/4	3/8	1 1/8	33.00
AOC4M2	2.0	4000	4	3 3/4	1 3/4	3/8	1 1/8	39.60
AOC4M4	4.0	4000	4	3 3/4	4 1/8	3/8	2	60.53
AOC5M1	1.0	5000	4	3 3/4	1 3/4	3/8	2	49.60
AOC5M2	2.0	5000	3 1/2	3 3/4	4 1/8	3/8	2	49.50
AOC75C1	1.0	7500	3 1/2	3 3/4	4 1/8	3/8	2	59.40
AOC10M1	1.0	10000	4 5/8	3 3/4	4 1/8	3/8	2	105.60

## PLASTICON DC OVALS

Mfr's. No.	Cap. Mfd.	Volts DC	Dimensions - Inches			Term. Height	Dist. Bet. Ter.	List Price
			Height	Width	Depth			
AOCO6C2	2.0	600	2 3/8	2	1 1/4	3/8	1 3/8	\$5.28
AOCO6C4	4.0	600	4	2	1 1/4	3/8	1 3/8	6.34
AOCO1M1	1.0	1000	2 3/8	2	1 1/4	3/8	1 3/8	4.62
AOCO1M2	2.0	1000	3 1/2	2	1 1/4	3/8	1 3/8	6.20
AOCO3M01	0.1	3000	2 3/8	2	1 1/4	1 1/8	—	9.11
AOCO5M01	0.1	5000	2 3/8	2	1 1/4	2	—	16.90
AOCO5M025	0.25	5000	3 1/2	2	1 1/4	2	—	18.48
AOCO5M05	0.5	5000	4 5/8	2	1 1/4	2	—	21.78
AOCO8M005	0.05	8000	2 3/8	2	1 1/4	2	—	18.22
AOCO8M01	0.1	8000	3 1/2	2	1 1/4	2	—	20.06
AOCO10M005	0.05	10000	3 1/2	2	1 1/4	2	—	23.10

Same specifications as DC Rectangulars. Insulators: Two wet-process porcelain bushings on Types AOCO6C, AOCO1M & AOCO2M. One ceramic bushing can be grounded on Types AOCO3M, AOCO5M, AOCO8M and AOCO10M. Case: Obround (flattened oval) cross section. Drawn or lock-seam lead coated steel with heavy finish of gray organic lacquer. Two right angle mounting foot brackets are provided as standard on all AOCO capacitors. Add 1/2" to depth to get mounting centers.



# Condenser Products Company

7517 North Clark Street • Chicago 26, Illinois

MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks



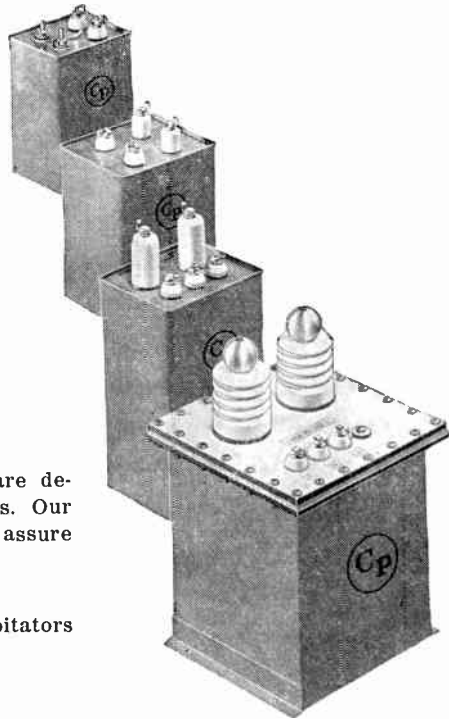
# HiVolt POWER SUPPLIES

Where size and weight must  
be kept to a minimum —

These hermetically-sealed, self-contained power supplies are designed for Hi Voltage low current DC for many applications. Our exclusive engineering techniques and oil-filled construction assure smaller, lighter, more flexible units.

### APPLICATIONS:

- radiation counters
- spectrographic analyzers
- projection television sets
- dust and electrostatic precipitators
- oscilloscopes
- display tubes, etc.



Model No.	Output Voltage	Rated Output Current	Max. Output Current	% Ripple at Rated Current	Case Size	Circuit	List Price
PS 2	2 KV DC	2.0 ma	5.0 ma	1.0	3 3/4 x 3 3/8 x 5 1/2	Half Wave	\$ 31.00
PS 5	5 KV DC	3.0 ma	5.0 ma	2.0	3 3/4 x 4 1/8 x 6	Half Wave	85.00
PS10	0-12 KV DC	1.5 ma	1.75 ma	2.0	3 3/4 x 4 1/8 x 8	Full Wave Doubler	115.00
PS15	0-15 KV DC	1.0 ma	1.75 ma	3.0	3 3/4 x 4 1/8 x 9	Full Wave Doubler	200.00
PS30	0-30 KV DC	1.0 ma	1.75 ma	3.0	7 x 7 x 8 1/4	Full Wave Doubler	285.00
*PS50	0-50 KV DC	2.0 ma	4.0 ma	3.0	12 1/2 x 12 1/2 x 12 1/2	Full Wave Tripler	850.00
Others by Quotation							

- NOTES: \*The PS 50 supply has a separate accessible compartment for the rectifier tubes.  
 1. HiVolt Supplies are rated at 118 V AC input, 60 cycles.  
 2. HiVolt Supplies for 400 cycle operation are also available for aircraft use, built to military specifications.  
 3. HiVolt Supplies are engineered for various applications. Send us your requirements.



## LABORATORY GRADE PLASTICON CAPACITORS

Low dielectric absorption, .01-.02% residual. Low dissipation factor, .0002-.0003 at 1 MC. Constant Q and capacitance, from DC to 100 KC. High insulation resistance, 10<sup>12</sup> ohms/mfd. average. Negative temp.

coefficient, minus 400-500 ppm/°C. Rated voltage 500 V DC. Resistance and absorption readings taken at 200 V DC. 2% and 5% standard tolerances, 1% to order. Type LAG Glassmike style. Type LAC rectangular metal can.

No.	Mfd.	Dimensions	List Price 5% Tolerance
LAG101	.0001	1 1/2 x 1"	\$ 6.25
LAG201	.0002	1 1/2 x 1"	6.33
LAG501	.0005	1 1/2 x 1"	6.50
LAG102	.001	3/4 x 1"	6.67
LAG202	.002	3/4 x 1"	6.83
LAG502	.005	3/4 x 1"	7.25
LAG103	.01	3/8 x 1"	7.75
LAG203	.02	3/8 x 1"	8.50
LAG503	.05	1 3/8 x 1"	9.33
LAC104	.1	2 1/4 x 1 3/4 x 1"	12.83
LAC204	.2	2 1/4 x 2 1/2 x 1 3/8"	13.83
LAC504	.5	4 x 2 1/2 x 1 3/8"	15.83
LAC105	1.	4 5/8 x 3 3/4 x 1 1/4"	27.50
LAC205	2.	4 5/8 x 3 3/4 x 2 1/4"	40.83
LAC505	5.	6 x 3 3/4 x 4 1/8"	88.33



# Condenser Products Company

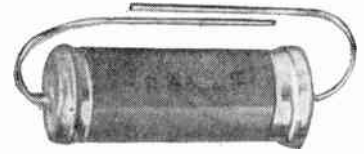
7517 North Clark Street • Chicago 26, Illinois

MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks





# "Glassmike" PLASTICON CAPACITORS



## Type ASG

Type ASG are Plasticon A dielectric-silicone fluid impregnated capacitor elements in hermetically sealed glass tubes. Standard range —60°C to +85°C, extended range —60°C to +125°C with proper derating. The smallest and lightest high voltage capacitors made. Type ASG are ideal for DC and low frequency AC applications.

Plasticon dielectric is superior to the finest linen or kraft condenser paper hitherto used. Plasticon is a thin plastic film, free from metallic particles or other foreign matter. Much higher tensile strength than paper and does not become brittle with age and heat. Not porous as paper and has higher breakdown voltage.

Cat. No.	New Cat. No.	Cap. Mfd.	Volts D.C.	Dimensions Dia. & Length	List Price
ASG1	ASG103-6C*	.01	600	1/8 x 1 1/8	\$1.50
ASG2	ASG203-6C*	.02	600	1/8 x 1 1/8	1.60
	ASG303-6C	.03	600	1/8 x 1 1/8	1.60
	ASG403-6C	.04	600	1/8 x 1 1/8	1.60
ASG3	ASG503-6C*	.05	600	1/8 x 1 1/8	1.75
	ASG603-6C	.06	600	1/8 x 1 1/8	1.75
	ASG753-6C	.075	600	1/8 x 1 1/8	1.75
ASG4	ASG104-6C*	.1	600	3/8 x 1 3/4	1.95
	ASG204-6C	.2	600	1/8 x 1 3/4	2.15
ASG5	ASG254-6C*	.25	600	1/8 x 2 1/4	2.25
	ASG304-6C	.3	600	1/8 x 1 3/4	2.35
ASG6	ASG504-6C*	.5	600	1/8 x 2 3/4	2.60
	ASG105-6C	1.0	600	1 3/8 x 2	3.90
ASG7	ASG502-1M	.005	1000	1/8 x 1 1/8	1.50
ASG8	ASG108-1M*	.01	1000	1/8 x 1 1/8	1.60
ASG9	ASG203-1M*	.02	1000	1/8 x 1 1/8	1.70
ASG10	ASG503-1M*	.05	1000	3/8 x 1 3/4	1.85
ASG11	ASG104-1M*	.1	1000	3/8 x 2 1/4	2.15
ASG12	ASG254-1M*	.25	1000	1/8 x 2 3/4	2.50
	ASG504-1M	.5	1000	1 1/8 x 2 1/4	2.90
ASG13	ASG202-2M*	.002	2000	1/8 x 1 1/8	1.90
ASG14	ASG502-2M*	.005	2000	1/8 x 1 1/8	2.05
ASG15	ASG103-2M*	.01	2000	1/8 x 1 1/8	2.25
ASG16	ASG203-2M*	.02	2000	1/8 x 1 1/8	2.50
ASG17	ASG503-2M*	.05	2000	3/8 x 1 3/4	2.80
ASG18	ASG104-2M*	.1	2000	3/8 x 2 1/4	3.20
ASG19	ASG254-2M*	.25	2000	1/8 x 2 3/4	3.70
	ASG504-2M	.5	2000	1 3/8 x 2	4.40
ASG20	ASG102-3M*	.001	3000	1/8 x 1 1/8	5.15
ASG21	ASG202-3M*	.002	3000	1/8 x 1 1/8	5.25
ASG22	ASG502-3M*	.005	3000	1/8 x 1 1/8	5.40
ASG23	ASG103-3M*	.01	3000	1/8 x 1 1/8	5.60
ASG24	ASG203-3M*	.02	3000	3/8 x 1 3/4	5.85
ASG25	ASG503-3M*	.05	3000	1/8 x 2 1/4	6.15
ASG26	ASG104-3M*	.1	3000	1 1/8 x 2 1/4	6.50
	ASG254-3M	.25	3000	1 3/8 x 2	7.20
	ASG102-4M	.001	4000	1/8 x 1 1/8	5.95
	ASG202-4M	.002	4000	1/8 x 1 1/8	6.05
	ASG502-4M	.005	4000	1/8 x 1 1/8	6.20
	ASG103-4M	.01	4000	3/8 x 1 3/4	6.40
	ASG203-4M	.02	4000	3/8 x 1 3/4	6.75
	ASG503-4M	.05	4000	1/8 x 2	7.00
	ASG104-4M	.1	4000	1 1/8 x 2	7.80
ASG27	ASG102-5M*	.001	5000	1/8 x 1 1/8	6.50
ASG28	ASG202-5M*	.002	5000	1/8 x 1 1/8	6.70
ASG29	ASG502-5M*	.005	5000	1/8 x 1 1/8	6.95
ASG30	ASG103-5M*	.01	5000	3/8 x 1 3/4	7.25
ASG31	ASG203-5M*	.02	5000	3/8 x 2 1/4	7.65
ASG32	ASG503-5M*	.05	5000	1/8 x 2 1/4	8.15
ASG33	ASG104-5M*	.1	5000	1 3/8 x 3 1/2	9.10

Cat. No.	New Cat. No.	Cap. Mfd.	Volts D.C.	Dimensions Dia. & Length	List Price
ASG34	ASG501-75C	.0005	7500	1/8 x 1 1/8	\$7.00
ASG35	ASG102-75C*	.001	7500	1/8 x 1 1/8	7.00
ASG36	ASG202-75C*	.002	7500	1/8 x 1 1/8	7.25
ASG37	ASG502-75C*	.005	7500	3/8 x 1 3/4	7.55
ASG38	ASG103-75C*	.01	7500	3/8 x 2 1/4	8.15
ASG39	ASG203-75C*	.02	7500	1/8 x 2 3/4	9.25
	ASG503-75C*	.05	7500	1 3/8 x 4 1/4	11.50
ASG40	ASG501-10M*	.0005	10,000	1/8 x 1 1/8	7.30
ASG41	ASG102-10M*	.001	10,000	1/8 x 1 1/8	7.50
ASG42	ASG202-10M*	.002	10,000	1/8 x 1 1/8	7.80
ASG43	ASG502-10M*	.005	10,000	1/8 x 1 1/8	9.00
ASG44	ASG103-10M*	.01	10,000	3/8 x 2 1/4	10.50
ASG45	ASG203-10M*	.02	10,000	1 1/8 x 2 3/4	12.50
ASG46	ASG303-10M	.03	10,000	1 3/8 x 2 3/4	15.00
ASG60	ASG603-10M*	.06	10,000	1 3/8 x 4 1/4	17.50
ASG47	ASG501-15M*	.0005	15,000	1/8 x 2 1/4	14.50
ASG48	ASG102-15M*	.001	15,000	3/8 x 2 1/4	14.80
ASG49	ASG202-15M*	.002	15,000	3/8 x 2 1/4	15.50
	ASG502-15M	.005	15,000	1 1/8 x 2 3/4	18.00
	ASG103-15M	.01	15,000	1 1/8 x 3 3/4	21.00
	ASG203-15M	.02	15,000	1 3/8 x 4 1/2	25.00
ASG50	ASG501-20M*	.0005	20,000	1/8 x 3 1/2	19.50
ASG51	ASG102-20M*	.001	20,000	3/8 x 3 1/2	20.50
	ASG202-20M	.002	20,000	1/8 x 3 1/2	22.00
	ASG502-20M	.005	20,000	1 1/8 x 3 1/2	24.00
	ASG103-20M	.01	20,000	1 3/8 x 4 1/2	26.00
ASG52	ASG501-30M*	.0005	30,000	1/8 x 4 1/8	22.50
	ASG102-30M	.001	30,000	3/8 x 5	25.00
	ASG202-30M	.002	30,000	3/8 x 5	28.00
	ASG502-30M	.005	30,000	1 3/8 x 5	30.00
	ASG501-40M	.0005	40,000	1/8 x 5 3/4	25.00
	ASG102-40M	.001	40,000	1/8 x 6 1/2	29.00
	ASG202-40M	.002	40,000	1 1/8 x 6 1/2	30.00
	ASG501-50M	.0005	50,000	3/8 x 8 1/4	28.00
	ASG102-50M	.001	50,000	1/8 x 8 1/4	34.00
	ASG202-50M	.002	50,000	1 1/8 x 8 1/4	36.00
	ASG502-50M	.005	50,000	1 3/8 x 10 3/4	44.00
	ASG501-60M	.0005	60,000	3/8 x 11	32.00
	ASG102-60M	.001	60,000	1/8 x 11	39.00

Other prices and values by quotation.

\*These units are duplicated in the ASG line now in use, i.e. ASG1 thru 52.



# Condenser Products Company

7517 North Clark Street • Chicago 26, Illinois

MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks



# "Glassmike" PLASTICON CAPACITORS

## Type LSG

LSG type capacitors have Plasticon L film-silicone fluid impregnant in Glassmike style case. Designed to compete with mica capacitors, the LSG capacitors are more applicable for Radio Frequency. Special beneficial features include greater safety factor, lower RF losses, more conveniently mounted, utilize less chassis space, impervious to moisture and smaller in overall volume.



Part #	Size	Cap	Volts D.C.	List Price	Part #	Size	Cap	Volts D.C.	List Price	Part #	Size	Cap	Kilovolts D.C.	List Price
752-6C	1 1/2 x 1	.0075	600	\$4.17	753-35C	1 1/2 x 3	.075	3500	\$12.35	301-14M	3/4 x 4	.0003	14	\$12.85
103-6C	1 1/2 x 1	.01	600	4.50	104-35C	1 1/2 x 4	0.1	3500	13.65	401-14M	3/4 x 4	.0004	14	12.85
203-6C	1 1/2 x 1	.02	600	5.50	401-5M	1 1/2 x 2	.0004	5000	8.00	501-14M	3/4 x 4	.0005	14	13.65
253-6C	1 1/2 x 1 1/2	.025	600	5.50	501-5M	1 1/2 x 2	.0005	5000	8.00	601-14M	3/4 x 4	.0006	14	15.35
303-6C	1 1/2 x 1 1/2	.03	600	5.50	601-5M	1 1/2 x 2	.0006	5000	8.85	751-14M	1 1/2 x 4	.00075	14	15.35
403-6C	1 1/2 x 1 1/2	.04	600	5.50	751-5M	1 1/2 x 2	.00075	5000	8.85	102-14M	1 1/2 x 4	.001	14	20.00
503-6C	1 1/2 x 1 1/2	.05	600	5.50	102-5M	1 1/2 x 2	.001	5000	8.85	202-14M	1 1/2 x 4	.002	14	22.70
603-6C	1 1/2 x 1 1/2	.06	600	5.50	202-5M	1 1/2 x 2	.002	5000	9.65	252-14M	1 1/2 x 4	.0025	14	22.70
753-6C	1 1/2 x 1 1/2	.075	600	6.17	252-5M	1 1/2 x 2	.0025	5000	9.65	302-14M	1 1/2 x 4	.003	14	24.00
104-6C	1 1/2 x 1 1/2	0.1	600	6.17	302-5M	1 1/2 x 2	.003	5000	9.65	402-14M	1 1/2 x 4	.004	14	24.00
154-6C	1 1/2 x 1 1/2	0.15	600	7.00	402-5M	1 1/2 x 2	.004	5000	10.50	502-14M	1 1/2 x 4	.005	14	24.00
204-6C	1 1/2 x 2	0.2	600	7.00	502-5M	1 1/2 x 2	.005	5000	10.50	602-14M	1 1/2 x 4	.006	14	25.40
254-6C	1 1/2 x 2 1/2	0.25	600	7.33	602-5M	1 1/2 x 2	.006	5000	10.50	752-14M	1 1/2 x 4	.0075	14	27.50
304-6C	1 1/2 x 2 1/2	0.3	600	8.86	752-5M	1 1/2 x 2	.0075	5000	11.50	103-14M	1 1/2 x 4	.01	14	27.50
404-6C	1 1/2 x 2 1/2	0.4	600	8.86	103-5M	1 1/2 x 2	.01	5000	11.50	101-17M	1 1/2 x 4 3/4	.0001	17	14.00
504-6C	1 1/2 x 2 1/2	0.5	600	10.80	203-5M	1 1/2 x 3	.02	5000	12.50	201-17M	1 1/2 x 4 3/4	.0002	17	14.70
502-1M	1 1/2 x 1	.005	1000	5.00	253-5M	1 1/2 x 3	.025	5000	12.50	251-17M	1 1/2 x 4 3/4	.00025	17	14.70
602-1M	1 1/2 x 1	.006	1000	5.50	303-5M	1 1/2 x 4	.03	5000	15.00	301-17M	1 1/2 x 4 3/4	.0003	17	14.70
752-1M	1 1/2 x 1	.0075	1000	5.50	403-5M	1 1/2 x 4	.04	5000	16.70	401-17M	1 1/2 x 4 3/4	.0004	17	14.70
103-1M	1 1/2 x 1	.01	1000	5.50	503-5M	1 1/2 x 6	.05	5000	18.70	501-17M	1 1/2 x 4 3/4	.0005	17	16.00
203-1M	1 1/2 x 1 1/2	.02	1000	5.85	603-5M	1 1/2 x 6	.06	5000	20.70	601-17M	1 1/2 x 4 3/4	.0006	17	17.35
253-1M	1 1/2 x 1 1/2	.025	1000	5.85	753-5M	1 1/2 x 8	.075	5000	22.70	751-17M	1 1/2 x 4 3/4	.00075	17	19.00
303-1M	1 1/2 x 1 1/2	.03	1000	6.17	104-5M	1 1/2 x 8	0.1	5000	24.70	102-17M	1 1/2 x 4 3/4	.001	17	19.00
403-1M	1 1/2 x 1 1/2	.04	1000	6.85	301-7M	1 1/2 x 2	.0003	7000	8.15	202-17M	1 1/2 x 4 3/4	.002	17	21.85
503-1M	1 1/2 x 1 1/2	.05	1000	7.33	401-7M	1 1/2 x 2	.0004	7000	9.00	252-17M	1 1/2 x 4 3/4	.0025	17	21.85
603-1M	1 1/2 x 1 1/2	.06	1000	7.33	501-7M	1 1/2 x 2	.0005	7000	9.00	302-17M	1 1/2 x 4 3/4	.0030	17	23.00
753-1M	1 1/2 x 1 1/2	.075	1000	7.33	601-7M	1 1/2 x 2	.0006	7000	9.00	402-17M	1 1/2 x 4 3/4	.004	17	25.90
104-1M	1 1/2 x 2	0.1	1000	8.00	751-7M	1 1/2 x 2	.00075	7000	9.00	502-17M	1 1/2 x 4 3/4	.005	17	29.00
154-1M	1 1/2 x 2	0.15	1000	9.50	102-7M	1 1/2 x 2	.001	7000	9.00	101-20M	1 1/2 x 5 3/4	.0001	20	16.00
204-1M	1 1/2 x 2 1/2	0.2	1000	10.80	202-7M	1 1/2 x 2	.002	7000	11.00	201-20M	1 1/2 x 5 3/4	.0002	20	17.00
254-1M	1 1/2 x 2 1/2	0.25	1000	11.00	252-7M	1 1/2 x 2	.0025	7000	11.85	251-20M	1 1/2 x 5 3/4	.00025	20	17.00
304-1M	1 1/2 x 3	0.3	1000	11.70	302-7M	1 1/2 x 2	.003	7000	11.85	301-20M	1 1/2 x 5 3/4	.0003	20	17.00
404-1M	1 1/2 x 3 1/2	0.4	1000	12.70	402-7M	1 1/2 x 2	.004	7000	12.35	401-20M	1 1/2 x 5 3/4	.0004	20	18.35
202-25C	1 1/2 x 1	.002	2500	5.15	502-7M	1 1/2 x 2	.005	7000	14.35	501-20M	1 1/2 x 5 3/4	.0005	20	20.15
252-25C	1 1/2 x 1	.0025	2500	5.50	602-7M	1 1/2 x 2	.006	7000	14.35	601-20M	1 1/2 x 5 3/4	.0006	20	20.15
302-25C	1 1/2 x 1	.003	2500	5.50	752-7M	1 1/2 x 4	.01	7000	17.00	751-20M	1 1/2 x 5 3/4	.00075	20	22.65
402-25C	1 1/2 x 1	.004	2500	5.50	103-7M	1 1/2 x 4	.01	7000	17.00	102-20M	1 1/2 x 5 3/4	.001	20	22.65
502-25C	1 1/2 x 1	.005	2500	5.85	203-7M	1 1/2 x 4	.02	7000	18.65	202-20M	1 1/2 x 5 3/4	.002	20	24.50
602-25C	1 1/2 x 1	.006	2500	5.85	253-7M	1 1/2 x 6	.025	7000	21.30	252-20M	1 1/2 x 5 3/4	.0025	20	26.70
752-25C	1 1/2 x 1	.0075	2500	6.17	303-7M	1 1/2 x 6	.03	7000	21.30	302-20M	1 1/2 x 5 3/4	.003	20	28.70
103-25C	1 1/2 x 1 1/2	.01	2500	6.50	403-7M	1 1/2 x 8	.04	7000	23.00	402-20M	1 1/2 x 5 3/4	.004	20	30.20
203-25C	1 1/2 x 1 1/2	.02	2500	7.18	503-7M	1 1/2 x 8	.05	7000	23.00	750-25M	1 1/2 x 7 1/4	.000075	25	20.15
253-25C	1 1/2 x 1 1/2	.025	2500	7.18						101-25M	1 1/2 x 7 1/4	.0001	25	21.70
303-25C	1 1/2 x 1 1/2	.03	2500	7.18						201-25M	1 1/2 x 7 1/4	.0002	25	21.70
403-25C	1 1/2 x 2	.04	2500	8.00						251-25M	1 1/2 x 7 1/4	.00025	25	21.70
503-25C	1 1/2 x 2	.05	2500	8.68						301-25M	1 1/2 x 7 1/4	.0003	25	22.20
603-25C	1 1/2 x 2	.06	2500	8.68						401-25M	1 1/2 x 7 1/4	.0004	25	25.00
753-25C	1 1/2 x 2	.075	2500	10.40						501-25M	1 1/2 x 7 1/4	.0005	25	25.00
104-25C	1 1/2 x 2 1/2	0.1	2500	11.70	201-10M	1 1/2 x 3	.0002	10	\$10.80	601-25M	1 1/2 x 7 1/4	.0006	25	27.50
154-25C	1 1/2 x 3 1/2	0.15	2500	12.70	301-10M	1 1/2 x 3	.0003	10	11.00	751-25M	1 1/2 x 7 1/4	.00075	25	31.20
601-35C	1 1/2 x 1	.0006	3500	5.50	401-10M	1 1/2 x 3	.0004	10	11.00	102-25M	1 1/2 x 7 1/4	.001	25	31.20
751-35C	1 1/2 x 1	.00075	3500	5.85	501-10M	1 1/2 x 3	.0005	10	11.00	202-25M	1 1/2 x 7 1/4	.002	25	35.40
102-35C	1 1/2 x 1	.001	3500	5.85	601-10M	1 1/2 x 3	.0006	10	11.65	252-25M	1 1/2 x 9 1/2	.0025	25	45.00
202-35C	1 1/2 x 1	.002	3500	5.85	751-10M	1 1/2 x 3	.00075	10	12.35	302-25M	1 1/2 x 9 1/2	.003	25	45.00
252-35C	1 1/2 x 1	.0025	3500	6.20	102-10M	1 1/2 x 3	.001	10	12.35	500-30M	1 1/2 x 9	.00005	30	23.70
302-35C	1 1/2 x 1	.003	3500	7.00	202-10M	1 1/2 x 3	.002	10	13.65	600-30M	1 1/2 x 9	.00006	30	25.00
402-35C	1 1/2 x 1	.004	3500	7.00	252-10M	1 1/2 x 3	.0025	10	15.35	750-30M	1 1/2 x 9	.000075	30	25.00
502-35C	1 1/2 x 1	.005	3500	7.50	302-10M	1 1/2 x 3	.003	10	15.35	101-30M	1 1/2 x 9	.0001	30	25.00
602-35C	1 1/2 x 1	.006	3500	7.50	402-10M	1 1/2 x 3	.004	10	17.65	201-30M	1 1/2 x 9	.0002	30	25.00
752-35C	1 1/2 x 1	.0075	3500	8.18	502-10M	1 1/2 x 3	.005	10	21.30	251-30M	1 1/2 x 9	.00025	30	30.70
103-35C	1 1/2 x 1 1/2	.01	3500	8.50	602-10M	1 1/2 x 3	.006	10	21.30	301-30M	1 1/2 x 9	.0003	30	37.00
203-35C	1 1/2 x 1 1/2	.02	3500	8.50	752-10M	1 1/2 x 3	.0075	10	24.00	401-30M	1 1/2 x 9	.0004	30	37.00
253-35C	1 1/2 x 1 1/2	.025	3500	8.67	103-10M	1 1/2 x 6	.01	10	24.00	501-30M	1 1/2 x 9	.0005	30	44.00
303-35C	1 1/2 x 2	.03	3500	10.80	203-10M	1 1/2 x 6	.01	10	27.70	601-30M	1 1/2 x 9	.0006	30	44.00
403-35C	1 1/2 x 2	.04	3500	10.80	253-10M	1 1/2 x 6	.02	10	27.70	751-30M	1 1/2 x 9	.00075	30	46.00
503-35C	1 1/2 x 2 1/2	.05	3500	11.65	303-10M	1 1/2 x 9	.025	10	27.70	102-30M	1 1/2 x 9	.001	30	50.00
603-35C	1 1/2 x 3	.06	3500	12.35	401-14M	1 1/2 x 4	.0001	14	12.00					
					201-14M	1 1/2 x 4	.0002	14	12.85					
					251-14M	1 1/2 x 4	.00025	14	12.85					



# Condenser Products Company

7517 North Clark Street • Chicago 26, Illinois

MANUFACTURERS: Glassmikes • Plasticon Capacitors • Hi-Volt Power Supplies • Pulse Forming Networks



# QUALITY CAPACITORS

ASTRON CORPORATION

255 Grant Ave., E. Newark, N. J.

## TYPE ML "METALITE"

Metallized Paper Cardboard  
Tubular Capacitors



These METALITE capacitors are vacuum impregnated in a microcrystalline hydrocarbon wax which makes them suitable for service at temperatures up to 65°C. The double over all mineral wax coating has far superior moisture-resistant properties than the waxes employed in conventional tubulars. Furnished in kraft paper tubes with a unique terminal construction. The soldered metal end-caps achieve much greater mechanical strength than conventional paper tubulars. Lead length—1½" minimum. STANDARD TOLERANCE: —20 +30 percent.

CATALOG NUMBER	CAP. MF.	DIAM.	SIZE LENGTH	LIST PRICE
<b>200 Volts DC Working</b>				
ML-2-01	.01	3/8	x 5/8	\$ .65
ML-2-02	.02	3/8	x 5/8	.65
ML-2-05	.05	3/8	x 5/8	.65
ML-2-1	.1	3/8	x 5/8	.70
ML-2-25	.25	15/32	x 5/8	.90
ML-2-5	.5	15/32	x 1 1/8	1.05
ML-2-1M	1.0	9/16	x 1 1/8	1.30
ML-2-2M	2.0	5/8	x 1 5/8	1.80
<b>400 Volts DC Working</b>				
ML-4-01	.01	3/8	x 5/8	.70
ML-4-02	.02	3/8	x 5/8	.70
ML-4-03	.03	3/8	x 5/8	.70
ML-4-05	.05	15/32	x 5/8	.70
ML-4-1	.1	15/32	x 1 1/8	.80
ML-4-25	.25	9/16	x 1 1/8	1.00
ML-4-5	.5	5/8	x 1 5/8	1.15
ML-4-1M	1.0	23/32	x 2 1/8	1.60
<b>600 Volts DC Working</b>				
ML-6-01	.01	3/8	x 5/8	.70
ML-6-02	.02	3/8	x 5/8	.70
ML-6-03	.03	15/32	x 5/8	.80
ML-6-05	.05	15/32	x 5/8	.80
ML-6-1	.1	15/32	x 1 1/8	.90
ML-6-25	.25	5/8	x 1 1/8	1.10
ML-6-5	.5	23/32	x 1 5/8	1.45
ML-6-1M	1.0	23/32	x 2 1/8	1.80

## TYPE MRF "METALITE"

Metallized Paper Metal Encased  
Tubulars



Hermetically sealed in metal containers, mineral wax filled and impregnated, they are designed for operation up to 85°C. They can be furnished with plastic sleeve and/or mounting bracket.

TYPE MRF complies with JAN immersion and vibration test requirements, and offer size reductions up to 83% over equivalent paper foil units. STANDARD TOLERANCE: —20 +30 percent. Lead length—1¾" minimum. Lead wire sizes are as follows:

CASE DIA.	AWG SIZE
3/8	#20
7/16 to .670	#20
¾ and up	#18

If plastic outer sleeving is required add "P" to type, i.e. MRF-6-25, and add 15c to list price. For mounting bracket, add "Y" to type designation, i.e. MRFY-2-1, and add 20c to list price.

METALITE types are:

MRF—insulated from outer case.

MRG—grounded to outer case (deduct 3/32" from length)

CATALOG NUMBER	CAP. MF.	DIAM.	SIZE LENGTH	LIST PRICE
<b>200 Volts DC Working</b>				
MRF-2-05	.05	3/8	x 7/8	\$1.40
MRF-2-1	.1	7/16	x 7/8	1.45
MRF-2-25	.25	1/2	x 7/8	1.60
MRF-2-5	.5	1/2	x 1 3/8	1.70
MRF-2-1M	1.0	.670	x 1 3/8	2.10
MRF-2-2M	2.0	.670	x 1 7/8	2.60
<b>150 Volts DC Working</b>				
MRF-1.5-4M	4.0	1	x 1 15/16	4.35
MRF-1.5-6M	6.0	1	x 1 15/16	5.30
MRF-1.5-8M	8.0	1 1/8	x 1 15/16	6.10
MRF-1.5-10M	10.0	1 1/4	x 1 15/16	7.20
<b>400 Volts DC Working</b>				
MRF-4-05	.05	1/2	x 7/8	1.45
MRF-4-1	.1	1/2	x 1 3/8	1.60
MRF-4-25	.25	.670	x 1 3/8	1.80
MRF-4-5	.5	.670	x 1 7/8	2.00
MRF-4-1M	1.0	3/4	x 2 3/8	2.50
MRF-4-2M	2.0	1	x 2 7/16	3.60
MRF-4-3M	3.0	1 1/8	x 2 7/16	4.80
MRF-4-4M	4.0	1 1/4	x 2 7/16	5.90
<b>600 Volts DC Working</b>				
MRF-6-02	.02	7/16	x 7/8	1.45
MRF-6-03	.03	7/16	x 7/8	1.50
MRF-6-05	.05	1/2	x 7/8	1.55
MRF-6-1	.1	1/2	x 1 3/8	1.70
MRF-6-2	.2	.670	x 1 3/8	1.90
MRF-6-25	.25	.670	x 1 3/8	2.00
MRF-6-5	.5	.670	x 1 7/8	2.40
MRF-6-1M	1.0	3/4	x 2 3/8	3.00
MRF-6-2M	2.0	1 1/8	x 2 7/16	4.00
MRF-6-3M	3.0	1 1/4	x 2 7/16	5.30



# QUALITY CAPACITORS

ASTRON CORPORATION

255 Grant Ave., E. Newark, N. J.

## TYPE MQC

Glass Terminal Hermetically Sealed Tubular

### "METALITE"

#### Metallized Paper Capacitors

Astron Type MQC METALITE capacitors are encased in finned, non-ferrous cases with glass-to-metal hermetic terminal seals. Ideally suited for military and aircraft applications, they will meet high exacting requirements for rigorous service. Mineral wax impregnated and filled, Type MQC is available in ratings up to 600 WVDC.



Smallest type available, they are non-inductively wound, with one foil grounded to the outer case.

Positively sealed against moisture, Type MQC is furnished with glass-to-metal terminal at one end, or at each end, in accordance with circuit requirements. When terminals are furnished at each end, the capacitor section is completely insulated from case. Can be furnished with plastic insulating sleeve when required.

Where circuit requirements make it necessary to have a minimum of capacitance variation with temperature changes, Type MQM, mineral oil impregnated and filled, can be furnished without increase in size. STANDARD TOLERANCE: -15 +25 percent.

For glass terminals at each end (internally insulated construction), specify Type MQCF and add 1/8" to length. For MQCF add 50c to list price. For plastic outer sleeve specify Type MQCP and add 15c to list price.

CATALOG NUMBER	CAP. MF.	SIZE DIAM.	LENGTH	LIST PRICE
<b>200 Volts DC Working</b>				
MQC-2-01	.01	.235 x	3/4	\$2.05
MQC-2-02	.02	.235 x	3/4	2.10
MQC-2-05	.05	.235 x	3/4	2.10
MQC-2-1	.1	.312 x	3/4	2.15
MQC-2-25	.25	.400 x	3/4	2.35
MQC-2-5	.5	.400 x	1 1/8	2.40
MQC-2-1M	1.0	.562 x	1 1/4	2.65
MQC-2-1.5M	1.5	.562 x	1 3/4	2.85
MQC-2-2M	2.0	.670 x	1 3/4	3.95
<b>150 Volts DC Working</b>				
MQC-1.5-4M	4.0	1 x	1 3/4	5.00
MQC-1.5-6M	6.0	1 x	1 3/4	5.85
MQC-1.5-8M	8.0	1 x	2 1/4	6.65
<b>400 Volts DC Working</b>				
MQC-4-01	.01	.235 x	3/4	2.10
MQC-4-02	.02	.235 x	3/4	2.15
MQC-4-03	.03	.312 x	3/4	2.15
MQC-4-05	.05	.312 x	1 1/8	2.20
MQC-4-1	.1	.400 x	1 1/8	2.25
MQC-4-25	.25	.562 x	1 1/8	2.45
MQC-4-5	.5	.562 x	1 3/4	2.75
MQC-4-1M	1.0	.670 x	2 1/4	3.05
MQC-4-1.5M	1.5	1 x	2 1/4	4.10
MQC-4-2M	2.0	1 x	2 1/4	4.65
MQC-4-4M	4.0	1 1/8 x	2 1/4	6.85
<b>600 Volts DC Working</b>				
MQC-6-01	.01	.235 x	3/4	2.15
MQC-6-03	.03	.312 x	3/4	2.20
MQC-6-05	.05	.312 x	1 1/8	2.25
MQC-6-1	.1	.400 x	1 1/8	2.30
MQC-6-25	.25	.562 x	1 1/4	2.70
MQC-6-5	.5	.670 x	1 3/4	3.00
MQC-6-1M	1.0	.750 x	2 1/4	3.65
MQC-6-2M	2.0	1 x	2 1/4	5.15

Lead length—1 3/4" minimum  
Lead wire sizes are as follows:

CASE DIA.	AWG SIZE
.235	#24
.312	#22
.400 and up	#20

## TYPE MD

### "METALITE"

#### Metallized Paper Capacitors



Type MD METALITE metallized paper capacitors allow the use of the convenient bathtub type can in capacities much higher than ever before available in this case style. Multiple section construction of metallized paper is made possible in this type with

terminals positioned in accordance with your specific requirements.

Standard types are supplied with side terminals. For other terminal positions: specify type MDT for top terminals, MDB for bottom terminals, and MDE for terminals at ends. If required for special applications, stud and nut terminals can be furnished, as well as glass-to-metal hermetic seal terminals.

CATALOG NUMBER	CAP. MF.	WVDC	SIZE L.	W.	H.	LIST PRICE
MD-2-5	.5	200	1 3/4 x 1 x	3/4		\$3.30
MD-2-1M	1.0	200	1 3/4 x 1 x	3/4		3.55
MD-2-2M	2.0	200	1 3/4 x 1 x	3/4		4.45
MD-1.5-4M	4.0	150	1 3/4 x 1 x	7/8		5.75
MD-1.5-6M	6.0	150	2 x 1 3/4 x	7/8		6.10
MD-1.5-8M	8.0	150	2 x 2 x	7/8		8.40
MD-1.5-10M	10.0	150	2 x 2 x	7/8		9.70
MD-1.5-12M	12.0	150	2 x 2 x	1		11.00
MD-1.5-16M	16.0	150	2 x 2 x	1 1/8		13.50
MD-1.5-18M	18.0	150	2 x 2 x	1 1/2		15.00
MD-4-25	.25	400	1 3/4 x 1 x	3/4		3.35
MD-4-5	.5	400	1 3/4 x 1 x	3/4		3.55
MD-4-1M	1.0	400	1 3/4 x 1 x	7/8		3.95
MD-4-2M	2.0	400	2 x 1 3/4 x	7/8		4.90
MD-4-4M	4.0	400	2 x 2 x	1 1/8		7.85
MD-6-1	.1	600	1 3/4 x 1 x	3/4		3.50
MD-6-25	.25	600	1 3/4 x 1 x	3/4		3.55
MD-6-5	.5	600	1 3/4 x 1 x	3/4		4.25
MD-6-1M	1.0	600	1 3/4 x 1 1/4 x	7/8		4.90
MD-6-2M	2.0	600	2 x 2 x	1		6.25
MD-6-3M	3.0	600	2 x 2 x	1 3/8		7.75
MD-6-4M	4.0	600	2 x 2 x	1 1/2		9.75
<b>Dual Units</b>						
MD-2-2x1M	1.0—1.0	200	1 3/4 x 1 x	3/4		\$5.00
MD-2-2x2M	2.0—2.0	200	1 3/4 x 1 x	7/8		6.30
MD-1.5-2x4M	4.0—4.0	150	2 x 2 x	7/8		9.00
MD-1.5-2x6M	6.0—6.0	150	2 x 2 x	1		11.50
MD-4-2x5	.5—5	400	1 3/4 x 1 x	7/8		4.35
MD-4-2x1M	1.0—1.0	400	2 x 1 3/4 x	7/8		5.50
MD-4-2x2M	2.0—2.0	400	2 x 2 x	1 1/8		8.10
MD-6-2x25	.25—25	600	1 3/4 x 1 x	3/4		4.95
MD-6-2x5	.5—5	600	1 3/4 x 1 x	7/8		5.70
MD-6-2x1M	1.0—1.0	600	2 x 2 x	1		6.60

Standard Tolerance ±20%

#### Mounting Centers

For Can size 1 3/4" x 1" is 2 1/8"  
For Can size 2" x 1 3/4" is 2 3/8"  
For Can size 2" x 2" is 2 3/8"



# QUALITY CAPACITORS

ASTRON CORPORATION

255 Grant Ave., E. Newark, N. J.

## "MINIMITE" TYPE MM METAL TUBULAR DRY ELECTROLYTICS

Astron MINIMITE Type MM high quality compact electrolytic capacitors are ideally suited for under chassis mounting in filter and audio by-pass circuits, where long life and limited space are essential factors. Hermetically sealed in seamless extruded aluminum shells and covered with kraft tube insulating sleeves. They have bare tinned 20 ga. wire leads, a minimum of 3 inches in length. Exceptionally low leakage. Withstand high surge voltage. Adequate voltage breakdown characteristics. Permanent low resistance contact. Dual units are negative common with 3 bare wire leads and neutral strap.



CATALOG NUMBER	CAP. MF.	WVDC	SIZE DIAM. LENGTH	LIST PRICE
MM-500-15	500	15	7/8 x 2 1/4	\$1.75
MM-1000-15	1000	15	1 x 2 1/4	2.30
MM-10-25	10	25	1/2 x 1 1/4	.75
MM-25-25	25	25	1/2 x 1 1/4	.85
MM-50-25	50	25	5/8 x 1 1/4	1.00
MM-100-25	100	25	5/8 x 1 5/8	1.20
MM-10-50	10	50	1/2 x 1 1/4	.80
MM-25-50	25	50	5/8 x 1 1/4	.90
MM-50-50	50	50	5/8 x 1 5/8	1.05
MM-8-150	8	150	1/2 x 1 5/8	.80
MM-16-150	16	150	5/8 x 1 5/8	.90
MM-20-150	20	150	5/8 x 1 5/8	.95
MM-30-150	30	150	3/4 x 1 5/8	1.00
MM-40-150	40	150	3/4 x 1 5/8	1.10
MM-50-150	50	150	7/8 x 1 5/8	1.20
MM-80-150	80	150	7/8 x 2 1/4	1.60
MM-150-150	150	150	1 x 2 3/8	1.90
MM-8-250	8	250	5/8 x 1 5/8	.80
MM-16-250	16	250	3/4 x 1 5/8	1.10
MM-20-250	20	250	3/4 x 1 5/8	1.35
MM-40-250	40	250	7/8 x 1 3/4	1.55
MM-10-350	10	350	3/4 x 1 5/8	1.00
MM-20-350	20	350	7/8 x 1 5/8	1.30
MM-4-450	4	450	5/8 x 1 3/8	.90
MM-8-450	8	450	3/4 x 1 3/8	.95
MM-10-450	10	450	3/4 x 1 5/8	1.05
MM-16-450	16	450	7/8 x 1 3/4	1.35
MM-20-450	20	450	7/8 x 2 1/4	1.50
MM-30-450	30	450	1 x 2 3/8	1.65
MM-40-450	40	450	1 x 2 1/4	1.80
MM-8-500	8	500	7/8 x 2 1/4	1.30
MM-16-500	16	500	1 x 2 3/8	1.50

### Dual Capacitance Units

MM-2x20-150	20+20	150	3/4 x 1 5/8*	1.30
MM-2x30-150	30+30	150	7/8 x 1 5/8*	1.50
MM-2x40-150	40+40	150	7/8 x 2 1/4*	1.70
MM-5030-150	50+30	150	7/8 x 2 1/4*	1.95
MM-2x50-150	50+50	150	7/8 x 2 3/8*	2.10
MM-2x8-450	8+8	450	7/8 x 2 1/4*	1.70
MM-2x10-450	10+10	450	7/8 x 2 1/4*	1.85
MM-2x16-450	16+16	450	1 x 2 1/4*	2.25
MM-2x20-450	20+20	450	1 x 2 1/4*	2.50

\*Furnished with radial mounting strap.  
†Dimensions are for metal tubes. Add 1/16" to diameter and 1/8" to length for over-all dimensions for cardboard insulating sleeve.

## TYPE ES CARDBOARD TUBE DRY ELECTROLYTICS



Sturdily constructed, Astron Type ES capacitors are ideal for use in television and other electronic filter and audio by-pass circuits. They are internally wrapped in plastic film for protection in humid operating conditions and contained in a strong wax impregnated kraft tube. Filled with high melting point wax. Capacity, voltage and polarity clearly identified on the container. Insulated lead wires approximately 6 inches long. Supplied with centrally located mounting strap.

CATALOG NUMBER	CAP. MF.	WVDC	SIZE DIAM. LENGTH	LIST PRICE
ES-2x20-150	20+20	150	3/4 x 2 1/2	\$1.30
ES-2x30-150	30+30	150	7/8 x 2 1/2	1.50
ES-2x40-150	40+40	150	1 x 2 1/2	1.70
ES-5030-150	50+30	150	1 x 2 1/2	1.70
ES-2x50-150	50+50	150	1 x 3	1.85
ES-8040-150	80+40	150	1 1/8 x 3	2.00
ES-2x20-250	20+20	250	7/8 x 2 1/2	1.85
ES-2x20-450	20+20	450	1 1/8 x 3 1/4	2.50

### Dual Units—Common Negative

ES-2x20-150	20+20	150	3/4 x 2 1/2	\$1.30
ES-2x30-150	30+30	150	7/8 x 2 1/2	1.50
ES-2x40-150	40+40	150	1 x 2 1/2	1.70
ES-5030-150	50+30	150	1 x 2 1/2	1.70
ES-2x50-150	50+50	150	1 x 3	1.85
ES-8040-150	80+40	150	1 1/8 x 3	2.00
ES-2x20-250	20+20	250	7/8 x 2 1/2	1.85
ES-2x20-450	20+20	450	1 1/8 x 3 1/4	2.50

### Triple Units—Common Negative

ES-3x20-150	20+20+20	150	1 x 2 1/2	\$2.00
ES-310	40+30+20	150	1 x 3	2.15
ES-311	80+40+20	150	1 1/8 x 3 1/4	2.50
ES-312	40+10/20	150/25	1 x 2 1/2	1.95
ES-313	40+30/20	150/25	1 x 3	2.05
ES-314	40+40/40	150/25	1 x 3 1/4	2.20
ES-315	50+30/100	150/25	1 x 3 1/4	2.55

## TYPE EY TWIST PRONG DRY ELECTROLYTICS

Simple to mount by means of twist prong tabs on a mounting plate, or directly on the chassis, in filter and by-pass circuits. The mounting tab ring is electrically welded to the cathode of the capacitor, and serves as the negative terminal. Multiple section units are concentrically wound and have common cathode. Terminal tabs are securely fastened to the terminal lugs, insuring permanent low resistance connections. Compact and hermetically sealed in a seamless aluminum drawn can. Operates at ambient temperatures up to 85°C. Smallest practical sizes. Coding clearly etched on container.



CATALOG NUMBER	CAP. MF.	WVDC	SIZE DIAM. LENGTH	LIST PRICE
<b>Single Section</b>				
EY-1000-15	1000	15	1 x 3	\$2.55
EY-2000-15	2000	15	1 3/8 x 3	3.45
EY-100-25	100	25	1 x 2	1.45
EY-500-25	500	25	1 x 3	2.45
EY-1000-25	1000	25	1 3/8 x 3	3.55
EY-500-50	500	50	1 3/8 x 2	2.65
EY-100-150	100	150	1 x 2	1.45
EY-30-350	30	350	1 x 2	2.00
EY-50-350	50	350	1 x 2	1.70
EY-125-350	125	350	3/8 x 3	2.05
EY-10-450	10	450	1 x 2	3.55
EY-20-450	20	450	1 x 2	1.30
EY-30-450	30	450	1 x 2 1/2	1.75
EY-40-450	40	450	1 x 3	1.90
EY-80-450	80	450	1 3/8 x 3	2.0*

### Dual Sections

EY-2x30-150	30+30	150	1 x 2	1.75
EY-5030-150	50+30	150	1 x 2 1/2	1.95
EY-2x50-150	50+50	150	1 x 2 1/2	2.10
EY-2x20-250	20+20	250	1 x 2	1.90
EY-2x40-250	40+40	250	1 x 2 1/2	2.55
EY-2x15-350	15+15	350	1 x 2	2.10
EY-2x20-350	20+20	350	1 x 2 1/2	2.35
EY-2x10-450	10+10	450	1 x 2	1.90
EY-2x20-450	20+20	450	1 x 3	2.55
EY-2x40-450	40+40	450	3/8 x 3	3.45
EY-8010-450	80+10	450	1 3/8 x 3	4.25
EY-2x40-500	40+40	500	1 3/8 x 4	4.30
EY-2x1000-15	1000+1000	15	1 3/8 x 3	4.95
EY-200	250/1000	10/6	1 3/8 x 2	2.85
EY-201	80/50	450/50	1 3/8 x 3	3.50
EY-202	20/80	450/350	1 3/8 x 3	3.65
EY-203	40/10	450/350	1 3/8 x 2 1/2	2.60

### Triple Sections

EY-310	40+40+40	25	1 x 2	2.15
EY-312	40+20/100	150/25	1 x 2 1/2	2.50
EY-313	40+20/20	150/25	1 x 2	2.35
EY-314	50+30/30	150/25	1 x 2	2.45
EY-315	20+20+20	150	1 x 2	2.30
EY-316	40+40+40	150	1 x 2 1/2	2.60
EY-317	15+15/20	350/25	1 x 2 1/2	2.55
EY-318	30+30/50	350/50	1 3/8 x 2 1/2	3.05
EY-319	15+10/20	350/25	1 x 2	2.40
EY-320	10+10+10	450	1 x 3	2.50
EY-321	20+20+20	450	1 3/8 x 3	3.45
EY-322	20+20/20	450/25	1 x 3 1/2	2.95
EY-323	40+20/25	450/50	1 3/8 x 3	3.40
EY-324	60+30+10	450	1 3/8 x 3 1/2	4.25
EY-325	40+10/80	450/150	1 3/8 x 3	3.90
EY-326	40+40+10	450	1 3/8 x 3 1/2	4.15
EY-327	10/30/30	450/400/300	1 3/8 x 2 1/2	3.35
EY-328	40+10+10	450	1 3/8 x 2 1/2	3.35
EY-329	40+40+40	450	1 3/8 x 4	4.90
EY-330	40+10/80	450/200	1 3/8 x 3	3.90

### Quadruple Sections

EY-410	40+40+40+20	150/25	1 3/8 x 2	3.15
EY-411	10+10+10+10	450	1 3/8 x 2	3.25
EY-412	20+20+20+20	450	1 3/8 x 3	4.50
EY-413	20/20/20/20	{ 450/400 } { 350/25 }	1 3/8 x 3	3.80
EY-414	40+30+20/20	450/25	1 3/8 x 3 1/2	4.45
EY-415	40+10+10/10	450/350	1 3/8 x 3	3.35



# QUALITY CAPACITORS

ASTRON CORPORATION

255 Grant Ave., E. Newark, N. J.

## TYPE AQ

### Subminiature Paper Capacitors For Operation at 125°C Without Derating

Designed specifically for operation at temperatures up to and including 125°C, without derating, Type AQ offers exceptional capacitance stability over a wide temperature range, high insulation resistance, low power factor, high test voltage in addition to its subminiature size. Type AQ are unusually compact.



To insure unqualified performance for low voltage, as well as high voltage applications, and to offer units with lowest possible resonance losses, Type AQ is supplied only in the extended foil, non-inductive type construction. It has excellent operating characteristics on both AC and DC voltages.

Through the use of Astron's newly developed high temperature impregnant, X-250, Type AQ can be used in operating temperatures from -65°C to +125°C without derating. They are capable of meeting all the stringent and exacting Armed Forces requirements.

Positive assurance of hermetic sealing is provided by the use of glass-to-metal seal terminals. These capacitors may be obtained with either one lead grounded to case or insulated section construction (Type AQF). Supplied in a variety of hermetically sealed metal tubular cases and construction styles.

For glass terminal at each end (internally insulated construction), specify Type AQF and add 1/16" to length. For Type AQF add 50c to list price. For plastic outer sleeve, specify Type AQP, and add 15c to list price.

STANDARD TOLERANCE: -15 +25 percent

Lead Length: 1 3/4" Minimum

Lead Wire Sizes Are as Follows:

CASE DIA.	AWG SIZE
.235	#24
.312	#22
.400 and up	#20

CATALOG NUMBER	CAP. MF.	DIAM.	SIZE LENGTH	LIST PRICE
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### 100 Volts DC Working

AQ-1-0047	.0047	.235 x	1 1/16	\$2.80
AQ-1-01	.01	.235 x	1 1/16	2.95
AQ-1-022	.022	.312 x	1 3/16	3.00
AQ-1-033	.033	.312 x	1 3/16	3.05
AQ-1-047	.047	.312 x	1 3/16	3.15
AQ-1-1	.1	.400 x	1 3/16	3.20
AQ-1-22	.22	.400 x	1 5/16	3.50
AQ-1-27	.27	.562 x	1 1/16	3.60
AQ-1-47	.47	.562 x	1 5/16	4.15
AQ-1-1M	1.0	.670 x	1 9/16	4.85

### 200 Volts DC Working

AQ-2-0047	.0047	.235 x	1 1/16	2.95
AQ-2-01	.01	.312 x	1 3/16	3.10
AQ-2-022	.022	.312 x	1 3/16	3.15
AQ-2-033	.033	.312 x	1 3/16	3.20
AQ-2-047	.047	.400 x	1 3/16	3.25
AQ-2-1	.1	.400 x	1 1/16	3.35
AQ-2-22	.22	.562 x	1 1/16	3.65
AQ-2-27	.27	.562 x	1 5/16	3.75
AQ-2-47	.47	.562 x	1 9/16	4.25
AQ-2-1M	1.0	.750 x	2 1/16	5.25

### 400 Volts DC Working

AQ-4-0047	.0047	.312 x	1 3/16	\$3.15
AQ-4-01	.01	.312 x	1 3/16	3.30
AQ-4-022	.022	.400 x	1 3/16	3.35
AQ-4-033	.033	.400 x	1 3/16	3.40
AQ-4-047	.047	.400 x	1 1/16	3.45
AQ-4-1	.1	.562 x	1 1/16	3.55
AQ-4-22	.22	.562 x	1 9/16	3.85
AQ-4-27	.27	.670 x	1 9/16	4.55
AQ-4-47	.47	.750 x	2 1/16	4.75

### 600 Volts DC Working

AQ-6-0047	.0047	.312 x	1 3/16	3.20
AQ-6-01	.01	.312 x	1 3/16	3.35
AQ-6-022	.022	.400 x	1 3/16	3.40
AQ-6-033	.033	.400 x	1 1/16	3.45
AQ-6-047	.047	.400 x	1 5/16	3.50
AQ-6-1	.1	.562 x	1 5/16	3.75
AQ-6-22	.22	.670 x	1 9/16	4.35
AQ-6-27	.27	.750 x	2 1/16	4.50
AQ-6-47	.47	.750 x	2 1/16	5.25

## TYPE AM

### Molded Paper Tubulars

Type AM paper tubulars are molded in a high temperature, heat resistant, plastic compound.



They will not cold-flow at 100°C. These units are perfectly sealed against the most severe conditions of humidity. Especially designed for continuous operation up to 85°C. Smaller than most conventional paper tubulars and well within RMA size requirements. Type AM molded paper tubulars are clearly labeled with capacity and voltage ratings.

CATALOG NUMBER	CAP. MF.	DIAM.	SIZE LENGTH	LIST PRICE
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### 200 Volts DC

AM-2-01	.01	3/8 x	1	\$0.25
AM-2-02	.02	3/8 x	1	.25
AM-2-05	.05	7/8 x	1 1/4	.25
AM-2-1	.1	1 1/8 x	1 1/2	.35
AM-2-2	.2	5/8 x	1 7/8	.45
AM-2-25	.25	5/8 x	1 7/8	.45
AM-2-5	.5	7/8 x	1 7/8	.60

### 400 Volts DC

AM-4-01	.01	3/8 x	1	.25
AM-4-02	.02	3/8 x	1 1/4	.25
AM-4-05	.05	7/8 x	1 1/2	.30
AM-4-1	.1	1 1/8 x	1 5/8	.35
AM-4-2	.2	5/8 x	1 7/8	.40
AM-4-25	.25	5/8 x	1 7/8	.45

### 600 Volts DC

AM-6-001	.001	3/8 x	1	.25
AM-6-002	.002	3/8 x	1	.25
AM-6-003	.003	3/8 x	1	.25
AM-6-004	.004	3/8 x	1	.25
AM-6-005	.005	3/8 x	1	.25
AM-6-006	.006	3/8 x	1	.25
AM-6-01	.01	7/8 x	1 1/4	.30
AM-6-02	.02	7/8 x	1 1/4	.35
AM-6-03	.03	1/2 x	1 5/8	.35
AM-6-05	.05	1/2 x	1 5/8	.40
AM-6-08	.08	5/8 x	1 7/8	.40
AM-6-1	.1	5/8 x	1 7/8	.45

### 1600 Volts DC

AM-16-001	.001	3/8 x	1 1/4	.55
AM-16-002	.002	3/8 x	1 1/4	.55
AM-16-003	.003	3/8 x	1 1/4	.55
AM-16-005	.005	3/8 x	1 1/4	.55
AM-16-006	.006	7/8 x	1 1/2	.55
AM-16-008	.008	7/8 x	1 1/2	.55
AM-16-01	.01	1/2 x	1 5/8	.60
AM-16-015	.015	1/2 x	1 5/8	.60
AM-16-02	.02	5/8 x	1 7/8	.60
AM-16-03	.03	5/8 x	1 7/8	.60



# METALLIZED PAPER CAPACITORS

## ENGINEERING DATA

### GENERAL DATA

The major constructional difference between conventional paper capacitors and metallized paper capacitors lies in the replacement of the separate layers of metallic foil with an extremely thin metallic film, deposited directly on a lacquered surface of the paper dielectric by a high vacuum vaporizing process. This lacquer coating considerably improves the dielectric strength and insulation resistance of the paper.

The metallic films most commonly used are zinc and aluminum. Zinc has a lower melting point and is much easier to apply to the dielectric. It is not, however, as stable as aluminum and yields a slightly higher power factor. Therefore, aluminum coated paper is preferred and used for most metallized paper capacitors produced in this country.

### SELF-HEALING CHARACTERISTIC

The unique characteristic of self-healing is derived from the thinness of the deposited film, which is in the order of three millionths of an inch. This film oxidizes, melts or vaporizes away from any conducting particle or other flaw within the dielectric layer when voltage is applied. Thus, the weak particle is isolated from the rest of the winding. This characteristic permits the use of less insulation between the electrodes than is commonly used in conventional capacitors. The combination of a very thin aluminum deposit and less insulation accounts for the marked reduction in volume and weight. This is dramatically shown in the following table:

Rated Voltage	Approximate Volume Reduction in % (as against conventional capacitors)
DC	
200	75
400	50
600	30

### VOLTAGE DATA

Due to the self-healing characteristic, metallized paper capacitors will rarely fail, assuring long life when operated within proper voltage and temperature limits. As a matter of fact, the insulation resistance generally improves with time. Since the insulation is normally highly stressed, the application of over-voltages or excessive temperatures will increase the frequency of sparking. If the over-voltages are of an intermittent, momentary nature, shorts that may develop will clear themselves and the capacitor will continue to operate normally. Should over-voltages be prolonged, contin-

uous sparking will occur, causing carbonization of the impregnant and of the dielectric. Thus, the insulation resistance is rapidly reduced making the capacitor unsuitable. It is for these reasons that accelerated life tests are not considered a reliable measure of the quality of metallized paper capacitors and are therefore not recommended.

The test voltage of metallized paper capacitors is normally not in excess of 150% of the rated working voltage at 25°C. applied for a period not exceeding 5 seconds.

The term "test voltage" as applied to metallized paper capacitors, is taken to mean the value at which the number of sparks is relatively small indicating that the faults have been cleared. The test voltage is applied through a resistance that limits the charging current to 50 milliamperes. The capacitor is then discharged through the same resistance.

### DERATING

To prevent the reduction in life expectancy at high temperatures, metallized paper capacitors are derated when operated at ambient temperatures exceeding 55°C. as follows:

### Reduction in Operating Voltage from Rated Voltage, in %

Temperature Centigrade	Mineral Wax Impregnant Rating up to 200 VDC	Mineral Oil Impregnant Rating 400 and 600 VDC
55°	0	0
60°	5	5
65°	10	10
70°	15	15
75°	20	20
80°	25	25
85°	35	30
90°	50	40
95°	65	50

### INSULATION RESISTANCE

The average value of the insulation resistance of metallized paper capacitors is lower than that of conventional paper capacitors, particularly those with a single paper dielectric where a larger number of conducting paths are present. This is due to the higher voltage stresses employed and to a certain amount of deterioration of the impregnant around the  
*(continued on next page)*

# PYRAMID

# METALLIZED PAPER CAPACITORS

## ENGINEERING DATA — Continued

conducting paths that occurs during self-healing, or clearing of the fault. Because the number of faults cleared varies with the number of conducting paths, the variation in insulation resistance is greater than in conventional capacitors. For most applications, the minimum insulation resistance limits exceed actual circuit requirements.

The insulation resistance measured at 25°C., and for an electrification time of two minutes maximum, equals or exceeds the megohm values listed below. The applied voltage will range from 100 VDC to not more than rated working voltage.

Working Voltage	Capacitance	Minimum Megohms/Mfd.	Capacitor Need Not Exceed Megohm Value of
150 VDC	all capacities	250	750
200 VDC	up to 2. mfd.	500	1500
400 VDC	all capacities	1000	3000
600 VDC	all capacities	1000	3000

### LIFE TESTS

A resistance of one ohm per volt to 200 ohms per volt of applied voltage should be connected in series with each capacitor during life test.

Normal life tests are conducted for 1000 hours at DERATED working voltage at 85°C. for hermetically sealed units and 65°C. for non-hermetically sealed units.

As noted previously, accelerated life tests are not recommended. If conducted, however, the applied voltage should be 125% of the DERATED working voltage for 250 hours at 85°C. for hermetically sealed units, and at 65°C. for non-hermetically sealed units.

On completion of tests, the capacity change will not exceed 5% and the power factor will not exceed 1½%.

### APPLICATIONS

At radio frequencies, the RF impedance of metallized capacitors is of about the same order of magnitude as for conventional capacitors. They are ideal for use as by-pass capacitors and for use in interference filters. Because of their light weight and small size, they are well suited for use in portable radios, instruments, aircraft noise suppression systems and other communications equipment.

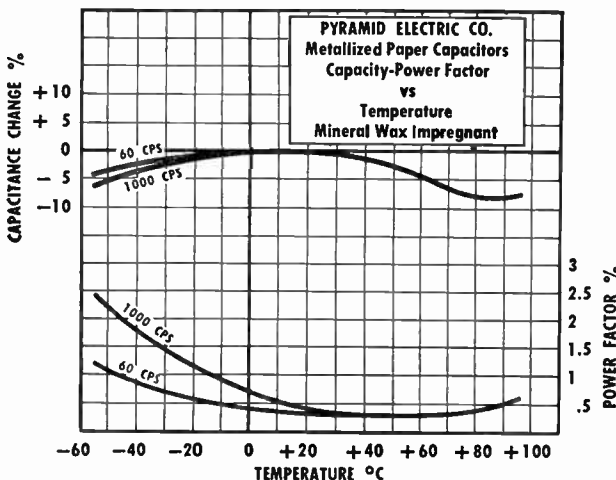
For use in AC circuits, it is important that the capacitor selected have a DC rating in excess of the peak voltage present.

Due to the generally lower insulation resistance they are not recommended for high impedance circuits, coupling circuits, RC timing circuits, RC oscillators, or grid-plate blocking capacitors. The thinness of the aluminum film limits the current carrying capacity of metallized paper capacitors. Therefore, they are not suitable for photoflash circuits or similar heavy current pulse applications.

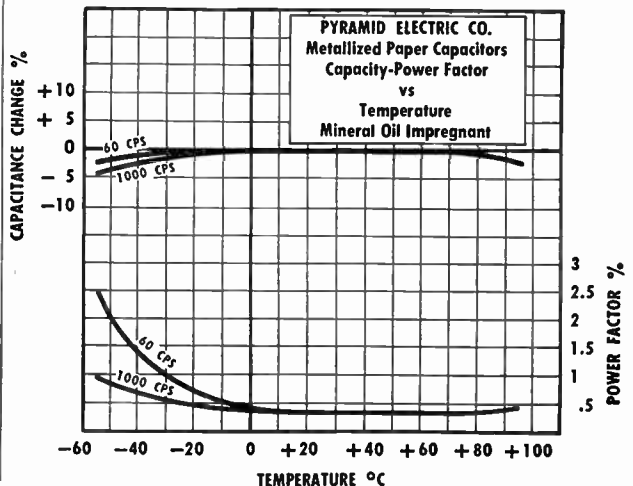
**POWER FACTOR:** The power factor limit of metallized paper capacitors is 1% maximum when measured at or referred to 1000 cycles per second at 25°C.

### CAPACITY AND POWER FACTOR CHANGES WITH TEMPERATURE

#### MINERAL WAX IMPREGNANT



#### MINERAL OIL IMPREGNANT

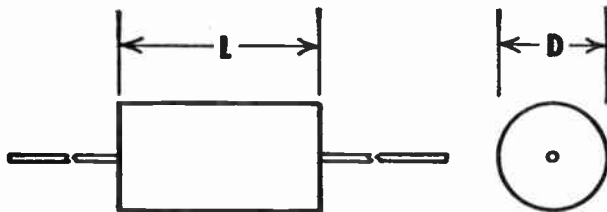




# PYRAMID

# METALLIZED PAPER CAPACITORS

## SERIES MT METALLIZED PAPER CAPACITORS IN IMPREGNATED KRAFT TUBES



1. CONSTRUCTION—Extended foil section assembled in phenolic impregnated kraft tube with plastic end seals. Vacuum impregnated in microcrystalline mineral wax. Overall coating of highly moisture resistant mineral wax.

2. Leads 1 1/2" minimum length in AWG sizes as follows:

Case Diameter	Wire Size
1/4"	No. 24 AWG (.020 dia.)
5/16" to 13/32"	No. 22 AWG (.025 dia.)
7/16" to 11/16"	No. 20 AWG (.032 dia.)
3/4" and over	No. 18 AWG (.040 dia.)

3. Standard tolerance  $\pm 30\%$   $-20\%$ .

4. Operating temperature range  $-40^{\circ}\text{C.}$  to  $+70^{\circ}\text{C.}$

For use at ambient temperatures exceeding  $55^{\circ}\text{C.}$ , see derating chart on page P-116.

### TYPE MT METALLIZED PAPER CAPACITORS

Capacity MFD.	Size, in Inches		List Price
	D	L	
<b>200 WVDC</b>			
.01	1/4	25/32	\$ .65
.02	1/4	25/32	.65
.03	1/4	25/32	.65
.05	1/4	25/32	.65
.1	5/16	25/32	.70
.25	7/16	25/32	.90
.5	7/16	1-1/8	1.05
1.	9/16	1-1/8	1.30
2.	9/16	1-13/16	1.80
<b>400 WVDC</b>			
.01	1/4	25/32	.70
.02	1/4	25/32	.70
.03	5/16	25/32	.70
.05	3/8	25/32	.70
.1	13/32	1-1/8	.80
.25	9/16	1-1/8	1.00
.5	9/16	1-13/16	1.15
1.	3/4	1-13/16	1.60
2.	1	2-3/8	2.75
<b>600 WVDC</b>			
.01	1/4	25/32	.70
.02	5/16	25/32	.70
.03	3/8	25/32	.80
.05	7/16	25/32	.80
.1	15/32	1-1/8	.90
.25	5/8	1-1/8	1.10
.5	5/8	1-13/16	1.45
1.	3/4	2-3/8	1.80
2.	1-1/8	2-3/8	3.10

# PYRAMID

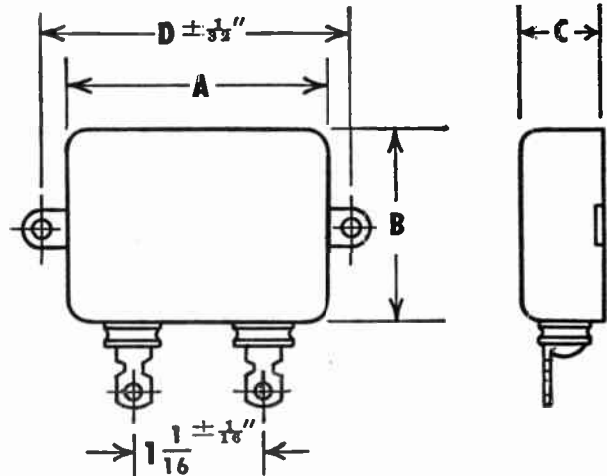
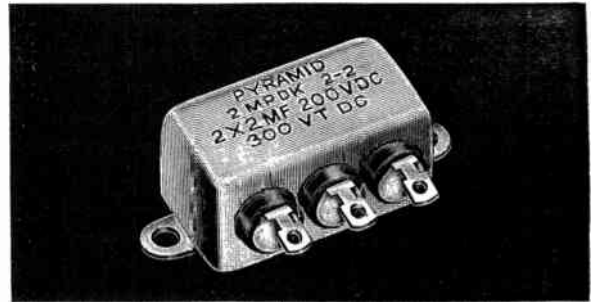
# METALLIZED PAPER CAPACITORS

## SERIES MPD

### METALLIZED PAPER CAPACITORS IN DRAWN SHELL CONTAINERS

1. Construction—Extended foil section assembled in hermetically sealed, tinned bathtub type cases. Standard terminals consist of compression insulators with fixed riveted lugs, located on side.
2. Microcrystalline mineral wax impregnant for units rated up through 200 W.V.D.C.  
Mineral oil impregnant for units rated at 400 and 600 W.V.D.C.
3. Standard tolerance  $\pm 20\%$ .
4. Operating temperature range  $-55^{\circ}\text{C.}$  to  $+95^{\circ}\text{C.}$   
For use at ambient temperatures exceeding  $55^{\circ}\text{C.}$ , see derating chart on page P-90.
5. Will meet JAN tests for vibration, humidity, and temperature and immersion cycling.

Capacity MFD.	A	Size, in Inches		D	List Price
		B	C		
<b>Type MPDK</b>					
<b>150 WVDC</b>					
3.	1-3/4	1	3/4	2-1/8	\$ 5.10
4.	1-3/4	1	7/8	2-1/8	5.75
6.	2	1-3/4	7/8	2-3/8	6.10
8.	2	2	7/8	2-3/8	8.40
10.	2	2	1	2-3/8	9.70
12.	2	2	1	2-3/8	11.00
4.+4.	2	2	7/8	2-3/8	9.00
6.+6.	2	2	1	2-3/8	11.50
<b>200 WVDC</b>					
.5	1-3/4	1	3/4	2-1/8	3.30
1.	1-3/4	1	3/4	2-1/8	3.55
2.	1-3/4	1	3/4	2-1/8	4.45
1.+1.	1-3/4	1	3/4	2-1/8	5.00
2.+2.	1-3/4	1	7/8	2-1/8	6.30
<b>Type MPDM</b>					
<b>400 WVDC</b>					
.25	1-3/4	1	3/4	2-1/8	3.35
.5	1-3/4	1	3/4	2-1/8	3.55
1.	1-3/4	1	7/8	2-1/8	3.95
2.	2	1-3/4	7/8	2-3/8	4.90
4.	2	2	1-1/8	2-3/8	7.85
.25+.25	1-3/4	1	3/4	2-1/8	3.80
.5+.5	1-3/4	1	7/8	2-1/8	4.35
1.+1.	2	1-3/4	7/8	2-3/8	5.50
2.+2.	2	2	1-1/8	2-3/8	8.10
<b>600 WVDC</b>					
.1	1-3/4	1	3/4	2-1/8	3.50
.25	1-3/4	1	3/4	2-1/8	3.55
.5	1-3/4	1	3/4	2-1/8	4.25
1.	1-3/4	1-1/4	7/8	2-1/8	4.90
2.	2	2	1	2-3/8	6.25
.1+.1	1-3/4	1	3/4	2-1/8	4.10
.25+.25	1-3/4	1	3/4	2-1/8	4.95
.5+.5	1-3/4	1-1/4	7/8	2-1/8	5.70
1.+1.	2	2	1	2-3/8	6.60



Type MPDK

Microcrystalline mineral wax impregnant.  
W.V.D.C. up to 200.

Terminals—Compression insulators with fixed riveted lugs, located on side.

OR

Type MPDM

Mineral oil impregnant.  
W.V.D.C.—400 and 600.

Terminals—Compression insulators with fixed riveted lugs, located on side.

### OTHER AVAILABLE STYLES FOR SERIES MPD CAPACITORS

With stud and nut type terminals, add suffix S to basic type designation, as MPDKS. Add \$2.00 to list price.

With glass to metal type terminals, add suffix G to basic type designation, as MPDKG. Add \$3.00 to list price.

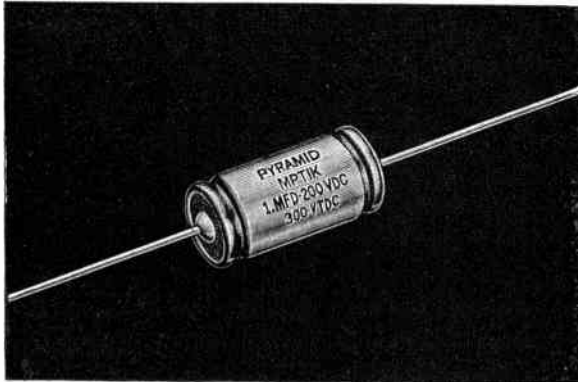
For terminals located on top, add suffix T to basic type designation, as MPDKT or MPDKGT. Add \$2.00 to list price.

For terminals located on bottom, add suffix B to basic type designation, as MPDKB or MPDKGB. Add \$2.00 to list price.

For terminals located on end, add suffix E to basic type designation, as MPDKE or MPDKGE. Add \$2.00 to list price.

# PYRAMID

# METALLIZED PAPER CAPACITORS



1. Construction — Extended foil section assembled in non-ferrous metal tubular cases, hermetically sealed by spun-over synthetic rubber end discs.
2. Microcrystalline mineral wax impregnant for units rated up through 200 W.V.D.C.

Mineral oil impregnant for units rated at 400 and 600 W.V.D.C.

3. Leads  $1\frac{1}{2}$ " minimum length in AWG sizes as follows:

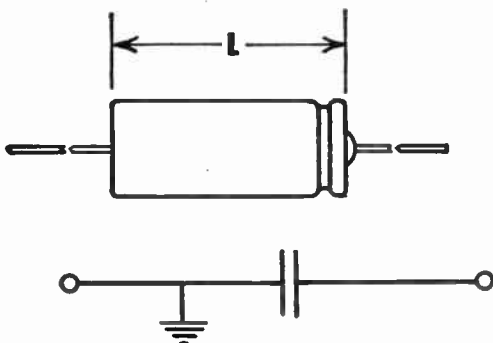
Case Diameter	Wire Size
.375	No. 22 AWG (.025 dia.)
.437 thru .670	No. 20 AWG (.032 dia.)
.750 and over	No. 18 AWG (.040 dia.)

4. Standard tolerance +30% -20%.
5. Operating temperature range -55°C. to +85°C.  
For use at ambient temperatures exceeding 55°C., see derating chart on page P-90.
6. Will meet JAN tests for vibration, humidity, and temperature and immersion cycling.

## SERIES MPT METALLIZED PAPER CAPACITORS IN HERMETICALLY SEALED METAL TUBES

Capacity MFD.	Size, in Inches		List Price	Size, in Inches		List Price
	D ± .015	L ± 1/32		D ± .015	L ± 1/32	
<b>Type MPTK Case Grounded</b>			<b>Type MPTIK Case Floating</b>			
<b>150 WVDC</b>						
3.	3/4	1-13/16	\$3.35	3/4	1-15/16	\$3.35
4.	7/8	1-13/16	4.35	7/8	1-15/16	4.35
6.	1	1-13/16	5.30	1	1-15/16	5.30
<b>200 WVDC</b>						
.05	3/8	13/16	1.40	3/8	15/16	1.40
.1	7/16	13/16	1.45	7/16	15/16	1.45
.25	1/2	13/16	1.60	1/2	15/16	1.60
.5	1/2	1-1/8	1.70	1/2	1-1/4	1.70
1.	5/8	1-5/16	2.10	5/8	1-7/16	2.10
2.	5/8	1-13/16	2.60	5/8	1-15/16	2.60
<b>Type MPTM Case Grounded</b>			<b>Type MPTIM Case Floating</b>			
<b>400 WVDC</b>						
.03	3/8	13/16	1.35	3/8	15/16	1.35
.05	7/16	13/16	1.45	7/16	15/16	1.45
.1	7/16	1-1/8	1.60	7/16	1-1/4	1.60
.25	5/8	1-1/8	1.80	5/8	1-1/4	1.80
.5	5/8	1-13/16	2.00	5/8	1-15/16	2.00
1.	3/4	2-5/16	2.50	3/4	2-7/16	2.50
2.	1	2-5/16	3.60	1	2-7/16	3.60
<b>600 WVDC</b>						
.01	3/8	13/16	1.35	3/8	15/16	1.35
.02	7/16	13/16	1.45	7/16	15/16	1.45
.03	7/16	13/16	1.50	7/16	15/16	1.50
.05	1/2	13/16	1.55	1/2	15/16	1.55
.1	1/2	1-5/16	1.70	1/2	1-7/16	1.70
.25	5/8	1-5/16	2.00	5/8	1-7/16	2.00
.5	3/4	1-13/16	2.40	3/4	1-15/16	2.40
1.	13/16	2-5/16	3.00	13/16	2-7/16	3.00
2.	1-1/4	2-5/16	4.00	1-1/4	2-7/16	4.00

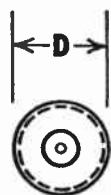
### BASIC TYPES



Type MPTK

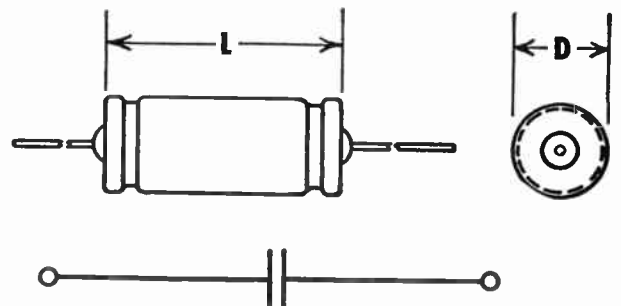
Case grounded.  
Mineral wax impregnation.  
W.V.D.C. up to 200.

OR



Type MPTM

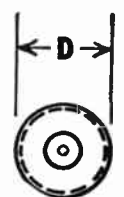
Case grounded.  
Mineral oil impregnation.  
W.V.D.C. — 400-600.



Type MPTIK

Case floating.  
Mineral wax impregnation.  
W.V.D.C. up to 200.

OR



Type MPTIM

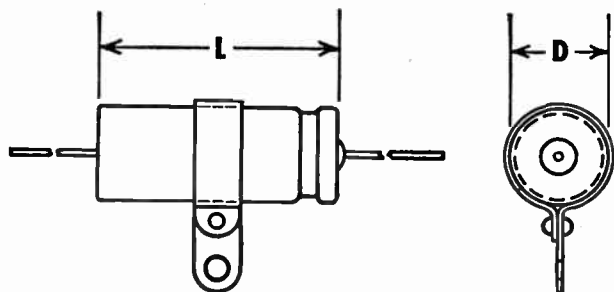
Case floating.  
Mineral oil impregnation.  
W.V.D.C. — 400-600.

# PYRAMID

# METALLIZED PAPER CAPACITORS

## OTHER AVAILABLE STYLES FOR SERIES MPT CAPACITORS

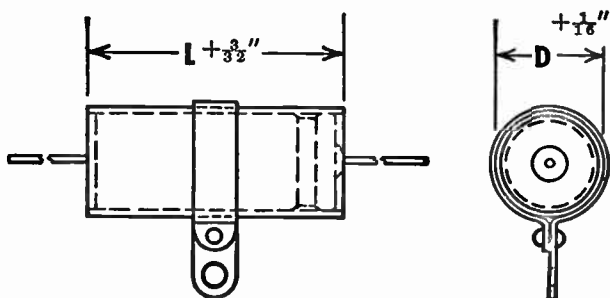
Style 4



With riveted wrap around bracket over case. Located in center unless otherwise specified. Add prefix 4 to basic type designation, as 4MPTK.

Add \$.10 to list price.

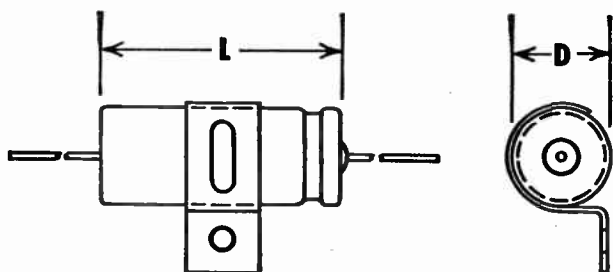
Style 4V.



With riveted wrap around bracket over plastic sleeve. Located in center unless otherwise specified. Add prefix 4 and suffix V to basic type designation, as 4MPTKV.

Add \$.30 to list price.

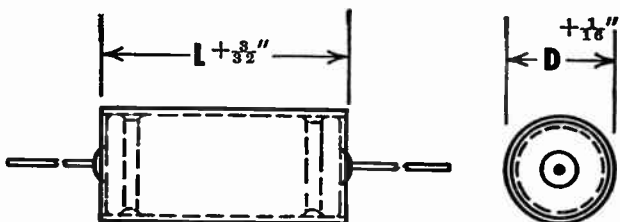
Style 7



With soldered tangential bracket. Mounting face parallel to axis of capacitor and located in center, unless otherwise specified. Add prefix 7 to basic designation, as 7MPTK.

Add \$.15 to list price.

Style V.

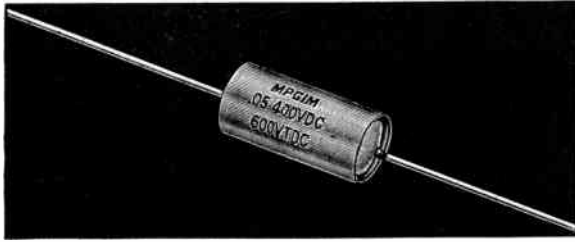


Case insulated with outer plastic sleeve. Add suffix V to basic type designation, as MPTIKV.

Add \$.20 to list price.

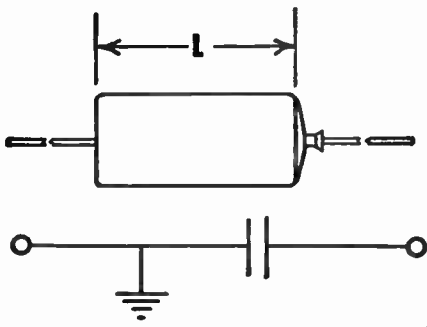
# PYRAMID

# METALLIZED PAPER CAPACITORS



## SERIES MPG METALLIZED PAPER CAPACITORS IN METAL TUBES WITH "GLASSEAL" TERMINALS

### SERIES MPG — BASIC TYPES

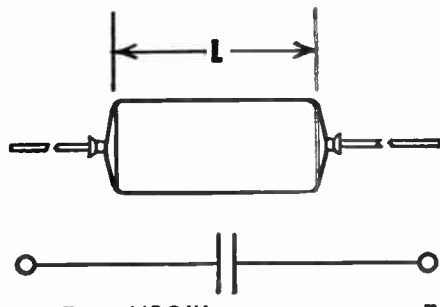


**Type MPGK**  
Case grounded.  
Mineral wax impregnation.  
W.V.D.C. up to 200.

OR

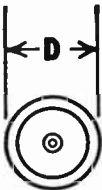


**Type MPGM**  
Case grounded.  
Mineral oil impregnation.  
W.V.D.C. — 400-600.



**Type MPGIK**  
Case floating.  
Mineral wax impregnation.  
W.V.D.C. up to 200.

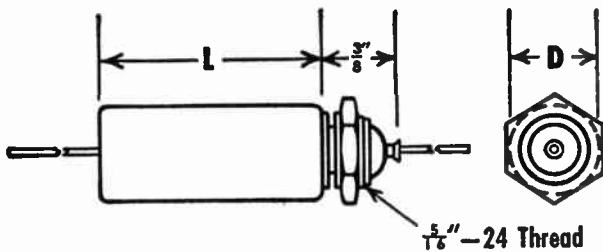
OR



**Type MPGIM**  
Case floating.  
Mineral oil impregnation.  
W.V.D.C. — 400-600.

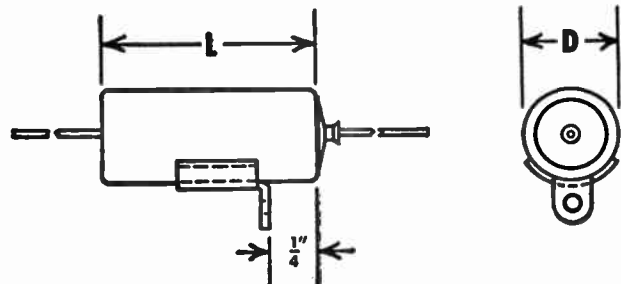
### OTHER AVAILABLE STYLES FOR SERIES MPG CAPACITORS

Style 3



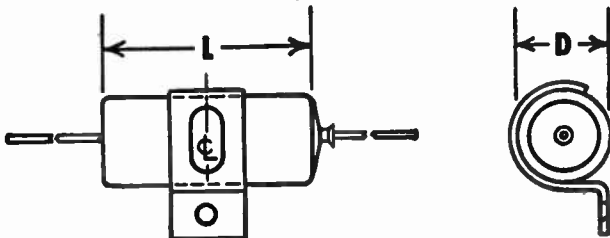
With threaded end bushing for vertical mounting. Supplied with lockwasher and nut. Minimum diameter = .400. Add prefix 3 to basic type designation, as 3MPGK. Add \$.75 to list price.

Style 6



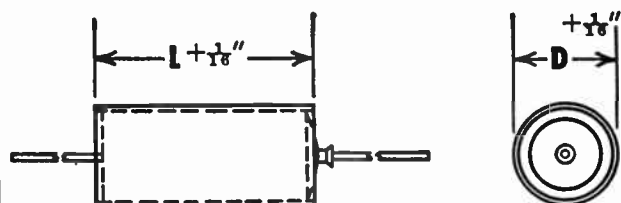
With soldered bracket. Mounting face at right angles to axis of capacitor, and 1/4" from end, unless otherwise specified. Add prefix 6 to basic designation, as 6MPGK. Add \$.40 to list price.

Style 7



With soldered tangential bracket. Mounting face parallel to axis of capacitor and located in center, unless otherwise specified. Add prefix 7 to basic type designation, as 7MPGK. Add \$.35 to list price.

Style V



Case insulated with outer plastic sleeve. Add suffix V to basic type designation, as MPGKV. Add \$.20 to list price.

# PYRAMID

# METALLIZED PAPER CAPACITORS

1. Construction—Extended foil sections assembled in non-ferrous metal tubular cases, hermetically sealed with glass to metal "Glasseal" solder terminals.

2. Microcrystalline mineral wax impregnant for units rated up through 200 W.V.D.C.

Mineral oil impregnant for units rated at 400 and 600 W.V.D.C.

3. Leads 1 1/2" minimum length in AWG sizes as follows:

Case Diameter	Wire Size
.235	No. 24 AWG (.020 dia.)
.312	No. 22 AWG (.025 dia.)
.400 thru .562	No. 20 AWG (.032 dia.)
.670 and over	No. 18 AWG (.040 dia.)

4. Standard tolerance  $\pm 20\%$ .

5. Operating temperature range  $-55^{\circ}\text{C.}$  to  $+95^{\circ}\text{C.}$

For use at ambient temperatures exceeding  $55^{\circ}\text{C.}$ , see derating chart on page P-90.

6. Will meet JAN tests for vibration, humidity, and temperature and immersion cycling.

## TYPE MPGK METALLIZED PAPER CAPACITORS MINERAL WAX IMPREGNATED

Capacity MFD.	Size, in Inches		List Price	Size, in Inches		List Price
	D $\pm$ .010	L $\pm$ 1/32		D $\pm$ .010	L $\pm$ 1/32	

Type MPGK Case Grounded	Type MPGK Case Floating
----------------------------	----------------------------

### 150 WVDC

3.	.750	1-3/4	\$5.95	.750	1-13/16	\$ 6.95
4.	1.000	1-3/4	7.50	1.000	1-13/16	8.50
6.	1.000	1-3/4	8.75	1.000	1-13/16	9.75
8.	1.000	2-1/4	9.75	1.000	2-5/16	10.75

### 200 WVDC

.01	.235	3/4	2.65	.235	13/16	3.65
.02	.235	3/4	2.70	.235	13/16	3.70
.03	.235	3/4	2.75	.235	13/16	3.75
.04	.235	3/4	2.80	.235	13/16	3.80
.047	.235	3/4	2.85	.235	13/16	3.85
.05	.235	3/4	2.85	.235	13/16	3.85
.068	.312	3/4	2.90	.312	13/16	3.90
.1	.312	3/4	2.95	.312	13/16	3.95
.15	.312	1-1/16	3.00	.312	1-1/8	4.00
.2	.312	1-1/16	3.15	.312	1-1/8	4.15
.22	.312	1-1/16	3.25	.312	1-1/8	4.25
.25	.312	1-1/16	3.40	.312	1-1/8	4.40
.33	.400	1-1/16	3.55	.400	1-1/8	4.55
.47	.400	1-1/16	3.85	.400	1-1/8	4.85
.5	.400	1-1/16	4.00	.400	1-1/8	5.00
.68	.562	1-1/16	4.15	.562	1-1/8	5.15
1.	.562	1-1/4	4.70	.562	1-5/16	5.70
1.5	.562	1-3/4	5.40	.562	1-13/16	6.40
2.	.562	1-3/4	6.80	.562	1-13/16	7.80

## TYPE MPGM METALLIZED PAPER CAPACITORS MINERAL OIL IMPREGNATED

Capacity MFD.	Size, in Inches		List Price	Size, in Inches		List Price
	D $\pm$ .010	L $\pm$ 1/32		D $\pm$ .010	L $\pm$ 1/32	

Type MPGM Case Grounded	Type MPGM Case Floating
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### 400 WVDC

.01	.235	3/4	\$2.80	.235	13/16	\$3.80
.02	.235	3/4	2.90	.235	13/16	3.90
.022	.312	3/4	2.90	.312	13/16	3.90
.03	.312	3/4	2.95	.312	13/16	3.95
.033	.312	3/4	2.95	.312	13/16	3.95
.04	.312	3/4	3.00	.312	13/16	4.00
.047	.400	3/4	3.05	.400	13/16	4.05
.05	.400	3/4	3.10	.400	13/16	4.10
.068	.400	1-1/16	3.15	.400	1-1/8	4.15
.1	.400	1-1/16	3.30	.400	1-1/8	4.30
.15	.500	1-1/16	3.55	.500	1-1/8	4.55
.2	.500	1-1/16	3.70	.500	1-1/8	4.70
.22	.562	1-1/16	3.85	.562	1-1/8	4.85
.25	.562	1-1/16	3.95	.562	1-1/8	4.95
.33	.562	1-1/4	4.10	.562	1-5/16	5.10
.47	.562	1-3/4	4.65	.562	1-13/16	5.65
.5	.562	1-3/4	4.85	.562	1-13/16	5.85
.68	.670	1-3/4	5.05	.670	1-13/16	6.05
1.	.670	2-1/4	5.65	.670	2-5/16	6.65
2.	1.000	2-1/4	6.95	1.000	2-5/16	7.95

### 600 WVDC

.01	.235	3/4	2.90	.235	13/16	3.90
.015	.312	3/4	2.95	.312	13/16	3.95
.02	.312	3/4	2.95	.312	13/16	3.95
.022	.312	3/4	3.00	.312	13/16	4.00
.03	.312	3/4	3.10	.312	13/16	4.10
.033	.400	3/4	3.15	.400	13/16	4.15
.04	.400	3/4	3.15	.400	13/16	4.15
.047	.400	3/4	3.20	.400	13/16	4.20
.05	.400	3/4	3.25	.400	13/16	4.25
.068	.400	1-1/16	3.35	.400	1-1/8	4.35
.1	.500	1-1/16	3.65	.500	1-1/8	4.65
.15	.500	1-1/16	3.85	.500	1-1/8	4.85
.2	.562	1-1/4	4.00	.562	1-5/16	5.00
.22	.562	1-1/4	4.20	.562	1-5/16	5.20
.25	.562	1-1/4	4.50	.562	1-5/16	5.50
.33	.562	1-3/4	4.80	.562	1-13/16	5.80
.47	.670	1-3/4	5.15	.670	1-13/16	6.15
.5	.670	1-3/4	5.85	.670	1-13/16	6.85
.68	.670	2-1/4	6.05	.670	2-5/16	7.05
1.	.750	2-1/4	6.70	.750	2-5/16	7.70
1.5	1.000	2-1/4	7.50	1.000	2-5/16	8.50

# PYRAMID ELECTROLYTIC CAPACITORS

## "TYNEE-DRY" TYPE TD D. C. DRY ELECTROLYTIC CAPACITORS IN METAL TUBES



- Top quality, in minimum space.
- Low leakage, long shelf life.
- Each unit sealed in metal tube, with insulating cardboard sleeve.
- 3" bare wire leads.
- Attractively packaged.

### SINGLE CAPACITANCE UNITS

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
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#### 6 VOLTS WORKING

TD-1000-6	1000	15/16	2-1/8	\$1.90
TD-1500-6	1500	1-1/16	2-1/8	2.10
TD-2000-6	2000	1-1/16	2-5/8	2.30

#### 12 VOLTS WORKING

TD-250-12	250	15/16	1-3/4	1.45
TD-500-12	500	15/16	2-1/8	1.70

#### 15 VOLTS WORKING

TD-100-15	100	11/16	1-3/4	1.25
TD-250-15	250	15/16	1-3/4	1.55
TD-500-15	500	15/16	2-1/8	1.75

#### 25 VOLTS WORKING; 40 VOLTS PEAK

TD-10-25	10	11/16	1-3/8	1.00
TD-25-25	25	11/16	1-3/8	1.00
TD-50-25	50	11/16	1-3/8	1.10
TD-100-25	100	13/16	1-3/4	1.35
TD-150-25	150	13/16	1-3/4	1.50
TD-200-25	200	15/16	1-3/4	1.60
TD-250-25	250	15/16	1-3/4	1.70
TD-500-25	500	1-1/16	2-1/8	2.30

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter	Length	List Price
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#### 50 VOLTS WORKING; 70 VOLTS PEAK

TD-5-50	5	11/16	1-3/8	\$1.00
TD-10-50	10	11/16	1-3/8	1.00
TD-25-50	25	11/16	1-3/8	1.05
TD-50-50	50	11/16	1-3/8	1.20
TD-100-50	100	13/16	1-3/4	1.40

#### 100 VOLTS WORKING UNITS FOR SMALL BATTERY RECEIVERS

TD-8-100	8	1/2	1-3/16	1.00
TD-16-100	16	9/16	1-3/16	1.00
TD-20-100	20	9/16	1-3/16	1.00

#### 150 VOLTS WORKING; 225 VOLTS PEAK

TD-4-150	4	11/16	1-3/4	1.00
TD-8-150	8	11/16	1-3/4	1.05
TD-12-150	12	11/16	1-3/4	1.10
TD-16-150	16	11/16	1-3/4	1.15
TD-20-150	20	11/16	1-3/4	1.20
TD-24-150	24	13/16	1-3/4	1.25
TD-30-150	30	13/16	1-3/4	1.30
TD-40-150	40	13/16	1-3/4	1.35
TD-50-150	50	13/16	1-3/4	1.40
TD-80-150	80	15/16	2-1/8	1.60

Continued on opposite page

# PYRAMID ELECTROLYTIC CAPACITORS

## "TYNEE-DRY" TYPE TD, continued

### SINGLE CAPACITANCE UNITS—continued

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter Length		List Price
<b>250 VOLTS WORKING; 325 VOLTS PEAK</b>				
TD-8-250	8	11/16	1-3/4	\$1.15
TD-16-250	16	13/16	1-3/4	1.30
TD-20-250	20	13/16	1-3/4	1.35
TD-24-250	24	13/16	1-3/4	1.40
TD-30-250	30	15/16	1-3/4	1.45
TD-40-250	40	15/16	1-3/4	1.55

### 350 VOLTS WORKING; 425 VOLTS PEAK

TD-8-350	8	11/16	1-3/4	1.20
TD-16-350	16	13/16	1-3/4	1.40
TD-20-350	20	13/16	1-3/4	1.45
TD-30-350	30	15/16	2-1/8	1.65
TD-40-350	40	1-1/16	2-1/8	1.75

### 450 VOLTS WORKING; 525 VOLTS PEAK

TD-4-450	4	13/16	1-3/4	1.15
TD-8-450	8	13/16	1-3/4	1.25
TD-10-450	10	13/16	1-3/4	1.30
TD-12-450	12	15/16	2-1/8	1.35
TD-16-450	16	15/16	2-1/8	1.40
TD-20-450	20	15/16	2-1/8	1.55
TD-30-450	30	1-1/16	2-1/8	1.70
TD-40-450	40	1-1/16	2-5/8	1.80
TD-80-450	80	1	3-11/16	2.80

### 525 VOLTS WORKING; 600 VOLTS PEAK

TD-8-525	8	15/16	1-3/4	1.40
TD-16-525	16	1-1/16	2-1/8	2.20

### \* DUAL CAPACITANCE UNITS

Two Positive Bare Wire Leads  
At One End;  
Common Negative At Opposite End

Part Number	Capacity Mfd.	Outside Dimensions, Inches Diameter Length		List Price
<b>50 VOLTS WORKING; 70 VOLTS PEAK</b>				
TD-D10-50	10+10	13/16	1-3/4	\$1.40

### † 50 VOLTS WORKING; 225 VOLTS PEAK

TD-D8-150	8+8	13/16	1-3/4	1.50
TD-816-150	8+16	13/16	1-3/4	1.55
TD-D16-150	16+16	13/16	1-3/4	1.80
TD-D20-150	20+20	13/16	1-3/4	1.65
TD-D30-150	30+30	15/16	2-1/8	1.75
TD-4020-150	40+20	15/16	2-1/8	1.75
TD-D40-150	40+40	15/16	2-1/8	1.80
TD-5030-150	50+30	15/16	2-1/8	1.95
TD-D50-150	50+50	15/16	2-1/8	2.10
TD-8040-150	80+40	1-1/16	2-1/8	2.40

### 450 VOLTS WORKING; 525 VOLTS PEAK

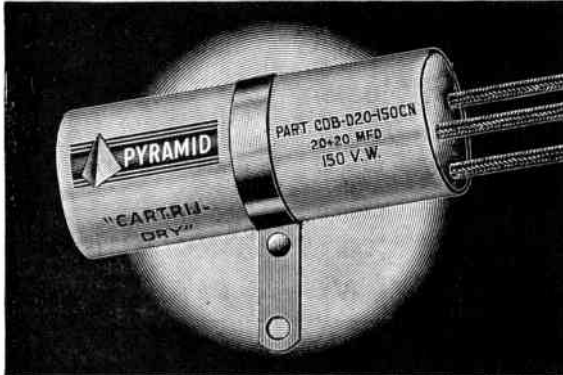
TD-D4-450	4+4	15/16	2-1/8	1.60
TD-48-450	4+8	15/16	2-1/8	1.65
TD-D8-450	8+8	15/16	2-1/8	1.70
TD-D10-450	10+10	15/16	2-1/8	1.80
TD-816-450	8+16	1-1/16	2-1/8	2.00
TD-D16-450	16+16	1-1/16	2-5/8	2.40
TD-D20-450	20+20	1-1/16	2-5/8	2.50

\*For dual units in wax-filled tubes, with flexible leads and assembled mounting brackets, see Type CDB capacitors on page following.



# PYRAMID ELECTROLYTIC CAPACITORS

## "CARTRIJ-DRY" TYPE CDB D. C. DRY ELECTROLYTIC CAPACITORS IN IMPREGNATED CARDBOARD CONTAINERS



- Low leakage, long shelf life.
- Wax-filled, impregnated cardboard tubes.
- 6" flexible insulated leads at one end of tube.
- Assembled mounting strap.
- Attractively packaged.

Part Number	Capacity Mfd.	Outside Dimensions, Inches		List Price
		Diameter	Length	
<b>*Duals, Common Negative; Three Leads; 150 Volts Working; 225 Volts Peak</b>				
CDB-D16-150CN	16+16	7/8	2 3/8	\$1.60
CDB-D20-150CN	20+20	7/8	2 3/8	1.65
CDB-D30-150CN	30+30	1	2 3/8	1.75
CDB-4020-150CN	40+20	1	2 3/8	1.75
CDB-D40-150CN	40+40	1	2 3/8	1.80
CDB-5030-150CN	50+30	1	2 3/8	1.95
CDB-D50-150CN	50+50	1	2 3/8	2.10
CDB-8050-150CN	80+50	1	3	2.30

\*For dual units, in small metal tubes with 3" bare wire leads but less mounting strap, see Type TD capacitors on Pages P-124 and P-125.

### Duals, Common Negative; Three Leads; 450 Volts Working; 525 Volts Peak

CDB-D8-450CN	8+8	1	2 3/8	\$1.70
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### Duals, Separate Sections; Four Leads; 150 Volts Working; 225 Volts Peak

CDB-D16-150SS	16+16	1	2 3/8	\$1.95
CDB-D20-150SS	20+20	1	2 3/8	2.05
CDB-D40-150SS	40+40	1 1/4	3	2.30

### Duals, Separate Sections; Four Leads; 450 Volts Working; 525 Volts Peak

CDB-D8-450SS	8+8	1	3	\$2.15
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### Triples, Common Negative; Four Leads; 150 Volts Working; 225 Volts Peak

Part Number	Capacity Mfd., in Sequence	D.C. Working Voltage in Sequence	Outside Dimensions, Inches		List Price
			Diameter	Length	
CDB-T20-150CN	20+20+20	150	1	2 3/8	\$2.15
CDB-404020-150CN	40+40+20	150	1	3	2.30
CDB-T40-150CN	40+40+40	150	1	3	2.45
CDB-21	40+40+25	150-150-25	1	3	2.20
CDB-41	50+30+25	150-150-25	1	3	2.35
CDB-43	50+30+100	150-150-25	1	3	2.55
CDB-45	50+30+200	150-150-10	1	3	2.75
CDB-47	70+30+150	150-150-25	1	3 5/8	3.25

# PYRAMID ELECTROLYTIC CAPACITORS

## "METL-CAN" TYPE MC D. C. DRY ELECTROLYTIC CAPACITORS IN SCREW-BASE METAL CONTAINERS

- Low leakage, long shelf life.
- Insulated screw-base aluminum containers provide maximum protection against humidity.
- 6" flexible insulated leads.
- Supplied with palnut for mounting.
- Attractively packaged.

### Single Section Units; Two 6" Flexible Insulated Leads

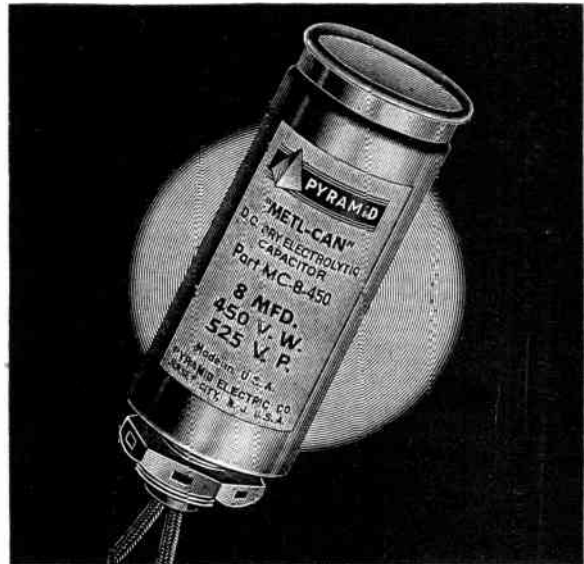
Part Number	Capacity Mfd.	Can Body Size in Inches		List Price
		Diameter	Height	
<b>450 VOLTS WORKING; 525 VOLTS PEAK</b>				
MC-4-450	4	1 3/8	3 1/8	\$2.00
MC-8-450	8	1 3/8	3 1/8	2.20
MC-12-450	12	1 3/8	3 1/8	2.35
MC-16-450	16	1 3/8	3 1/8	2.45
MC-20-450	20	1 3/8	3 1/8	2.70
MC-30-450	30	1 3/8	3 1/8	3.00
MC-40-450	40	1 3/8	3 1/8	3.15

### 525 VOLTS WORKING; 600 VOLTS PEAK

MC-8-525	8	1 3/8	3 1/8	3.30
MC-16-525	16	1 3/8	3 1/8	3.75

### 600 VOLTS WORKING; HIGHEST QUALITY SERIES-WOUND CONSTRUCTION

MC-4-600	4	1 3/8	3 1/8	3.30
MC-8-600	8	1 3/8	3 1/8	3.15
MC-12-600	12	1 3/8	3 1/8	3.50
MC-16-600	16	1 3/8	3 1/8	3.70



### Dual Section Units; 450 Volts Working; 525 Volts Peak; Separate Section Construction; Four 6" Flexible Insulated Leads

Part Number	Capacity Mfd.	Can Body Size in Inches		List Price
		Diameter	Height	
MC-D4-450SS	4+4	1 3/8	3 1/8	\$2.40
MC-48-450SS	4+8	1 3/8	3 1/8	3.00
MC-D8-450SS	8+8	1 3/8	3 1/8	3.00
MC-816-450SS	8+16	1 3/8	3 1/8	3.30
MC-D16-450SS	16+16	1 3/8	3 1/8	3.55
MC-D20-450SS	20+20	1 3/8	3 1/8	4.10

### Dual Section Units; 450 Volts Working; 525 Volts Peak; Common Negative Construction; Three 6" Flexible Insulated Leads

Part Number	Capacity Mfd.	Can Body Size in Inches		List Price
		Diameter	Height	
MC-D4-450CN	4+4	1 3/8	3 1/8	\$2.40
MC-48-450CN	4+8	1 3/8	3 1/8	3.00
MC-D8-450CN	8+8	1 3/8	3 1/8	3.00
MC-816-450CN	8+16	1 3/8	3 1/8	3.30
MC-D16-450CN	16+16	1 3/8	3 1/8	3.55
MC-D20-450CN	20+20	1 3/8	3 1/8	4.10

# PYRAMID ELECTROLYTIC CAPACITORS

## "TWIST-MOUNT" TYPE TM D. C. DRY ELECTROLYTIC CAPACITORS IN METAL CONTAINERS



- Grounded aluminum containers provide maximum protection against moisture.
- Low leakage, long shelf life.
- Easily identified terminal coding.
- Supplied with both metal and bakelite mounting plates.
- Attractively packaged.

### SINGLE CAPACITANCE UNITS

Part Number	Capacity Mfd.	D.C. Working Voltage	Can Size, Inches Diameter	Height	List Price
TM-1000-6	1000	6	1	3	\$1.90
TM-1000-12	1000	12	1	3	2.25
TM-100-25	100	25	1	2	1.60
TM-250-25	250	25	1	2	1.70
TM-500-25	500	25	1	2-1/2	2.55
TM-1000-25	1000	25	1	3	3.55
TM-500-50	500	50	1	2-1/2	2.65
TM-20-150	20	150	1	2	1.45
TM-30-150	30	150	1	2	1.55
TM-40-150	40	150	1	2	1.60
TM-80-150	80	150	1	2	1.85
TM-100-150	100	150	1	3	2.10
TM-80-300	80	300	1	3	2.55
TM-10-450	10	450	1	2	1.55
TM-20-450	20	450	1	2	1.80
TM-30-450	30	450	1	3	1.95
TM-40-450	40	450	1	3	2.05
TM-80-450	80	450	1-3/8	3	3.05
TM-10-525	10	525	1	2	1.60
TM-20-525	20	525	1	3	1.85
TM-40-525	40	525	1-3/8	3	2.50
TM-80-525	80	525	1-3/8	3-1/2	4.20

NOTE: Each of the units listed above is regularly supplied with a bakelite as well as a metal mounting plate. Where additional hardware is required, order from listing at bottom of page P-104.

# PYRAMID ELECTROLYTIC CAPACITORS

## "TWIST-MOUNT" TYPE TM, continued

### DUAL CAPACITANCE UNITS

Part Number	Capacity Mfd.	D.C. Working Voltage	Can Size, Inches Diameter	Height	List Price
TM-D1000-15	1000+1000	15	1-3/8	3	\$4.40
TM-D20-150	20+20	150	1	2	1.70
TM-D30-150	30+30	150	1	2	1.80
TM-4020-150	40+20	150	1	2	1.80
TM-D40-150	40+40	150	1	2	1.85
TM-5030-150	50+30	150	1	2	2.00
TM-D50-150	50+50	150	1	2	2.15
TM-8040-150	80+40	150	1	3	2.30
TM-D100-150	100+100	150	1-3/8	3	3.45
TM-D80-300	80+80	300	1-3/8	3	4.05
TM-D40-350	40+40	350	1-3/8	3	2.95
TM-D10-450	10+10	450	1	2	1.85
TM-D16-450	16+16	450	1	3	2.35
TM-D20-450	20+20	450	1	3	2.55
TM-3015-450	30+15	450	1-3/8	2-1/2	2.80
TM-D30-450	30+30	450	1-3/8	2-1/2	3.05
TM-D40-450	40+40	450	1-3/8	3	3.40
TM-D40-525	40+40	525	1-3/8	3-1/2	4.30

### TRIPLE CAPACITANCE UNITS

Part Number	Capacity Mfd., in Sequence	D.C. Working Voltage, in Sequence	Can Size, Inches Diameter	Height	List Price
TM-1	20+20+25	150-150-25	1	2	\$2.20
TM-21	20+20+100	150-150-25	1	2	2.50
TM-41	40+40+25	150-150-25	1	2-1/2	2.50
TM-49	50+30+100	150-150-25	1	3	2.70
TM-T20-150	20+20+20	150	1	2	2.30
TM-402020-150	40+20+20	150	1	2-1/2	2.45
TM-403020-150	40+30+20	150	1	2-1/2	2.45
TM-404020-150	40+40+20	150	1	2-1/2	2.50
TM-T40-150	40+40+40	150	1	3	2.60
TM-804020-150	80+40+20	150	1	3	2.80
TM-61	50+50+25	150-150-25	1	2-1/2	2.65
TM-81	80+40+25	150-150-25	1	3	2.85
TM-808060-300	80+80+60	300	1-3/8	3-1/2	4.50
TM-101	10+10+20	450-450-25	1	3	2.35
TM-T10-450	10+10+10	450	1	3	2.60
TM-T16-450	16+16+16	450	1-3/8	3	3.30
TM-T20-450	20+20+20	450	1-3/8	3	3.55
TM-111	30+15+30	450-450-150	1-3/8	3	3.70

# PYRAMID ELECTROLYTIC CAPACITORS

## "TWIST-MOUNT" TYPE TM, continued

### QUADRUPLE CAPACITANCE UNITS

Part Number	Capacity Mfd., in Sequence	D.C. Working Voltage, in Sequence	Can Size, Inches		List Price
			Diameter	Height	
TM-140	40+40+40+25	150-150-150-25	1-3/8	2-1/2	\$3.20
TM-143	80+40+30+100	150-150-150-25	1-3/8	2-1/2	3.90
TM-151	10+10+10+20	450-450-450-25	1-3/8	2	3.10
TM-Q10-450	10+10+10+10	450	1-3/8	2	3.35
TM-Q16-450	16+16+16+16	450	1-3/8	3	3.95
TM-Q20-450	20+20+20+20	450	1-3/8	3	4.70
TM-146	20+20+20+20	450-450-450-25	1-3/8	3	3.85
TM-148	30+30+10+20	500-500-450-25	1-3/8	3-1/2	4.90

## EXACT REPLACEMENTS FOR MODEL 630 RECEIVERS

Built to Original Size and High Quality Specifications, Including Rigid Requirement for Satisfactory Operation at 85° C. (185° F.)

RCA Original Part No.	RCA Stock No.	Pyramid Replacement No.	Description	List Price
M-95681-6	71431	22.22	40+10 mfd. 450 v.w. + 80 mfd. 150 v.w.	\$3.90
M-95681-7	71432	22.23	40+40+10 mfd. 450 v.w.	4.15
M-95681-8	71433	22.24	80 mfd. 450 v.w. + 50 mfd. 50 v.w.	3.50
M-95681-9	71434	22.25	40+10 mfd. 450 v.w. + 10 mfd. 350 v.w.	3.30
M-95681-10	71435	22.26	20 mfd. 450 v.w. + 80 mfd. 350 v.w.	3.60
M-95686-6	71436	22.27	250 mfd. 10 v.w. + 1000 mfd. 6 v.w.	3.90

NOTE: Each of the units listed above is regularly supplied with a bakelite as well as a metal mounting plate. Where additional hardware is required, order from this listing.



Part Number	Description	List Price
TMMP-1	Metal grounding plate for 1" dia. cans	\$.06
TMMP-2	Bakelite insulating plate for 1" dia. cans	.06
TMMP-8	Metal grounding plate for 1 3/8" dia. cans	.06
TMMP-9	Bakelite insulating plate for 1 3/8" dia. cans	.06

# PYRAMID

# PAPER CAPACITORS



## MINIATURE TUBULAR PAPER CAPACITORS

FOR 85°C. APPLICATIONS

### PYRAMID TYPE 85LPT

**CONSTRUCTION:** Sturdily built in phenolic-impregnated tubes, plastic end-filled.

**VOLTAGE:** Designed for continuous operation at rated D.C. voltage.

**TEMPERATURE:** Will operate at maximum temperature of 85° C.

**DIELECTRIC STRENGTH:** Will withstand 2½ times rated voltage for 5 seconds.

**HUMIDITY:** Satisfactorily withstand standard RMA humidity test.

**LIFE TEST:** Designed to withstand life test of 250 hours at 85° C.

#### 200 V. D. C. W.

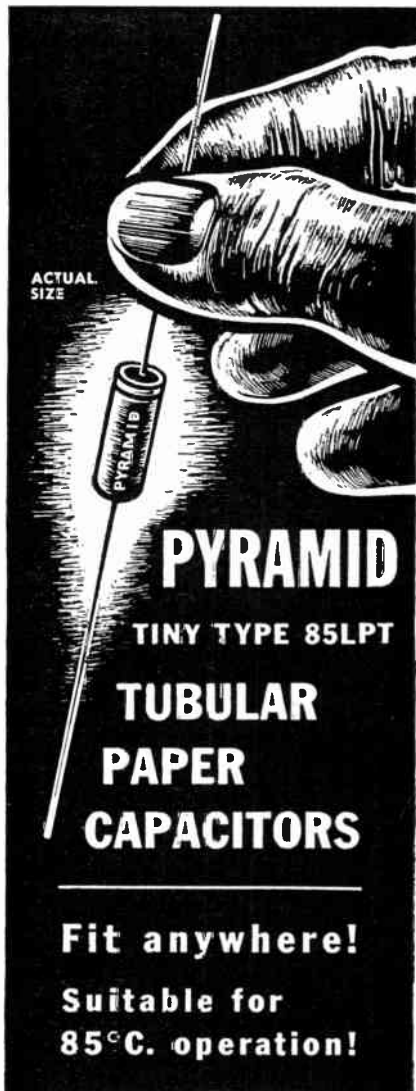
Catalog No.	Capacity Mfd.	Dimensions, Inches		List Price
		Diameter	Length	
85LPT2-D1	.001	1/4	5/8	\$.35
85LPT2-D2	.002	1/4	5/8	.35
85LPT2-D3	.003	1/4	5/8	.35
85LPT2-D4	.004	1/4	5/8	.35
85LPT2-D5	.005	1/4	5/8	.35
85LPT2-D6	.006	1/4	5/8	.35
85LPT2-S1	.01	1/4	5/8	.40
85LPT2-S2	.02	9/32	13/16	.45
85LPT2-S5	.05	5/16	1	.50
85LPT2-P1	.1	13/32	1	.60
85LPT2-P15	.15	15/32	1-1/8	.60
85LPT2-P2	.2	15/32	1-1/8	.65
85LPT2-P25	.25	17/32	1-1/8	.70
85LPT2-P5	.5	5/8	1-1/2	.80

#### 400 V. D. C. W.

Catalog No.	Capacity Mfd.	Dimensions, Inches		List Price
		Diameter	Length	
85LPT4-D1	.001	1/4	5/8	\$.35
85LPT4-D2	.002	1/4	5/8	.35
85LPT4-D3	.003	1/4	5/8	.35
85LPT4-D4	.004	1/4	5/8	.35
85LPT4-D5	.005	1/4	13/16	.35
85LPT4-D6	.006	1/4	13/16	.35
85LPT4-S1	.01	5/16	13/16	.40
85LPT4-S2	.02	5/16	1	.45
85LPT4-S5	.05	13/32	1	.50
85LPT4-P1	.1	15/32	1-1/8	.65
85LPT4-P15	.15	5/8	1-1/8	.65
85LPT4-P2	.2	5/8	1-1/8	.70
85LPT4-P25	.25	5/8	1-1/2	.75
85LPT4-P5	.5	5/8	2-5/16	.85

#### 600 V. D. C. W.

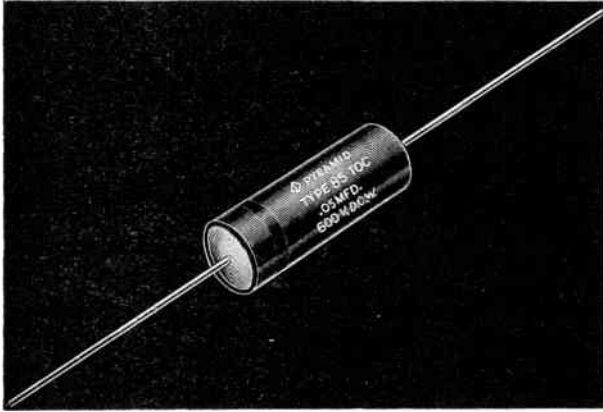
Catalog No.	Capacity Mfd.	Dimensions, Inches		List Price
		Diameter	Length	
85LPT6-T1	.0001	1/4	5/8	\$.35
85LPT6-T5	.0005	1/4	5/8	.35
85LPT6-D1	.001	1/4	5/8	.35
85LPT6-D2	.002	1/4	5/8	.35
85LPT6-D3	.003	9/32	13/16	.35
85LPT6-D4	.004	9/32	13/16	.35
85LPT6-D5	.005	9/32	13/16	.40
85LPT6-D6	.006	5/16	13/16	.40
85LPT6-S1	.01	5/16	1	.45
85LPT6-S2	.02	11/32	1	.50
85LPT6-S5	.05	15/32	1-1/8	.55
85LPT6-P1	.1	5/8	1-1/8	.70
85LPT6-P15	.15	5/8	1-3/4	.75
85LPT6-P2	.2	5/8	1-3/4	.80
85LPT6-P25	.25	5/8	2	.80



# PYRAMID

# PAPER CAPACITORS

## TYPE 85TOC TUBULAR PAPER CAPACITORS



- Designed for 85° C. operation.
- Plastic-impregnated tubes prevent absorption of moisture.
- Mineral oil impregnated.
- Ends are plastic sealed against humidity.
- Leads securely anchored.
- Attractively packaged.

Catalog Number	Capacity Mfd.	Dimensions, Inches Diameter Length		List Price
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### 200 D.C. VOLTS WORKING

85TOC2-S1	.01	5/16	1	\$.23
85TOC2-S2	.02	3/8	1-3/16	.23
85TOC2-S25	.025	7/16	1-3/16	.27
85TOC2-S5	.05	7/16	1-1/2	.27
85TOC2-P1	.1	1/2	1-5/8	.32
85TOC2-P15	.15	9/16	1-5/8	.36
85TOC2-P2	.2	5/8	2	.36
85TOC2-P25	.25	5/8	2	.41
85TOC2-P5	.5	3/4	2	.54
85TOC2-1	1.0	1	2	.81

### 400 D.C. VOLTS WORKING

85TOC4-D1	.001	5/16	1	\$.23
85TOC4-D2	.002	5/16	1	.23
85TOC4-D3	.003	5/16	1	.23
85TOC4-D4	.004	3/8	1-3/16	.23
85TOC4-D5	.005	3/8	1-3/16	.23
85TOC4-S1	.01	3/8	1-3/16	.23
85TOC4-S15	.015	3/8	1-3/16	.23
85TOC4-S2	.02	7/16	1-3/16	.23
85TOC4-S25	.025	7/16	1-1/2	.27
85TOC4-S3	.03	7/16	1-1/2	.27
85TOC4-S4	.04	7/16	1-5/8	.27
85TOC4-S5	.05	7/16	1-5/8	.27
85TOC4-S6	.06	7/16	1-5/8	.32
85TOC4-P1	.1	9/16	1-5/8	.32
85TOC4-P15	.15	5/8	2	.36
85TOC4-P2	.2	3/4	1-3/4	.36
85TOC4-P25	.25	3/4	1-3/4	.41
85TOC4-P5	.5	7/8	2	.54
85TOC4-1	1.0	1	2-3/4	.81

### 600 D.C. VOLTS WORKING

85TOC6-T1	.0001	5/16	1	\$.23
85TOC6-T25	.00025	5/16	1	.23
85TOC6-T5	.0005	5/16	1	.23
85TOC6-D1	.001	5/16	1	.23
85TOC6-D2	.002	5/16	1	.23
85TOC6-D3	.003	5/16	1	.23
85TOC6-D4	.004	3/8	1-3/16	.23

(Continued in next column)

Catalog Number	Capacity Mfd.	Dimensions, Inches Diameter Length		List Price
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### 600 D.C. VOLTS WORKING—Continued

85TOC6-D5	.005	3/8	1-3/16	\$.23
85TOC6-D6	.006	3/8	1-3/16	.23
85TOC6-S1	.01	7/16	1-3/16	.27
85TOC6-S15	.015	7/16	1-3/16	.27
85TOC6-S2	.02	7/16	1-1/2	.27
85TOC6-S25	.025	7/16	1-1/2	.32
85TOC6-S3	.03	1/2	1-5/8	.32
85TOC6-S4	.04	1/2	1-5/8	.32
85TOC6-S5	.05	9/16	1-5/8	.36
85TOC6-S6	.06	9/16	1-5/8	.36
85TOC6-P1	.1	11/16	1-3/4	.41
85TOC6-P2	.2	13/16	2	.50
85TOC6-P25	.25	13/16	2-1/8	.50
85TOC6-P5	.5	1-1/8	2	.72

### 1000 D.C. VOLTS WORKING

85TOC10-D1	.001	5/16	1	\$.45
85TOC10-D2	.002	3/8	1-3/16	.45
85TOC10-D5	.005	7/16	1-3/16	.45
85TOC10-S1	.01	7/16	1-5/8	.45
85TOC10-S2	.02	9/16	1-5/8	.45
85TOC10-S35	.035	9/16	1-7/8	.50
85TOC10-S5	.05	5/8	1-3/4	.54
85TOC10-P1	.1	13/16	2	.68

### 1600 D.C. VOLTS WORKING

85TOC16-D1	.001	7/16	1-3/16	\$.50
85TOC16-D2	.002	7/16	1-3/16	.50
85TOC16-D5	.005	1/2	1-1/2	.50
85TOC16-D6	.006	1/2	1-1/2	.50
85TOC16-S1	.01	9/16	1-1/2	.54
85TOC16-S2	.02	9/16	2	.54
85TOC16-S5	.05	3/4	2	.68

### 6000 D.C. VOLTS WORKING

85TOC60-T5	.0005	5/8	1-7/8	\$1.10
85TOC60-D1	.001	3/4	2	1.10
85TOC60-D5	.005	7/8	2-3/4	1.15

# PYRAMID

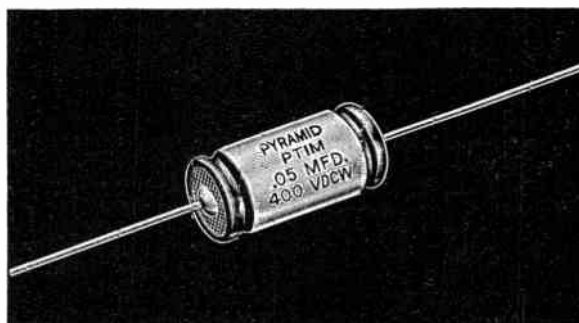
# OIL-PAPER CAPACITORS

## SERIES PTIM

(Commercial Equivalents of JAN Types CP25, CP26, CP27, CP28, CP29)

### HERMETICALLY SEALED MINERAL OIL-PAPER CAPACITORS IN METAL TUBES

- Temperature range:  $-55^{\circ}\text{C}$ . to  $+85^{\circ}\text{C}$ .
- Highest quality, non-inductively wound sections.
- Housed in insulated metal tubes, sealed with Neoprene-bakelite end discs.
- Comply with the electrical requirements of Specification JAN-C-25.
- Standard tolerance:  $-10\%$ ,  $+20\%$ .



**NOTE:** If outer insulating sleeve is required, add letter V to catalog type, as PTIMV. Add \$.10 to list price. If assembled mounting strap is required, add letter S to catalog type, as PTIMS. Add \$.10 to list price.

Catalog No.	Capacity Mfd.	Dimensions, Inches Diameter	Length	List Price
<b>400 VOLTS D.C. OPERATING</b>				
PTIM4-D5	.005	11/16	1-5/16	\$ .80
PTIM4-D6	.006	11/16	1-5/16	.80
PTIM4-D8	.008	11/16	1-5/16	.80
PTIM4-S1	.01	11/16	1-5/16	.80
PTIM4-S2	.02	11/16	1-5/16	.90
PTIM4-S3	.03	11/16	1-5/16	.95
PTIM4-S4	.04	11/16	1-5/16	.95
PTIM4-S5	.05	11/16	1-5/16	.95
PTIM4-P1	.1	11/16	1-11/16	1.10
PTIM4-P25	.25	11/16	2-3/16	1.55
PTIM4-P5	.5	1-1/16	2-11/16	2.10

Catalog No.	Capacity Mfd.	Dimensions, Inches Diameter	Length	List Price
<b>600 VOLTS D.C. OPERATING</b>				
PTIM6-D5	.005	11/16	1-5/16	\$ .80
PTIM6-D6	.006	11/16	1-5/16	.80
PTIM6-D8	.008	11/16	1-5/16	.80
PTIM6-S1	.01	11/16	1-5/16	.80
PTIM6-S2	.02	11/16	1-5/16	.90
PTIM6-S3	.03	11/16	1-5/16	.95
PTIM6-S4	.04	11/16	1-5/16	.95
PTIM6-S5	.05	11/16	1-5/16	.95
PTIM6-P1	.1	11/16	1-11/16	1.10
PTIM6-P25	.25	13/16	2-3/16	1.50
PTIM6-P5	.5	1-1/16	2-11/16	2.00

Catalog No.	Capacity Mfd.	Dimensions, Inches Diameter	Length	List Price
<b>1000 VOLTS D.C. OPERATING</b>				
PTIM10-T5	.0005	11/16	1-5/16	\$ .95
PTIM10-D1	.001	11/16	1-5/16	.95
PTIM10-D2	.002	11/16	1-5/16	.95
PTIM10-D5	.005	11/16	1-5/16	.95
PTIM10-D8	.008	11/16	1-5/16	.95
PTIM10-S1	.01	11/16	1-5/16	.95
PTIM10-S2	.02	11/16	1-5/16	1.05
PTIM10-S3	.03	11/16	1-5/16	1.05
PTIM10-S5	.05	11/16	1-11/16	1.10
PTIM10-S8	.08	11/16	2-1/16	1.30
PTIM10-P1	.1	11/16	2-1/16	1.35

Catalog No.	Capacity Mfd.	Dimensions, Inches Diameter	Length	List Price
<b>1600 VOLTS D.C. OPERATING</b>				
PTIM16-T5	.0005	11/16	1-5/16	\$1.00
PTIM16-D1	.001	11/16	1-5/16	1.00
PTIM16-D2	.002	11/16	1-5/16	1.00
PTIM16-D5	.005	11/16	1-5/16	1.00
PTIM16-S1	.01	11/16	1-11/16	1.05
PTIM16-S2	.02	11/16	1-11/16	1.15
PTIM16-S5	.05	11/16	2-1/16	1.20
PTIM16-P1	.1	1-1/16	2-1/16	2.00

Catalog No.	Capacity Mfd.	Dimensions, Inches Diameter	Length	List Price
<b>2000 VOLTS D.C. OPERATING</b>				
PTIM20-T5	.0005	13/16	1-11/16	\$1.10
PTIM20-D1	.001	13/16	1-11/16	1.10
PTIM20-D5	.005	13/16	1-11/16	1.10
PTIM20-D8	.008	13/16	1-11/16	1.10
PTIM20-S1	.01	13/16	1-11/16	1.10
PTIM20-S2	.02	13/16	2-3/16	1.20
PTIM20-S5	.05	13/16	2-15/16	1.30



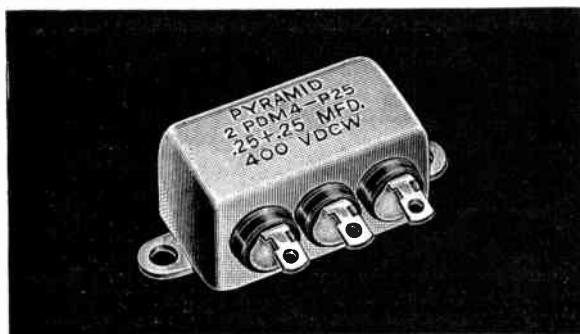
# PYRAMID

# OIL-PAPER CAPACITORS

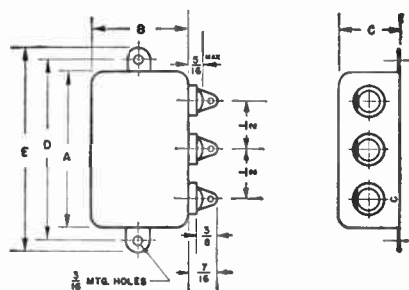
## SERIES PDM

(Commercial Equivalents of JAN Types CP53, CP54, CP55)

### HERMETICALLY SEALED MINERAL OIL-PAPER CAPACITORS IN DRAWN SHELL CONTAINERS



TYPE PDM



- Temperature range:  $-55^{\circ}\text{C.}$  to  $+85^{\circ}\text{C.}$
- Highest quality, non-inductively wound sections.
- Mineral oil impregnated, mineral oil filled.
- Housed in seamless tin-coated drawn shell containers, with rivet lug terminals.
- Comply with the electrical requirements of Specification JAN-C-25.
- Standard tolerance:  $-10\%$ ,  $+20\%$ .

NOTE: Where commercial equivalents of JAN types are required, use the following Pyramid type designations:

JAN TYPE	PYRAMID COMMERCIAL EQUIVALENT TYPE
CP53	PDM (followed by catalog number)
CP54	PDMT (followed by catalog number)
CP55	PDMB (followed by catalog number)

Catalog Number	Capacity Mfd.	Dimensions, Inches				List Price
		A	B	C	D	
<b>400 VOLTS D.C. OPERATING</b>						
PDM4-S5	.05	1-13/16	1	3/4	2-1/8	\$1.85
PDM4-P1	.1	1-13/16	1	3/4	2-1/8	1.95
PDM4-P25	.25	1-13/16	1	3/4	2-1/8	2.20
PDM4-P5	.5	1-13/16	1	7/8	2-1/8	2.35
PDM4-1	1.0	2	1-3/4	7/8	2-3/8	3.35
PDM4-2	2.0	2	2	1-1/8	2-3/8	4.30
2PDM4-S5	.05+.05	1-13/16	1	3/4	2-1/8	2.95
2PDM4-P1	.1+.1	1-13/16	1	3/4	2-1/8	3.05
2PDM4-P25	.25+.25	1-13/16	1	7/8	2-1/8	3.30
2PDM4-P5	.5+.5	2	1-3/4	7/8	2-3/8	3.85
2PDM4-1	1.0+1.0	2	2	1-1/8	2-3/8	4.80
3PDM4-P1	.1+.1+.1	1-13/16	1	3/4	2-1/8	3.75
3PDM4-P25	.25+.25+.25	2	1-3/4	7/8	2-3/8	4.40
3PDM4-P5	.5+.5+.5	2	2	1-1/8	2-3/8	5.10
<b>600 VOLTS D.C. OPERATING</b>						
PDM6-S5	.05	1-13/16	1	3/4	2-1/8	\$2.85
PDM6-P1	.1	1-13/16	1	3/4	2-1/8	2.95
PDM6-P25	.25	1-13/16	1	3/4	2-1/8	3.10
PDM6-P5	.5	1-13/16	1	7/8	2-1/8	3.30
PDM6-1	1.0	2	1-3/4	7/8	2-3/8	3.75
<b>Continued in next column</b>						
<b>600 VOLTS D.C. OPERATING—Continued</b>						
PDM6-2	2.0	2	2	1-1/8	2-3/8	\$4.90
2PDM6-S5	.05+.05	1-13/16	1	3/4	2-1/8	3.65
2PDM6-P1	.1+.1	1-13/16	1	3/4	2-1/8	3.70
2PDM6-P25	.25+.25	1-13/16	1	7/8	2-1/8	3.75
2PDM6-P5	.5+.5	2	1-3/4	7/8	2-3/8	4.30
2PDM6-1	1.0+1.0	2	2	1-1/8	2-3/8	5.30
3PDM6-P1	.1+.1+.1	1-13/16	1	3/4	2-1/8	4.20
3PDM6-P25	.25+.25+.25	2	1-3/4	7/8	2-3/8	4.75
3PDM6-P5	.5+.5+.5	2	2	1-1/8	2-3/8	5.75
<b>1000 VOLTS D.C. OPERATING</b>						
PDM10-S5	.05	1-13/16	1	3/4	2-1/8	\$3.00
PDM10-P1	.1	1-13/16	1	3/4	2-1/8	3.15
PDM10-P25	.25	1-13/16	1	7/8	2-1/8	3.20
PDM10-P5	.5	2	1-3/4	7/8	2-3/8	3.55
PDM10-1	1.0	2	2	1-1/8	2-3/8	4.40
2PDM10-S5	.05+.05	1-13/16	1	3/4	2-1/8	3.85
2PDM10-P1	.1+.1	1-13/16	1	7/8	2-1/8	4.00
2PDM10-P25	.25+.25	2	1-3/4	7/8	2-3/8	4.20
2PDM10-P5	.5+.5	2	2	1-1/8	2-3/8	5.50
3PDM10-P1	.1+.1+.1	2	1-3/4	7/8	2-3/8	4.60
3PDM10-P25	.25+.25+.25	2	2	1-1/8	2-3/8	5.50

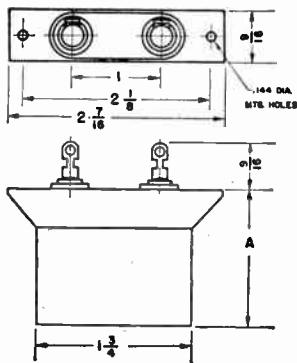
# PYRAMID

# OIL-PAPER CAPACITORS

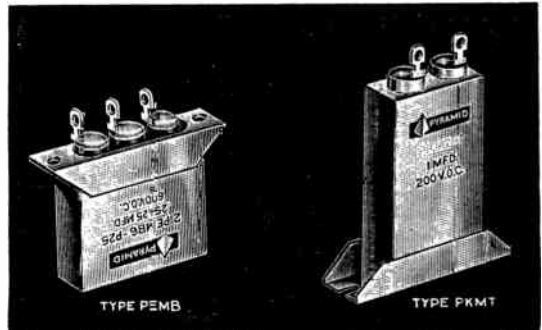
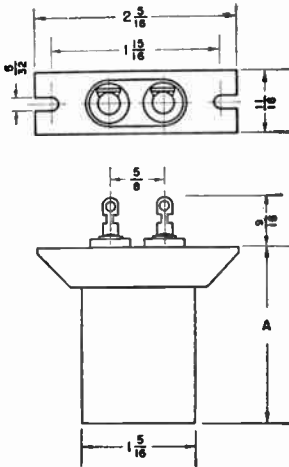
## SERIES PEM & PKM

(Commercial equivalents of JAN Types CP61, CP63, CP65, CP67, CP69)  
**SMALL, HERMETICALLY SEALED MINERAL OIL-PAPER CAPACITORS**

TYPE PEMB



TYPE PKMB



- Temperature range:  $-55^{\circ}\text{C.}$  to  $+85^{\circ}\text{C.}$
- Minimum base area makes these ideal for compact equipment.
- Mineral oil impregnated and filled.
- Housed in tin-coated containers with lug terminals.
- Comply with the electrical requirements of Specification JAN-C-25.
- Standard tolerance:  $-10\%$ ,  $+20\%$ .

NOTE: Where commercial equivalents of JAN types are required, use the following Pyramid type designations:

**JAN TYPE**

CP61  
 CP61 with spade mounting  
 CP61 with footed bracket  
 CP63  
 CP65  
 CP67  
 CP69

**PYRAMID COMMERCIAL EQUIVALENT TYPE**

PKM (followed by catalog number)  
 PKMS (followed by catalog number)  
 PKMF (followed by catalog number)  
 PKMT (followed by catalog number)  
 PKMB (followed by catalog number)  
 PEM (followed by catalog number)  
 PEMB (followed by catalog number)

**SERIES PEM**

**SERIES PEM—Continued**

**SERIES PKM**

Capacity Mfd.	Catalog Number	Can Height "A"	List Price
<b>200 V. D.C. OPERATING</b>			
.05	PEM2-S5	1	\$2.80
.1	PEM2-P1	1	3.05
.25	PEM2-P25	1-1/2	3.10
.5	PEM2-P5	1-1/2	3.15
1.0	PEM2-1	1-7/8	3.55
.05+.05	2PEM2-S5	1	3.90
.1+.1	2PEM2-P1	1	4.05
.25+.25	2PEM2-P25	1-1/2	4.20
.5+.5	2PEM2-P5	1-7/8	4.60
.05+.05+.05	3PEM2-S5	1	4.85
.1+.1+.1	3PEM2-P1	1-1/2	5.20
.25+.25+.25	3PEM2-P25	1-7/8	5.60
<b>400 V. D.C. OPERATING</b>			
.05	PEM4-S5	1	\$2.90
.1	PEM4-P1	1	3.15
.25	PEM4-P25	1-1/2	3.20
.5	PEM4-P5	1-7/8	3.25
1.0	PEM4-1	2-1/2	3.65
.05+.05	2PEM4-S5	1	4.00
.1+.1	2PEM4-P1	1-1/2	4.15
.25+.25	2PEM4-P25	1-7/8	4.30
.5+.5	2PEM4-P5	2-1/2	4.70
.05+.05+.05	3PEM4-S5	1	4.95
.1+.1+.1	3PEM4-P1	1-1/2	5.30
.25+.25+.25	3PEM4-P25	2-1/2	5.70

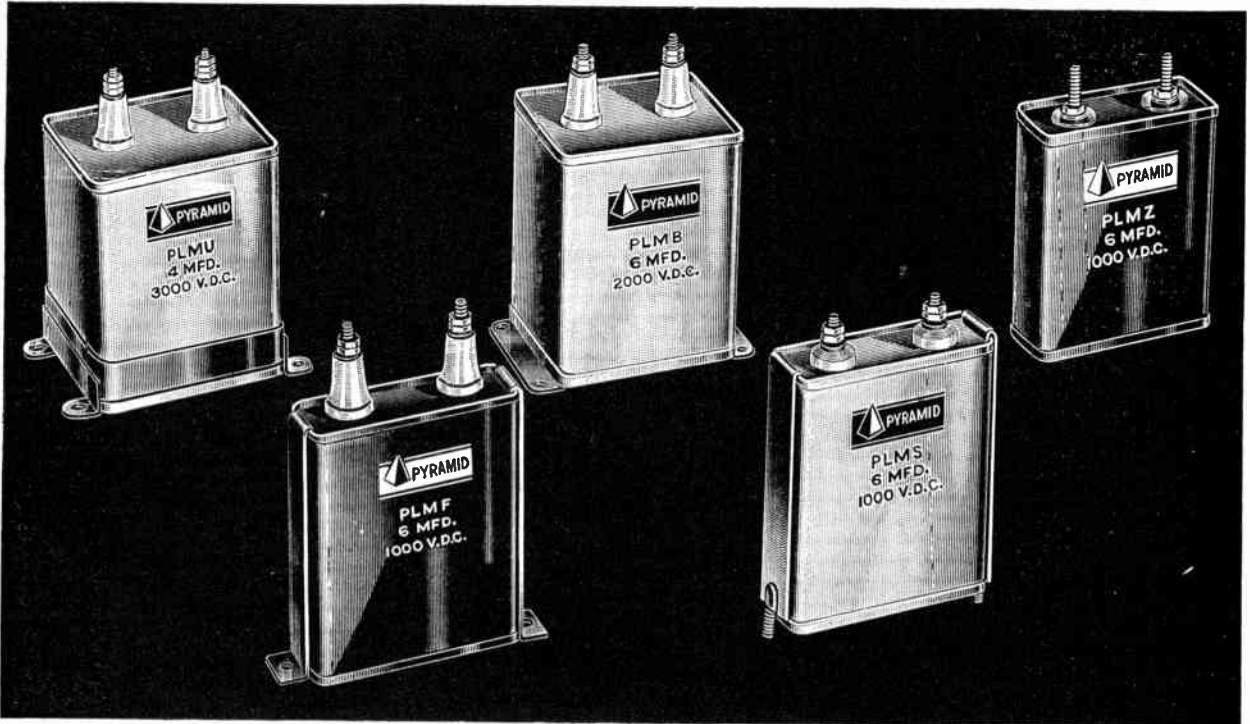
Capacity Mfd.	Catalog Number	Can Height "A"	List Price
<b>600 V. D.C. OPERATING</b>			
.05	PEM6-S5	1	\$3.10
.1	PEM6-P1	1	3.20
.25	PEM6-P25	1-1/2	3.25
.5	PEM6-P5	1-7/8	3.35
1.0	PEM6-1	2-1/2	3.75
.05+.05	2PEM6-S5	1	4.20
.1+.1	2PEM6-P1	1-1/2	4.30
.25+.25	2PEM6-P25	1-7/8	4.55
.5+.5	2PEM6-P5	2-1/2	4.95
.05+.05+.05	3PEM6-S5	1	5.00
.1+.1+.1	3PEM6-P1	1-1/2	5.60
.25+.25+.25	3PEM6-P25	2-1/2	5.95
<b>1000 V. D.C. OPERATING</b>			
.05	PEM10-S5	1	\$3.15
.1	PEM10-P1	1	3.25
.25	PEM10-P25	1-7/8	3.35
.5	PEM10-P5	2-1/2	3.65
.05+.05	2PEM10-S5	1-1/2	4.55
.1+.1	2PEM10-P1	1-1/2	4.90
.25+.25	2PEM10-P25	2-1/2	5.00
.05+.05+.05	3PEM10-S5	1-1/2	5.90
.1+.1+.1	3PEM10-P1	2-1/2	6.10

Capacity Mfd.	Catalog Number	Can Height "A"	List Price
<b>200 V. D.C. OPERATING</b>			
.05	PKM2-S5	1-7/16	\$2.80
.1	PKM2-P1	1-7/16	3.05
.25	PKM2-P25	1-7/16	3.10
.5	PKM2-P5	1-11/16	3.15
1.0	PKM2-1	2-1/16	3.55
<b>400 V. D.C. OPERATING</b>			
.05	PKM4-S5	1-7/16	\$2.90
.1	PKM4-P1	1-7/16	3.15
.25	PKM4-P25	1-11/16	3.20
.5	PKM4-P5	2-1/16	3.25
1.0	PKM4-1	2-9/16	3.65
<b>600 V. D.C. OPERATING</b>			
.05	PKM6-S5	1-7/16	\$3.10
.1	PKM6-P1	1-7/16	3.20
.25	PKM6-P25	1-11/16	3.25
.5	PKM6-P5	2-1/16	3.35
1.0	PKM6-1	2-9/16	3.75
<b>1000 V. D.C. OPERATING</b>			
.05	PKM10-S5	1-7/16	\$3.15
.1	PKM10-P1	1-7/16	3.25
.25	PKM10-P25	2-1/16	3.35
.5	PKM10-P5	2-9/16	3.65

# PYRAMID

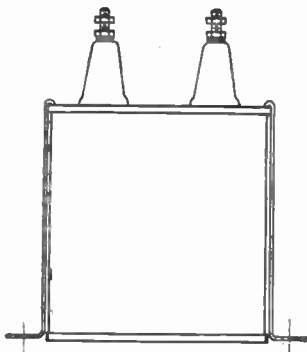
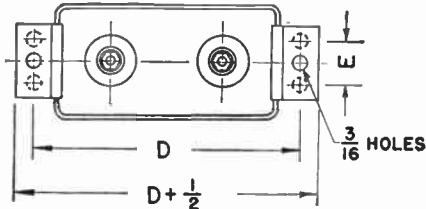
# OIL-PAPER CAPACITORS

## SERIES PLM (Commercial equivalent of JAN Type CP70) HERMETICALLY SEALED MINERAL OIL-PAPER CAPACITORS

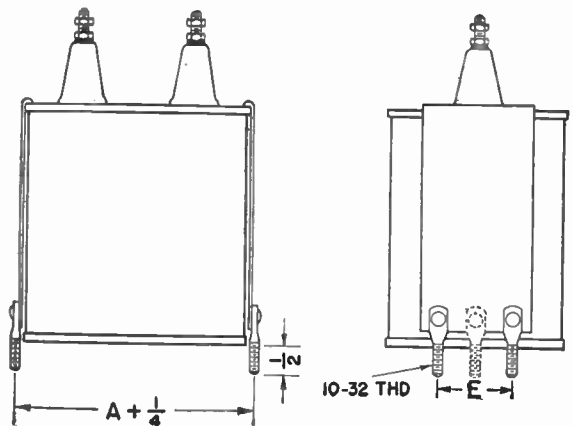


- Temperature range:  $-55^{\circ}\text{C.}$  to  $+85^{\circ}\text{C.}$
- Designed for the exacting requirements of power supply and filter applications.
- Mineral oil impregnated, mineral oil filled.
- Housed in lacquer-finished terneplate cases with porcelain bushings.
- Comply with the electrical requirements of Specification JAN-C-25.
- Standard tolerance:  $-10\%$ ,  $+20\%$ .

TYPE PLMF



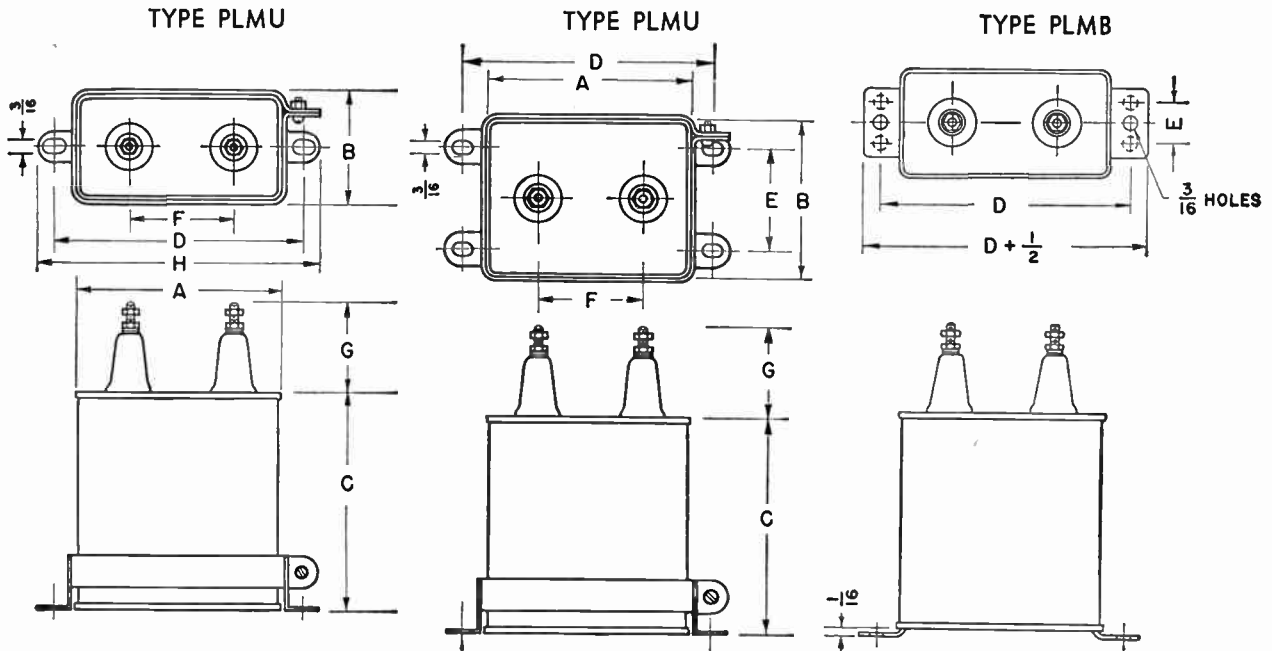
TYPE PLMS



# PYRAMID

# OIL-PAPER CAPACITORS

## TYPE PLM—Continued



### IMPORTANT: CATALOG DESIGNATIONS FOR VARIOUS MOUNTING ARRANGEMENTS

Type PLM capacitors are available in a variety of mounting arrangements as shown in the outline drawings on pages P-110 and P-111. These are identified by adding one of the following suffix letters to the basic designation PLM:

B — Mounting flange soldered to the bottom of the container. Available for all container sizes. Refer to drawing of Type PLMB.  
 F — Footed side mounting straps. Refer to drawing of Type PLMF on page P-110.

S — Spade side mounting straps. Refer to drawing of Type PLMS on page P-110. Available for all container sizes.

U — Universal mounting bracket. Refer to drawing of Type PLMU above. Available for containers with base dimensions 3-3/4" x 3-3/16" or smaller. Single mounting holes on center line are provided for all bases except the 3-3/4" x 3-3/16" sizes.

Capacity Mfd.	Catalog Number	Dimensions, Inches								List Price
		A	B	C	D	E	F	G	H	
<b>600 VOLTS D.C. OPERATING</b>										
.5	PLM6-P5	1-3/4	1	2-1/8	2-1/4		13/16	1-1/4	3	\$ 4.70
1.0	PLM6-1	1-3/4	1	2-1/8	2-1/4		13/16	1-1/4	3	5.80
2.0	PLM6-2	1-3/4	1	4	2-1/4		13/16	1-1/4	3	7.15
3.0	PLM6-3	1-3/4	1	4-3/4	2-1/4		13/16	1-1/4	3	8.25
4.0	PLM6-4	2-1/2	1-3/16	3-5/8	3		1-1/8	1-1/4	3-3/4	9.00
5.0	PLM6-5	2-1/2	1-3/16	4-3/4	3		1-1/8	1-1/4	3-3/4	10.50
8.0	PLM6-8	3-3/4	1-1/4	4-3/4	4-3/8		2	1-1/4	5	13.50
10.0	PLM6-10	3-3/4	1-1/4	4-3/4	4-3/8		2	1-1/4	5	15.00
<b>1000 VOLTS D.C. OPERATING</b>										
.1	PLM10-P1	1-3/4	1	2-1/8	2-1/4		13/16	1-1/4	3	4.15
.25	PLM10-P25	1-3/4	1	2-1/8	2-1/4		13/16	1-1/4	3	4.70
.5	PLM10-P5	1-3/4	1	2-1/8	2-1/4		13/16	1-1/4	3	5.00
1.0	PLM10-1	1-3/4	1	2-7/8	2-1/4		13/16	1-1/4	3	6.35
2.0	PLM10-2	1-3/4	1	4-3/4	2-1/4		13/16	1-1/4	3	8.25
3.0	PLM10-3	2-1/2	1-3/16	3-5/8	3		1-1/8	1-1/4	3-3/4	9.50
4.0	PLM10-4	2-1/2	1-3/16	4-3/4	3		1-1/8	1-1/4	3-3/4	10.50
5.0	PLM10-5	3-3/4	1-1/4	4-3/4	4-3/8		2	1-1/4	5	12.50
6.0	PLM10-6	3-3/4	1-1/4	4-3/4	4-3/8		2	1-1/4	5	14.00
8.0	PLM10-8	3-3/4	1-3/4	4-3/4	4-3/8		2	1-1/4	5	15.00
10.0	PLM10-10	3-3/4	2	4-3/4	4-3/8		2	1-1/4	5	16.75
15.0	PLM10-15	3-3/4	2-1/2	4-3/4	4-3/8		2	1-1/4	5	20.00

Continued on page P-112

# PYRAMID

# OIL-PAPER CAPACITORS

## TYPE PLM—Continued

### IMPORTANT: CATALOG DESIGNATIONS FOR VARIOUS MOUNTING ARRANGEMENTS

Type PLM capacitors are available in a variety of mounting arrangements as shown in the outline drawings on pages P-110 and P-111. These are identified by adding one of the following suffix letters to the basic designation PLM:

B—Mounting flange soldered to the bottom of the container. Available for all container sizes. Refer to drawing of Type PLMB on page P-137.

F—Footed side mounting straps. Refer to drawing of Type PLMF on page P-110.

S—Spade side mounting straps. Refer to drawing of Type PLMS on page P-110. Available for all container sizes.

U—Universal mounting bracket. Refer to drawing of Type PLMU on page P-111. Available for containers with base dimensions 3-3/4" x 3-3/16" or smaller. Single mounting holes on center line are provided for all bases except the 3-3/4" x 3-3/16" sizes.

Capacity Mfd.	Catalog Number	Dimensions, Inches								List Price
		A	B	C	D	E	F	G	H	
<b>1500 VOLTS D.C. OPERATING</b>										
.5	PLM15-P5	1-3/4	1	2-7/8	2-1/4		13/16	1-1/4	3	\$ 6.25
1.0	PLM15-1	1-3/4	1	4-3/4	2-1/4		13/16	1-1/4	3	7.50
2.0	PLM15-2	2-1/2	1-3/16	4-3/4	3		1-1/8	1-1/4	3-3/4	10.50
3.0	PLM15-3	3-3/4	1-1/4	4-3/4	4-3/8		2	1-1/4	5	12.50
4.0	PLM15-4	3-3/4	1-1/2	4-3/4	4-3/8		2	1-1/4	5	14.00
5.0	PLM15-5	3-3/4	1-3/4	4-3/4	4-3/8		2	1-1/4	5	15.00
6.0	PLM15-6	3-3/4	2-1/4	4-3/4	4-3/8		2	1-1/4	5	17.00
8.0	PLM15-8	3-3/4	2-1/4	4-3/4	4-3/8		2	1-1/4	5	21.00
10.0	PLM15-10	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-1/4	5	25.00
12.0	PLM15-12	3-3/4	3-3/16	5-1/2	4-3/8	2-1/2	2	1-1/4	5	27.50
15.0	PLM15-15	3-3/4	4-9/16	4-3/4	4-3/8	3-3/8	2	1-1/4	5	30.00
<b>2000 VOLTS D.C. OPERATING</b>										
.1	PLM20-P1	1-3/4	1	2-1/8	2-1/4		13/16	1-7/16	3	6.50
.25	PLM20-P25	1-3/4	1	2-7/8	2-1/4		13/16	1-7/16	3	7.00
.5	PLM20-P5	1-3/4	1	4	2-1/4		13/16	1-7/16	3	7.50
1.0	PLM20-1	2-1/2	1-3/16	4-3/4	3		1-1/8	1-7/16	3-3/4	9.00
2.0	PLM20-2	3-3/4	1-1/4	4-3/4	4-3/8		2	1-7/16	5	10.75
3.0	PLM20-3	3-3/4	1-3/4	4-3/4	4-3/8		2	1-7/16	5	13.25
4.0	PLM20-4	3-3/4	2-1/4	4-3/4	4-3/8		2	1-7/16	5	15.00
5.0	PLM20-5	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-7/16	5	16.75
6.0	PLM20-6	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-7/16	5	20.00
8.0	PLM20-8	3-3/4	4-9/16	4-3/4	4-3/8	3-3/8	2	1-7/16	5	25.00
10.0	PLM20-10	3-3/4	4-9/16	5-1/2	4-3/8	3-3/8	2	1-7/16	5	30.50
12.0	PLM20-12	3-3/4	4-9/16	6-1/2	4-3/8	3-3/8	2	1-7/16	5	33.00
<b>2500 VOLTS D.C. OPERATING</b>										
.5	PLM25-P5	3-3/4	1-1/4	3-3/4	4-3/8		2	1-7/16	5	11.50
1.0	PLM25-1	3-3/4	1-1/4	4-3/4	4-3/8		2	1-7/16	5	13.00
2.0	PLM25-2	3-3/4	2-1/4	4-3/4	4-3/8		2	1-7/16	5	21.50
4.0	PLM25-4	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-7/16	5	30.00
10.0	PLM25-10	3-3/4	4-9/16	8-1/2	4-3/8	3-3/8	2	1-7/16	5	75.00
<b>3000 VOLTS D.C. OPERATING</b>										
.1	PLM30-P1	1-3/4	1	2-7/8	2-1/4		13/16	1-7/16	3	14.00
.25	PLM30-P25	2-1/2	1-3/16	3-5/8	3		1-1/8	1-7/16	3-3/4	15.00
.5	PLM30-P5	2-1/2	1-3/16	4-3/4	3		1-1/8	1-7/16	3-3/4	17.00
1.0	PLM30-1	3-3/4	2-1/4	4-3/4	4-3/8		2	1-7/16	5	20.00
2.0	PLM30-2	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-7/16	5	25.00
4.0	PLM30-4	3-3/4	4-9/16	5-1/2	4-3/8	3-3/8	2	1-7/16	5	36.50
<b>4000 VOLTS D.C. OPERATING</b>										
.1	PLM40-P1	2-1/2	1-3/16	3-5/8	3		1-1/8	1-7/16	3-3/4	25.00
.25	PLM40-P25	2-1/2	1-3/16	4-3/4	3		1-1/8	1-7/16	3-3/4	26.50
.5	PLM40-P5	3-3/4	2-1/4	4-3/4	4-3/8		2	1-7/16	5	30.00
1.0	PLM40-1	3-3/4	3-3/16	4-3/4	4-3/8	2-1/2	2	1-7/16	5	36.50
2.0	PLM40-2	3-3/4	4-9/16	5-1/2	4-3/8	3-3/8	2	1-7/16	5	46.50
4.0	PLM40-4	3-3/4	4-9/16	9-1/2	4-3/8	3-3/8	2	1-7/16	5	67.00
<b>5000 VOLTS D.C. OPERATING</b>										
.5	PLM50-P5	3-3/4	2-1/4	4-3/4	4-3/8		2	1-7/16	5	33.00
1.0	PLM50-1	3-3/4	4-9/16	5-1/2	4-3/8	3-3/8	2	1-7/16	5	42.00
2.0	PLM50-2	3-3/4	4-9/16	7-1/2	4-3/8	3-3/8	2	1-7/16	5	53.50

FOR HIGHER VOLTAGES, SEE TYPE PJ ON PAGE P-113

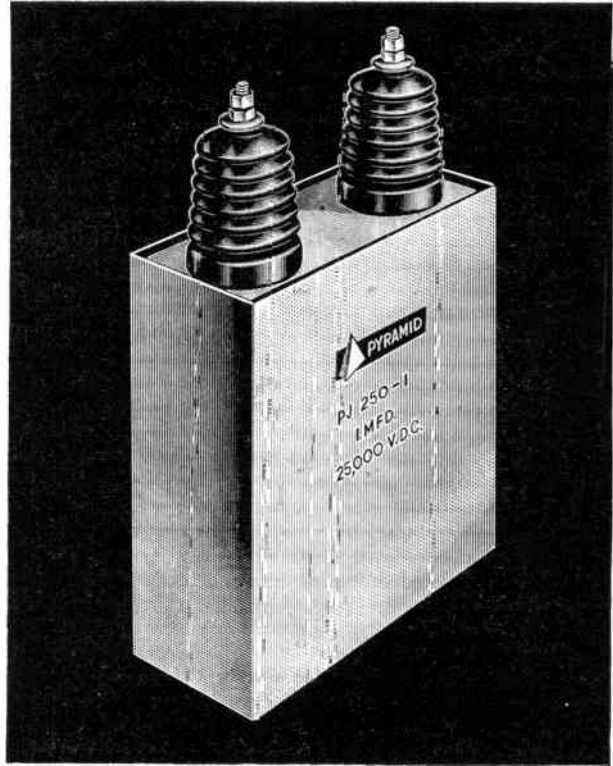
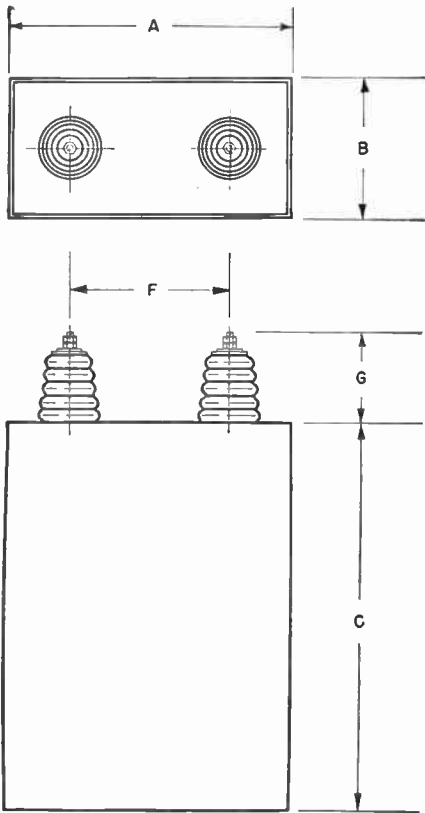
# PYRAMID

# OIL-PAPER CAPACITORS

## TYPE PJ

(Commercial equivalent of JAN Type CP70)

### HERMETICALLY SEALED MINERAL OIL-PAPER HIGH VOLTAGE CAPACITORS



- Temperature range:  $-55^{\circ}\text{C.}$  to  $+85^{\circ}\text{C.}$
- Mineral oil impregnated and filled.
- Rugged, dependable construction.
- Housings are heavy gauge steel, welded oil tight and hot tinned.
- Comply with the electrical requirements of Specification JAN-C-25.
- Standard tolerance:  $-10\%$ ,  $+20\%$ .

Capacity Mfd.	Catalog Number	Dimensions, Inches					List Price
		A	B	C	F	G	
600 V.D.C.W. TO 5000 V.D.C.W.: SEE SERIES PLM ON PAGES P-110 through P-112							
<b>6000 VOLTS D.C. OPERATING</b>							
2	PJ60-2	8	4	11	4-1/2	2-5/8	\$147.00
4	PJ60-4	12	4	11	6	2-5/8	180.00
5	PJ60-5	12	6	11	6	2-5/8	210.00
6	PJ60-6	12	6	11	6	2-5/8	230.00
10	PJ60-10	12	6	16	6	2-5/8	295.00

(Continued on following page)

# PYRAMID

# OIL-PAPER CAPACITORS

## TYPE PJ—Continued

(Commercial equivalent of JAN Type CP70)

### HERMETICALLY SEALED MINERAL OIL-PAPER HIGH VOLTAGE CAPACITORS

Standard tolerance:  $-10\%$ ,  $+20\%$

Capacity Mfd.	Catalog Number	Dimensions, Inches					List Price
		A	B	C	F	G	
<b>7500 VOLTS D.C. OPERATING</b>							
.5	PJ75-P5	8	4	11	4-1/2	2-5/8	\$ 83.00
1	PJ75-1	8	4	11	4-1/2	2-5/8	110.00
2	PJ75-2	12	4	11	6	2-5/8	165.00
4	PJ75-4	12	6	13	6	2-5/8	245.00
6	PJ75-6	12	7-1/2	15	6	2-5/8	300.00
<b>10,000 VOLTS D.C. OPERATING</b>							
.5	PJ100-P5	8	4	11	4-1/2	2-5/8	175.00
1	PJ100-1	12	4	11	6	2-5/8	215.00
2	PJ100-2	12	6	11	6	2-5/8	275.00
4	PJ100-4	12	7-1/2	16	6	2-5/8	330.00
5	PJ100-5	12	8	18	6	2-5/8	370.00
<b>12,500 VOLTS D.C. OPERATING</b>							
.5	PJ125-P5	12	4	11	6	2-5/8	185.00
1	PJ125-1	12	6	11	6	2-5/8	230.00
2	PJ125-2	12	6	16	6	2-5/8	290.00
5	PJ125-5	12	12	18	6	2-5/8	550.00
<b>15,000 VOLTS D.C. OPERATING</b>							
.25	PJ150-P25	8	4	11	4-1/2	4-3/4	175.00
.5	PJ150-P5	12	4	11	6	4-3/4	210.00
1	PJ150-1	12	6	13	6	4-3/4	290.00
2	PJ150-2	12	8	18	6	4-3/4	385.00
3	PJ150-3	12	11	18	6	4-3/4	520.00
<b>20,000 VOLTS D.C. OPERATING</b>							
.25	PJ200-P25	12	4	11	4-1/2	4-3/4	210.00
.5	PJ200-P5	12	6	13	6	4-3/4	265.00
1	PJ200-1	12	8	18	6	4-3/4	360.00
1.5	PJ200-1.5	12	12	18	6	4-3/4	485.00
<b>25,000 VOLTS D.C. OPERATING</b>							
.25	PJ250-P25	12	6	11	6	4-3/4	290.00
.5	PJ250-P5	12	7-1/2	16	6	4-3/4	315.00
.75	PJ250-P75	12	11	16	6	4-3/4	400.00
1	PJ250-1	12	12	18	6	4-3/4	475.00

# PYRAMID



## HERMETICALLY SEALED *Miniature* PAPER CAPACITORS with METAL-GLASS END SEALS



### "GLASSEAL H": Temperature Range -40 to +85° C.

- INSERTED TAB CONSTRUCTION { TYPE PGH—Section grounded to container.  
TYPE PGIH—Section insulated from container.
- EXTENDED FOIL CONSTRUCTION { TYPE EPGH—Section grounded to container.  
TYPE EPGIH—Section insulated from container.

### "GLASSEAL M": Temperature Range -55 to +85° C.

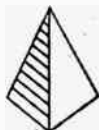
- INSERTED TAB CONSTRUCTION { TYPE PGM—Section grounded to container.  
TYPE PGIM—Section insulated from container.
- EXTENDED FOIL CONSTRUCTION { TYPE EPGM—Section grounded to container.  
TYPE EPGIM—Section insulated from container.

### "GLASSEAL X": Temperature Range -55 to +125° C.

- INSERTED TAB CONSTRUCTION { TYPE PGX—Section grounded to container.  
TYPE PGI—Section insulated from container.
- EXTENDED FOIL CONSTRUCTION { TYPE EPGX—Section grounded to container.  
TYPE EPGIX—Section insulated from container.

### TYPE COMPARISONS

PYRAMID	SPRAGUE	CORNELL-DUBILIER
PGH	78P	TWH----G
PGM	81P	TWC----G
PGX	96P	
PGIH	88P	TWH
PGIM	91P	TWC
PGIX	96P	
EPGH	178P	TWH----EG
EPGM	181P	TWC----EG
EPGX	186P	
EPGIH	188P	TWH----E
EPGIM	191P	TWC----E
EPGIX	196P	



For complete catalog, contact your local distributor or write to:

**PYRAMID ELECTRIC COMPANY**  
1445 Hudson Blvd., North Bergen, N. J., U. S. A.



## TYPE AFH (85°C) TWIST-PRONG ELECTROLYTIC CAPACITORS



•  
SINGLES  
•  
DUALS  
•  
TRIPLES  
•  
QUADS

### AFH SINGLES

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 1-01	3000	10	1 3/8 x 3	\$2.90
AFH 1-02	1000	15	1x3	2.55
AFH 1-03	2000	15	1 3/8 x 3	3.45
AFH 1-04	3000	15	1 3/8 x 3	3.50
AFH 1-05	25	25	1/2 x 2	1.25
AFH 1-06	40	25	3/4 x 2	1.35
AFH 1-07	100	25	1/2 x 2	1.60
AFH 1-08	500	25	1x2 1/2	2.55
AFH 1-10	1000	25	1 3/8 x 2	3.55
AFH 1-11	100	50	3/4 x 2	1.65
AFH 1-12	150	50	3/4 x 2	1.80
AFH 1-13	500	50	1 3/8 x 2 1/2	2.65
AFH 1-14	1000	50	1 3/8 x 3 1/2	3.75
AFH 1-15	25	150	1x2	1.50
AFH 1-16	30	150	1x2	1.55
AFH 1-17	40	150	1x2	1.60
AFH 1-18	50	150	1x2	1.65
AFH 1-19	60	150	1x2	1.75
AFH 1-20	80	150	1x2	1.85
AFH 1-21	100	150	1x2	2.00
AFH 1-22	120	150	1x3	2.10
AFH 1-23	140	150	1x3	2.15
AFH 1-24	150	150	1x3	2.15
AFH 1-25	40	200	1x2	1.70
AFH 1-26	15	250	1x2	1.55
AFH 1-27	20	250	3/4 x 2	1.60
AFH 1-28	30	250	3/4 x 2	1.70
AFH 1-29	40	250	1x2	1.80
AFH 1-30	60	250	1x2 1/2	2.05
AFH 1-31	80	250	1x3	2.15
AFH 1-32	15	300	1x2	1.60
AFH 1-33	30	300	1x2	1.75
AFH 1-34	50	300	1x2 1/2	2.10
AFH 1-35	80	300	1x2	2.55
AFH 1-36	100	300	1x3 1/2	2.90
AFH 1-37	125	300	1 3/8 x 3	3.50
AFH 1-38	15	350	1x2	1.65
AFH 1-39	30	350	1x2	1.90
AFH 1-40	40	350	1x2 1/2	2.00
AFH 1-41	50	350	1x3	2.10
AFH 1-42	80	350	1 3/8 x 2 1/2	2.85
AFH 1-43	125	350	1 3/8 x 3	3.95
AFH 1-44	10	400	1 3/8 x 2	1.50
AFH 1-45	20	400	1 3/8 x 2	2.00
AFH 1-46	40	400	1 3/8 x 2	2.95
AFH 1-47	80	400	1 3/8 x 2 1/2	1.55
AFH 1-48	10	450	1x2	1.70
AFH 1-49	15	450	1x2	1.80
AFH 1-50	20	450	1x2 1/2	1.95
AFH 1-51	30	450	1x3	2.05
AFH 1-52	40	450	1x3	2.05
AFH 1-53	50	450	1x3	2.25
AFH 1-54	60	450	1 3/8 x 2 1/2	2.80
AFH 1-55	80	450	1 3/8 x 3	3.05
AFH 1-56	30	475	1x3	2.00
AFH 1-57	90	475	1 3/8 x 3 1/2	3.50
AFH 1-58	10	500	1x2	1.60
AFH 1-59	20	500	1x2 1/2	1.85
AFH 1-60	30	500	1x3	2.00
AFH 1-61	40	500	1x3 1/2	2.50
AFH 1-62	80	500	1 3/8 x 3	3.20
AFH 1-63	90	500	1 3/8 x 3 1/2	3.50
AFH 1-64	10	525	1x2	1.70
AFH 1-65	10 ohm-30 cps	3VNP	3/4 x 2	2.00
AFH 1-66	0.5 ohm-15750 cps	3VNP	1x2	2.20
AFH 1-67	1 ohm-60 cps	3VNP	1 3/8 x 3	4.00

### AFH DUALS

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 2-02	1000-1000	15	1x3 1/2	\$4.40
AFH 2-03	20-20	25	1x2	1.45
AFH 2-04	40-40	25	1x2	1.80
AFH 2-05	150-50	25	1x2	1.90
AFH 2-06	50-50	50	1x2	1.70

### AFH DUALS — (Continued)

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 2-07	10-20	150	1x2	1.60
AFH 2-08	20-20	150	1x2	1.70
AFH 2-09	30-15	150	1x2	1.75
AFH 2-10	30-20	150	1x2	1.75
AFH 2-11	30-30	150	1x2	1.85
AFH 2-12	40-20	150	1x2	1.80
AFH 2-13	40-30	150	1x2	1.85
AFH 2-14	40-40	150	1x2	1.90
AFH 2-15	50-30	150	1x2	2.00
AFH 2-16	50-50	150	1x2 1/2	2.15
AFH 2-17	60-60	150	1x3	2.35
AFH 2-18	75-75	150	1x3	2.60
AFH 2-19	80-40	150	1x3	2.30
AFH 2-20	80-80	150	1 3/8 x 2	2.65
AFH 2-22	200-125	150	1 3/8 x 3	3.75
AFH 2-23	200-200	150	1 3/8 x 3	4.00
AFH 2-24	60-60	200	1 3/8 x 2	2.55
AFH 2-25	10-10	250	1x2	1.70
AFH 2-26	20-20	250	1x2	1.90
AFH 2-27	30-30	250	1x2 1/2	2.30
AFH 2-28	40-20	250	1x2 1/2	2.20
AFH 2-29	40-40	250	1x3	2.50
AFH 2-30	150-150	250	1 3/8 x 4	5.15
AFH 2-31	10-10	300	1x2	1.75
AFH 2-32	15-15	300	1x2	1.85
AFH 2-33	50-50	300	1 3/8 x 2 1/2	3.35
AFH 2-34	80-80	300	1 3/8 x 3	4.05
AFH 2-35	120-20	350	1 3/8 x 3	4.00
AFH 2-36	15-15	350	1x2	2.25
AFH 2-37	20-20	350	1x2 1/2	2.30
AFH 2-38	30-20	350	1x3	2.60
AFH 2-39	30-30	350	1x3	2.90
AFH 2-40	50-30	350	1 3/8 x 2 1/2	3.15
AFH 2-41	80-80	350	1 3/8 x 3 1/2	4.70
AFH 2-42	10-30	400	1x3	2.30
AFH 2-43	15-15	400	1x2 1/2	2.25
AFH 2-44	60-60	400	1 3/8 x 3 1/2	4.40
AFH 2-45	80-10	400	1 3/8 x 3	3.40
AFH 2-46	5-5	450	1x2	1.60
AFH 2-47	10-10	450	1x2	1.90
AFH 2-48	15-10	450	1x2 1/2	2.05
AFH 2-49	15-15	450	1x2 1/2	2.25
AFH 2-50	20-10	450	1 3/8 x 2	2.25
AFH 2-51	20-20	450	1x3	2.55
AFH 2-52	30-10	450	1x3	2.50
AFH 2-53	30-15	450	1 3/8 x 2	2.85
AFH 2-54	30-30	450	1 3/8 x 2	3.05
AFH 2-56	40-20	450	1 3/8 x 2	3.00
AFH 2-57	40-40	450	1 3/8 x 3	3.45
AFH 2-60	60-20	450	1 3/8 x 3	3.55
AFH 2-61	60-40	450	1 3/8 x 3 1/2	3.95
AFH 2-62	80-10	450	1 3/8 x 3	3.80
AFH 2-63	80-20	450	1 3/8 x 3 1/2	3.90
AFH 2-64	80-40	450	1 3/8 x 3 1/2	4.35
AFH 2-65	30-10	475	1 3/8 x 2	2.60
AFH 2-66	40-10	475	1 3/8 x 2 1/2	3.10
AFH 2-67	10-10	500	1x2 1/2	1.95
AFH 2-69	20-20	500	1 3/8 x 2 1/2	2.85
AFH 2-70	25-40	500	1 3/8 x 3	3.65
AFH 2-71	30-10	500	1 3/8 x 2 1/2	2.60
AFH 2-72	40-40	500	1 3/8 x 3	4.40
AFH 2-73	60-40	500	1 3/8 x 3 1/2	4.80
AFH 2-74	250-1000	10/8	1 3/8 x 2	2.85
AFH 2-75	250-2000	10/8	1 3/8 x 2	3.30
AFH 2-77	40-20	150/50	1x2	1.70
AFH 2-78	40-150	150/25	1x2	2.05
AFH 2-79	40-20	250/25	1x2	2.00
AFH 2-80	50-100	250/50	1 3/8 x 2	2.60
AFH 2-81	100-150	250/50	1 3/8 x 3	3.65
AFH 2-82	20-20	300/25	1x2	1.85
AFH 2-83	30-30	300/350	1x3	2.65
AFH 2-84	20-20	350/25	1x2	1.90
AFH 2-85	40-20	350/25	1 3/8 x 2 1/2	2.35
AFH 2-86	40-10	350/200	1 3/8 x 2	2.40
AFH 2-87	10-20	450/25	1x2	1.70
AFH 2-88	20-20	450/25	1x2	2.00
AFH 2-89	40-20	450/25	1x3	2.45
AFH 2-90	80-20	450/25	1 3/8 x 3	3.40
AFH 2-91	80-50	450/50	1 3/8 x 3	3.75
AFH 2-92	10-50	450/100	1 3/8 x 2	2.05
AFH 2-93	20-100	450/100	1 3/8 x 2	2.90
AFH 2-94	30-40	450/150	1 3/8 x 2	2.50
AFH 2-95	20-80	450/350	1 3/8 x 3	3.60
AFH 2-98	40-10	450/350	1 3/8 x 2	2.60
AFH 2-97	40-40	450/350	1 3/8 x 3	3.30
AFH 2-99	75-50	475/50	1 3/8 x 3	3.65
AFH 2-100	20-100	475/300	1 3/8 x 3	3.35
AFH 2-101	40-40	475/400	1 3/8 x 3	3.75
AFH 2-102	80-50	500/50	1 3/8 x 3 1/2	3.80
AFH 2-103	80-80	500/150	1 3/8 x 3	3.75
AFH 2-104	40-50	500/200	1 3/8 x 3	3.30
AFH 2-105	15-20	500/300	1x2 1/2	2.30
AFH 2-106	20-100	500/300	1 3/8 x 3	3.90
AFH 2-107	40-40	500/400	1 3/8 x 3	3.75
AFH 2-108	0.5 ohm-15750 cps	12	1 3/8 x 2	3.80
	2.5 ohm-60 cps	6		

## TYPE AFH (85°C) TWIST-PRONG ELECTROLYTIC CAPACITORS

## AFH TRIPLES

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 3-01	20-20-20	25	1x2	\$1.95
AFH 3-02	40-40-40	25	1x2	2.15
AFH 3-03	30-30-30	50	1x2	2.15
AFH 3-04	10-30-30	150	1x2	2.35
AFH 3-05	20-20-20	150	1x2	2.30
AFH 3-06	30-30-10	150	1x2	2.35
AFH 3-07	40-20-20	150	1x2	2.40
AFH 3-08	40-20-20	150	1x2	2.40
AFH 3-09	40-30-20	150	1x2	2.50
AFH 3-10	40-40-40	150	1x2 1/2	2.60
AFH 3-11	40-70-40	150	1x3	2.95
AFH 3-12	60-40-20	150	1x3	2.75
AFH 3-13	80-40-20	150	1x3	2.90
AFH 3-14	10-15-15	250	1x2	2.45
AFH 3-16	15-15-30	250	1x2	2.75
AFH 3-17	20-20-10	250	1x2	2.50
AFH 3-18	30-20-10	250	1x2 1/2	2.70
AFH 3-19	40-20-10	250	1x3	2.85
AFH 3-20	40-20-20	250	1x3	2.90
AFH 3-21	80-80-60	250	1 3/8 x3	4.95
AFH 3-22	10-10-10	300	1x2	2.40
AFH 3-24	20-80-10	300	1 3/8 x2 3/4	3.80
AFH 3-25	60-20-10	300	1 3/8 x2	3.45
AFH 3-26	120-50-40	300	1 3/8 x4	5.65
AFH 3-27	10-10-10	350	1x2 1/2	2.40
AFH 3-28	20-20-10	350	1x3	2.95
AFH 3-29	60-40-20	350	1 3/8 x3 1/2	4.25
AFH 3-30	10-10-10	400	1x2 1/2	2.40
AFH 3-31	10-10-10	450	1x3	2.60
AFH 3-32	10-30-30	450	1 3/8 x3	3.75
AFH 3-33	15-15-15	450	1x3	2.95
AFH 3-34	15-15-15	450	1x3	3.10
AFH 3-35	20-20-20	450	1x3	2.95
AFH 3-36	20-20-20	450	1 3/8 x2 1/2	3.60
AFH 3-37	30-20-20	450	1 3/8 x3	3.85
AFH 3-38	30-30-20	450	1 3/8 x3	4.10
AFH 3-39	30-30-30	450	1 3/8 x3	4.35
AFH 3-40	30-60-10	450	1 3/8 x3 1/2	4.50
AFH 3-41	40-10-10	450	1 3/8 x3	3.35
AFH 3-42	40-30-20	450	1 3/8 x3	4.30
AFH 3-43	40-40-10	450	1 3/8 x3	4.20
AFH 3-44	40-40-40	450	1 3/8 x3 1/2	4.90
AFH 3-45	80-20-20	450	1 3/8 x3 1/2	4.60
AFH 3-46	80-40-20	450	1 3/8 x4	5.40
AFH 3-47	10-10-10	475	1x3	2.70
AFH 3-48	30-20-20	475	1 3/8 x3	3.95
AFH 3-49	30-30-10	475	1 3/8 x3	4.00
AFH 3-50	40-10-10	475	1 3/8 x3	3.85
AFH 3-51	10-10-10	500	1x3	2.70
AFH 3-52	30-20-20	500	1 3/8 x3	4.20
AFH 3-53	40-10-10	500	1 3/8 x3	3.90
AFH 3-54	40-40-10	500	1 3/8 x3 1/2	5.05
AFH 3-55	100/50-25	100/25	1x3	2.85
AFH 3-58	30-20/100	150/8	1x2	2.40
AFH 3-59	20-20/100	150/10	1x2	2.35
AFH 3-60	20-20/250	150/10	1x2	2.80
AFH 3-61	30-30/200	150/10	1x2 1/2	2.50
AFH 3-62	40-20/150	150/10	1x2	2.40
AFH 3-63	40-20/200	150/10	1x2 1/2	2.70
AFH 3-64	40-20/250	150/10	1x2 1/2	2.70
AFH 3-65	20/250-100	150/15	1 1/2 x2	2.90
AFH 3-67	20-20/20	150/25	1x2	2.20
AFH 3-68	20-20/20	150/25	1x3	2.60
AFH 3-69	30-20/20	150/25	1x2	2.25
AFH 3-70	30-30/20	150/25	1x2	2.30
AFH 3-72	40-20/20	150/25	1x2	2.30
AFH 3-73	40-20/100	150/25	1x3	2.50
AFH 3-74	40-20/100	150/25	1x3	2.70
AFH 3-75	40-30/20	150/25	1x2 1/2	2.35
AFH 3-76	40-40/20	150/25	1x2 1/2	2.40
AFH 3-77	50-30/20	150/25	1x2 1/2	2.50
AFH 3-78	50-30/100	150/25	1x3	2.70
AFH 3-79	50-50/20	150/25	1x3	2.85
AFH 3-80	60-20/20	150/25	1x2	2.55
AFH 3-81	60-40/20	150/25	1x2 1/2	2.85
AFH 3-82	80-40/20	150/25	1x2 1/2	2.80
AFH 3-83	120-60/20	150/25	1 1/2 x2 1/2	3.35
AFH 3-84	30-20/20	200/25	1x2	2.55
AFH 3-86	100-10/40	200/50	1 1/2 x2	3.15
AFH 3-87	15-15/20	250/25	1x2	2.35
AFH 3-88	20-15/20	250/25	1x2	2.35
AFH 3-89	30-30/20	250/25	1x2 1/2	2.60
AFH 3-90	70-70/20	250/50	1 3/8 x3	3.90
AFH 3-93	40-20/10	250/150	1 1/2 x2	2.70
AFH 3-95	10-20/30	250/350	1x3	3.00
AFH 3-96	80-80/10	250/450	1 3/8 x3 1/2	4.20
AFH 3-97	20-20/20	300/25	1x2	2.75
AFH 3-98	40-15/20	300/25	1x2 1/2	2.95
AFH 3-99	30-30/25	300/50	1x3	2.90
AFH 3-100	40-40/20	300/150	1 1/2 x2	3.60
AFH 3-101	10-10/15	300/250	1x2	2.45
AFH 3-102	120/15-10	300/450	1 3/8 x3 1/2	4.50
AFH 3-103	10-10/20	350/25	1x2	2.25
AFH 3-104	15-10/20	350/25	1x2	2.50
AFH 3-105	15-15/20	350/25	1x2 1/2	2.70
AFH 3-106	20-10/20	350/25	1x2 1/2	2.55
AFH 3-107	20-30/20	350/25	1x2 1/2	2.80
AFH 3-108	30-10/20	350/25	1x2 1/2	3.05
AFH 3-109	30-20/20	350/25	1x3	3.10
AFH 3-110	30-30/20	350/25	1 1/2 x2	3.40

## AFH TRIPLES—(Continued)

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 3-111	40-40/50	350/25	1 3/8 x2 1/2	\$3.75
AFH 3-112	10-5/150	350/50	1x3	2.70
AFH 3-113	40-20/10	350/100	1 3/8 x2	2.85
AFH 3-114	20-40/10	350/150	1x3	3.20
AFH 3-115	20-10/5	350/250	1x2 1/2	2.55
AFH 3-116	30/20-10	350/250	1x3	3.00
AFH 3-117	30-10/20	350/250	1x3	3.05
AFH 3-119	15-15/40	400/25	1x2 1/2	2.80
AFH 3-120	20-20/20	400/25	1x3	2.85
AFH 3-121	30-10/150	400/50	1 3/8 x2 1/2	3.40
AFH 3-122	80-40/150	400/50	1 3/8 x4	5.15
AFH 3-123	80/20-10	400/300	1 3/8 x3 1/2	4.25
AFH 3-124	10-10/10	450/25	1x2	2.35
AFH 3-125	10-10/20	450/25	1x2	2.40
AFH 3-126	10-20/20	450/25	1x3	2.70
AFH 3-127	15-15/20	450/25	1x3	2.70
AFH 3-128	20-15/20	450/25	1x3	2.90
AFH 3-129	20-20/20	450/25	1x3	3.05
AFH 3-130	30/100-25	450/25	1 3/8 x2	2.95
AFH 3-131	30-30/20	450/25	1 3/8 x2 1/2	3.55
AFH 3-132	40-20/20	450/25	1 3/8 x2 1/2	3.50
AFH 3-133	40-40/20	450/25	1 3/8 x2	3.95
AFH 3-134	40-40/40	450/25	1 3/8 x3	3.95
AFH 3-135	80-40/100	450/25	1 3/8 x4	5.10
AFH 3-136	10-10/40	450/50	1x2 1/2	2.50
AFH 3-137	20-10/40	450/50	1x3	2.80
AFH 3-138	20-10/50	450/50	1x3	2.85
AFH 3-139	30-30/40	450/50	1 3/8 x3	3.65
AFH 3-140	40-10/100	450/50	1 3/8 x3	4.30
AFH 3-141	40-40/80	450/50	1 3/8 x3 1/2	4.10
AFH 3-142	40-40/150	450/50	1 3/8 x3 1/2	4.30
AFH 3-143	40-10/100	450/100	1 3/8 x2	2.65
AFH 3-144	30-20/30	450/150	1 3/8 x2 1/2	3.10
AFH 3-145	40/90-50	450/150	1 3/8 x3	3.95
AFH 3-146	40-10/80	450/150	1 3/8 x3	3.75
AFH 3-147	40-40/40	450/150	1 3/8 x3 1/2	4.10
AFH 3-148	40-10/80	450/200	1 3/8 x3	3.90
AFH 3-149	20/40-10	450/250	1 3/8 x2	3.15
AFH 3-150	15-15/10	450/300	1x3	2.85
AFH 3-151	20/15-10	450/300	1x3	2.85
AFH 3-152	15-5/15	450/350	1x3	2.85
AFH 3-153	20-20/60	450/350	1 3/8 x3	4.05
AFH 3-154	40-10/10	450/350	1 3/8 x2	3.30
AFH 3-155	40-40/10	450/500	1 3/8 x3 1/2	4.15
AFH 3-156	10-10/100	500/50	1x3 1/2	2.85
AFH 3-157	20-10/100	500/50	1x4	3.30
AFH 3-158	30-10/20	500/50	1 3/8 x2 1/2	3.10
AFH 3-159	40-40/100	500/200	1 3/8 x4	5.85
AFH 3-160	10-10/5	500/350	1x2 1/2	2.50
AFH 3-161	20-20/60	500/400	1 3/8 x3 1/2	4.80
AFH 3-162	40/25/130	150/25/15	1x3	3.30
AFH 3-164	80/40/50	250/150/50	1 3/8 x2 1/2	2.35
AFH 3-165	100/60/20	300/150/25	1 3/8 x3	4.20
AFH 3-166	20/50/100	350/100/75	1x3	3.10
AFH 3-167	10/50/100	350/150/50	1x3	2.85
AFH 3-168	50/10/500	350/250/5	1 3/8 x2 1/2	3.60
AFH 3-169	30/30/20	350/300/25	1x3	3.15
AFH 3-171	40/30/20	400/300/25	1 3/8 x3 1/2	4.20
AFH 3-172	10/40/10	400/300/150	1 3/8 x2	2.90
AFH 3-173	55/50/80	400/300/250	1 3/8 x3 1/2	5.35
AFH 3-174	10/50/30	400/350/25	1x3	3.10
AFH 3-175	10/50/100	450/150/25	1x3	2.75
AFH 3-176	40/40/130	450/150/50	1 3/8 x3	3.75
AFH 3-177	40/100/50	450/150/50	1 3/8 x3	3.95
AFH 3-178	20/60/100	450/250/25	1 3/8 x2 1/2	3.65
AFH 3-179	10/40/10	450/300/150	1 3/8 x2	3.10
AFH 3-180	10/10/20	450/350/25	1x2	2.30
AFH 3-182	20/80/100	450/350/50	1 3/8 x3 1/2	4.50
AFH 3-183	15/20/20	450/350/250	1 3/8 x2	2.95
AFH 3-184	20/15/10	450/350/300	1x3	3.05
AFH 3-186	30/50/40	450/400/25	1 3/8 x3	3.90
AFH 3-187	10/30/30	450/400/300	1 3/8 x2 1/2	3.35
AFH 3-188	10/100/40	475/200/50	1 3/8 x2 1/2	3.30
AFH 3-189	20/20/40	475/300/25	1 3/8 x2	3.05
AFH 3-190	40/40/25	475/400/50	1 3/8 x3	4.30
AFH 3-191	10/100/40	500/200/50	1 3/8 x2 1/2	3.35
AFH 3-192	40/40/100	500/250/50	1 3/8 x3	4.30
AFH 3-193	20/20/40	500/300/25	1 3/8 x2	3.10
AFH 3-194	40/40/25	500/400/50	1 3/8 x3	4.30
AFH 3-195	30/20/20	500/500/25	1 3/8 x2 1/2	3.55

## AFH QUADS

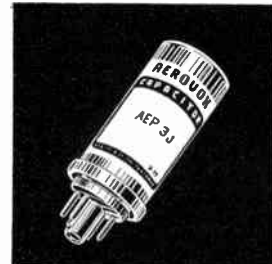
CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 4-01	40-40-40-30	150	1 3/8 x2	\$3.35
AFH 4-02	40-40-20-10	300	1 3/8 x2 1/2	4.55
AFH 4-03	10-10-10-10	350	1 3/8 x2	3.10
AFH 4-05	80-10-10-10	350	1 3/8 x3	4.55
AFH 4-06	30-30-20-20	400	1 3/8 x3	4.85
AFH 4-07	80-20-10-10	400	1 3/8 x3 1/2	5.05
AFH 4-09	5-5-5-5	450	1 3/8 x2	3.00
AFH 4-10	10-10-10-10	450	1 3/8 x2	3.35
AFH 4-11	15-15-15-15	450	1 3/8 x3	4.45
AFH 4-12	15-30-30-30	450	1 3/8 x4	5.30
AFH 4-13	20-10-10-10	450	1 3/8 x2 1/2	3.70
AFH 4-14	20-20			

**TYPE AFH TWIST-PRONG ELECTROLYTIC CAP.**

**AFH QUADS — (Continued)**

CAT. NO.	CAP. MFD.	VOLT	SIZE	LIST
AFH 4-18	40-20-10-10	450	1 3/8 x 3	\$4.45
AFH 4-19	10-10-10-10	475	1 3/8 x 2	3.50
AFH 4-20	10-10-10-10	590	1 3/8 x 2	3.50
AFH 4-21	30-20-20/200	150/10	1 3/8 x 2	3.15
AFH 4-22	40-40-20/200	150/10	1 3/8 x 2	3.25
AFH 4-23	60-40-20/200	150/10	1 3/8 x 2	3.50
AFH 4-24	10-20-60/20	150/25	1 3/8 x 2	3.10
AFH 4-25	20-20-20/20	150/25	1 3/8 x 2	2.90
AFH 4-26	30-30-30/40	150/25	1 3/8 x 2	3.10
AFH 4-27	40-20-20/20	150/25	1 3/8 x 2	2.95
AFH 4-28	40-40-30/20	150/25	1 3/8 x 2	3.10
AFH 4-29	40-40-10/20	150/25	1 3/8 x 2	3.15
AFH 4-30	40-40/40-40	150/25	1 3/8 x 2	3.05
AFH 4-31	40-40-40/100	150/25	1 3/8 x 2	3.35
AFH 4-32	40-40-40/160	150/25	1 3/8 x 2	3.55
AFH 4-33	40-40/100-100	150/25	1 3/8 x 2	3.35
AFH 4-34	50-30-30/100	150/25	1 3/8 x 2	3.45
AFH 4-35	50-50-50/20	150/25	1 3/8 x 2	3.55
AFH 4-36	75-75-75/30	150/25	1 3/8 x 3	4.30
AFH 4-37	80-40-40/20	150/25	1 3/8 x 2	3.55
AFH 4-38	80-40-40/100	150/25	1 3/8 x 2 1/2	3.75
AFH 4-39	40-20-10/20	200/25	1 3/8 x 2	3.20
AFH 4-40	40-20-10/20	250/25	1 3/8 x 2	3.40
AFH 4-41	100-40-10/100	250/50	1 3/8 x 3 1/2	5.15
AFH 4-42	80-60-40/20	250/150	1 3/8 x 3 1/2	5.10
AFH 4-43	10-10-10/20	300/25	1 3/8 x 2	2.95
AFH 4-44	40-20-20/25	300/25	1 3/8 x 2	4.00
AFH 4-45	40-40-20/20	300/25	1 3/8 x 3	4.40
AFH 4-46	60-40-20/50	300/25	1 3/8 x 3	4.65
AFH 4-47	40-40-40/20	300/150	1 3/8 x 3	4.90
AFH 4-48	10-10-10/20	350/25	1 3/8 x 2	2.95
AFH 4-49	20-10-5/20	350/25	1 3/8 x 2	3.10
AFH 4-50	30-20-20/20	350/25	1 3/8 x 2 1/2	4.10
AFH 4-51	40-20-20/25	350/25	1 3/8 x 2 1/2	4.25
AFH 4-52	40-40-20/20	350/25	1 3/8 x 3	4.70
AFH 4-53	40-40-40/40	350/25	1 3/8 x 3	5.20
AFH 4-54	15-15-15/50	350/50	1 3/8 x 2	3.80
AFH 4-55	40-30-10/50	350/50	1 3/8 x 3	4.40
AFH 4-56	40-40-40/150	350/50	1 3/8 x 3 1/2	5.70
AFH 4-57	20-20-20/20	400/25	1 3/8 x 2 1/2	3.85
AFH 4-58	40-10/80-10	400/250	1 3/8 x 3 1/2	4.70
AFH 4-59	10-10-10/20	450/25	1 3/8 x 2	3.15
AFH 4-60	10-10-10/25	450/25	1 3/8 x 2	3.15
AFH 4-61	10-10-10/100	450/25	1 3/8 x 2	3.35
AFH 4-62	10-10-10/150	450/50	1 3/8 x 2 1/2	3.70
AFH 4-63	10-10/20/20	450/25	1 3/8 x 2	2.95
AFH 4-65	20-10-10/100	450/25	1 3/8 x 2	3.70
AFH 4-66	20-15/20-20	450/25	1 3/8 x 2	3.55
AFH 4-67	20-40-20/20	450/25	1 3/8 x 2 1/2	4.15
AFH 4-68	30-15-15/40	450/25	1 3/8 x 2 1/2	4.15
AFH 4-69	30-20-20/20	450/25	1 3/8 x 3	4.40
AFH 4-70	30-10-10/30	450/25	1 3/8 x 3	4.35
AFH 4-71	30-30-20/20	450/25	1 3/8 x 3	4.65
AFH 4-72	40-10-10/250	450/25	1 3/8 x 3	4.65
AFH 4-73	40-10-10/300	450/25	1 3/8 x 3	4.85
AFH 4-74	40-15-10/25	450/25	1 3/8 x 3	4.05
AFH 4-75	40-20-10/20	450/25	1 3/8 x 3	4.25
AFH 4-76	40-20-20/20	450/25	1 3/8 x 3	4.60
AFH 4-77	40-20-20/40	450/25	1 3/8 x 3	4.65
AFH 4-78	40-30-10/20	450/25	1 3/8 x 3	4.50
AFH 4-79	40-30-20/20	450/25	1 3/8 x 3 1/2	5.00
AFH 4-80	20-20-20/100	450/50	1 3/8 x 3	4.55
AFH 4-81	30-30-15/30	450/50	1 3/8 x 3	4.55
AFH 4-82	30-30-15/100	450/50	1 3/8 x 3 1/2	4.90
AFH 4-83	40-20-10/100	450/50	1 3/8 x 3 1/2	4.60
AFH 4-84	40-40-10/20	450/50	1 3/8 x 3	4.70
AFH 4-85	40-40-10/30	450/50	1 3/8 x 3	4.50
AFH 4-86	60-10-10/20	450/50	1 3/8 x 3	4.55
AFH 4-87	40-40-10/100	450/100	1 3/8 x 3 1/2	5.35
AFH 4-88	60-10-10/20	450/150	1 3/8 x 3	4.60
AFH 4-89	20-20/30-30	450/300	1 3/8 x 3	4.50
AFH 4-91	20-20/30-30	450/350	1 3/8 x 3	5.05
AFH 4-92	40-10/35-10	450/350	1 3/8 x 3	4.60
AFH 4-93	40-40/30-30	450/350	1 3/8 x 4	5.90
AFH 4-94	40-10-20/10	475/25	1 3/8 x 3	4.85
AFH 4-95	20-20-10/10	500/300	1 3/8 x 2 1/2	4.30
AFH 4-96	50-30-10/20	500/300	1 3/8 x 4	5.60
AFH 4-97	100/40/80-20	300/50/25	1 3/8 x 2 1/2	4.55
AFH 4-99	15/80-40/200	350/200/25	1 3/8 x 3	4.50
AFH 4-100	40/40-20/20	350/300/25	1 3/8 x 3	4.50
AFH 4-101	5-5/50/80	400/300/250	1 3/8 x 3	4.65
AFH 4-102	10/50-30/30	400/350/25	1 3/8 x 3	4.40
AFH 4-103	40-60/40/10	400/350/50	1 3/8 x 3 1/2	5.75
AFH 4-104	40/10/80-10	400/350/250	1 3/8 x 3	4.65
AFH 4-105	30/125-125/30	450/25/450	1 3/8 x 3	8.55
AFH 4-106	40/40/10-30	450/150/50	1 3/8 x 3	3.75
AFH 4-107	10-10/60/100	450/300/50	1 3/8 x 3	3.85
AFH 4-108	20/80-20/50	475/300/50/25	1 3/8 x 3	4.15
AFH 4-109	10/80-40/25	450/350/25	1 3/8 x 3 1/2	4.60
AFH 4-110	10/100-10/20	450/350/25	1 3/8 x 3 1/2	5.25
AFH 4-111	20/15-15/20	450/350/25	1 3/8 x 2	3.80
AFH 4-112	30/40-40/10	450/350/200	1 3/8 x 3 1/2	5.15
AFH 4-113	15-15/80/40	475/300/50	1 3/8 x 3	4.80
AFH 4-114	10-5/80/40	475/450/50	1 3/8 x 3 1/2	4.95
AFH 4-115	150/20/20/100	300/250/25/50	1 3/8 x 4	5.05
AFH 4-117	20/40/10/250	350/300/150/50	1 3/8 x 3	4.60
AFH 4-118	80/10/30/40	450/400/300/150	1 3/8 x 4	5.25
AFH 4-119	20/40/100/80	475/300/50/25	1 3/8 x 3	4.50
AFH 4-120	10/40/80/100	475/350/200/100	1 3/8 x 3 1/2	4.80
AFH 4-121	10/10/80/50	475/450/200/50	1 3/8 x 2 1/2	3.85
AFH 4-122	25/20/40/100	475/450/300/50	1 3/8 x 3 1/2	4.95
AFH 4-123	10/60/30/125	475/450/400/50	1 3/8 x 4	5.45

**TYPE AEP PLUG-IN ELECTROLYTIC CAPACITORS**



Quick change, hermetically sealed dry electrolytic. Plugs into standard octal socket for fast replacement or testing when continuous service is important. High capacity and ultra-compact, using etched foil in small can sizes. Non-corrosive aluminum internal construction throughout. Vented for safety.

**Single Element Units**

Type	Cap. Mfds.	VDCW	Dia. x Hgt.	List
AEP5A	25	25	1 3/8 x 2 1/2	\$3.75
AEP4D	20	150	1 3/8 x 2 1/2	3.95
AEP8D	40	150	1 3/8 x 2 1/2	4.10
AEP2J	10	450	1 3/8 x 2 1/2	4.05
AEP3J	15	450	1 3/8 x 2 1/2	4.20
AEP4J	20	450	1 3/8 x 2 1/2	4.30
AEP6J	30	450	1 3/8 x 2 1/2	4.45
AEP8J	40	450	1 3/8 x 2 1/2	4.55
AEP16J	80	450	1 3/8 x 3 1/2	5.55
AEP2L	10	600	1 3/8 x 4 1/4	4.20

**Dual Element Units**

Type	Cap. Mfds.	VDCW	Dia. x Hgt.	List
AEP44D	20-20	150	1 3/8 x 2 1/2	\$4.20
AEP88D	40-40	150	1 3/8 x 2 1/2	4.35
AEP22J	10-10	450	1 3/8 x 2 1/2	4.40
AEP44J	20-20	450	1 3/8 x 2 1/2	5.05
AEP88J	40-40	450	1 3/8 x 3	5.95

**Triple Element Units**

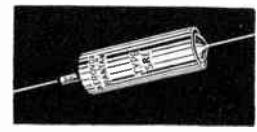
Type	Cap. Mfds.	VDCW	Dia. x Hgt.	List
AEP444D	20-20-20	150	1 3/8 x 2 1/2	\$4.80
AEP88D4A	40-40 x 150/20	25	1 3/8 x 2 1/2	4.85
AEP222J	10-10-10	450	1 3/8 x 2 1/2	5.10
AEP22J4A	10-10 x 450/20	25	1 3/8 x 2 1/2	4.85
AEP44J4A	20-20 x 450/20	25	1 3/8 x 2 1/2	5.55
AEP444J	20-20-20	450	1 3/8 x 3	6.10

**Quadruple Element Units**

Type	Cap. Mfds. x V.D.C.W.	Size—D. x H.	List
AEPG444D4A	20-20-20 x 150/20 x 25*	1 3/8 x 2 1/2	\$5.35
AEP2222J	10-10-10-10 x 450	1 3/8 x 2 1/2	5.85
AEPG444J4A	20-20-20 x 450/20 x 25*	1 3/8 x 3	6.65

\*Ground lug provided for cathode connection.

**TYPE SRE BANTAM CAPACITORS**



Tiniest Aerovox electrolytic. Handles full sized jobs, especially suitable for hearing aids, personal radios, screen filter circuits and similar functions. Hermetically sealed, aluminum tube with waxed cardboard insulating jacket. New stud terminals with #18 gauge tinned copper wire leads.

Volts	Cap Mfd.	Size Dia. x Length	List
3	100	3/8 x 1	\$1.10
3	200	3/8 x 1 1/8	1.15
3	300	1/2 x 1 1/8	1.30
3	500	1/2 x 1 1/8	1.40
6	50	3/8 x 1	.95
6	100	3/8 x 1 1/8	1.20
12	50	3/8 x 1 1/8	1.00
12	100	1/2 x 1	1.20
12	200	1/2 x 1 1/8	1.35
25	25	3/8 x 1	1.00
25	50	3/8 x 1 1/8	1.10
25	100	1/2 x 1 1/8	1.35
50	100	3/8 x 1	1.00
50	15	3/8 x 1 1/8	1.00
50	25	3/8 x 1 1/8	1.05
150	5	3/8 x 1	1.00
150	10	3/8 x 1 1/8	1.05
150	15	1/2 x 1 1/8	1.15
150	25	1/2 x 1 1/8	1.25

**REPLACEMENT FOR WET ELECTROLYTIC - TYPE WR**



Dry electrolytic for replacement of wet electrolytic units. Furnished in round aluminum cans, the range of capacities covers most applications in standard radio receivers and other equipment originally using wet type electrolytic capacitors. 450 V.D.C.

Cap. Mfd.	Replacement For	Size—Dia. x Hgt.	List
10	4 to 12 mfd.	1 3/8 x 3	\$2.30
30	16 to 20 mfd.	1 3/8 x 3	2.70
30	20 to 30 mfd.	1 3/8 x 3	2.95
40	30 to 40 mfd.	1 3/8 x 3	3.15



**TYPE PRS • DANDEES • TUBULAR ALUMINUM CAN ELECTROLYTICS**

- Singles
- Duals
- Triples
- Quads

Tubular units encased in aluminum containers especially suited for compact assemblies. Single element units have solid wire leads. Dual, triple, and quad units are supplied with stranded wire leads and safety sleeves.

The higher voltage listings meet the new radio and electronic circuit potentials, particularly in cathode-ray applications like television receivers and oscillographs.

PRS units are normally supplied with etched foil, but plain foil is available. High-purity aluminum construction. Vented for excessive gas pressures.

**SINGLE ELEMENT UNITS**

Cap. Mfd.	V.D.C.W.	Size Diameter x Length	List
100	6	x 1 1/4	\$1.20
250	6	x 1 3/4	1.35
500	6	x 1 3/4	1.55
1000	6	x 2 1/4	1.90
1500	6	1 1/8 x 2 1/4	2.10
2000	6	1 1/8 x 2 3/4	2.30
100	12	x 1 1/2	1.20
250	12	x 1 3/4	1.45
500	12	x 2 1/4	1.70
1000	12	1 1/8 x 3 1/4	2.25
100	15	x 1 1/2	1.25
250	15	x 2 1/4	1.55
500	15	x 2 1/4	1.75
10	25	x 1 1/4	1.00
16	25	x 1 1/4	1.00
25	25	x 1 1/4	1.00
50	25	x 1 1/2	1.10
100	25	x 1 1/2	1.35
250	25	x 2 1/4	1.70
500	25	1 1/8 x 2 1/2	2.30
10	50	x 1 1/4	1.00
20	50	x 1 1/4	1.00
25	50	x 1 1/4	1.05
50	50	x 1 3/4	1.20
100	50	x 1 3/4	1.40
4	150	x 1 1/4	1.00
8	150	x 1 1/4	1.05
12	150	x 1 1/4	1.10
16	150	x 1 1/2	1.15
20	150	x 1 3/4	1.20
24	150	x 1 3/4	1.25
30	150	x 1 1/2	1.30
40	150	x 1 3/4	1.35
50	150	x 1 3/4	1.40
100	150	x 2 1/4	1.75
150	150	1 1/8 x 3	1.90
4	250	x 1 1/4	1.00
8	250	x 1 1/2	1.15
12	250	x 1 3/4	1.25
16	250	x 1 1/2	1.30
20	250	x 1 1/4	1.35
40	250	x 2 1/4	1.55
4	350	x 1 1/2	1.05
8	350	x 1 1/2	1.20
10	350	x 1 3/4	1.25
12	350	x 1 3/4	1.30
16	350	x 1 3/4	1.40
24	350	x 1 3/4	1.55
4	450	x 1 1/2	1.15
8	450	x 1 1/2	1.25
10	450	x 1 3/4	1.30
12	450	x 1 1/2	1.35
16	450	x 1 3/4	1.40
20	450	x 1 3/4	1.55
30	450	x 2 1/4	1.70
40	450	x 2 1/2	1.80
50	450	1 x 3	2.10
80	450	1 1/8 x 3 3/4	2.80
8	500	x 1 3/8	2.30
10	500	x 1 3/8	2.45
12	500	x 1 3/8	2.50
16	500	1 1/8 x 3 3/8	2.55
8	600	x 1 3/8	2.75
10	600	x 1 3/8	2.95
12	600	1 1/8 x 3 1/8	3.10
16	600	1 1/8 x 3 1/8	3.25
8	700	x 1 3/8	3.00
10	700	x 1 3/8	3.50
12	700	x 1 3/8	3.75
16	700	1 1/8 x 3 1/8	4.50

**DUAL DANDEES**  
Common (Dual-Element Units) Negative

Cap. Mfd.	V.D.C.W.	Size—Diameter x Length	List
10-10	25	x 1 1/4	\$1.40
10-10	50	x 1 1/2	1.40
8-8	150	x 1 3/4	1.50
8-16	150	x 2 1/4	1.55
20-20	150	x 1 3/4	1.65
20-30	150	x 2 1/4	1.70
20-40	150	x 1 3/4	1.75
30-30	150	x 1 3/4	1.80
30-40	150	x 2 1/4	1.80
30-50	150	x 2 1/4	1.95
40-40	150	x 2 1/4	1.80
40-80	150	x 2 3/4	2.20
50-30	150	x 2 1/4	1.95
50-50	150	x 2 1/4	2.10
80-40	150	x 2 3/4	2.25
100-100	150	1 x 3 1/4	3.20
8-8	200	x 1 3/4	1.50
8-16	200	x 2 1/4	1.60
16-16	200	x 1 3/4	1.70
30-30	200	x 2 1/4	2.15
8-16	250	x 1 3/4	1.65
10-10	250	x 1 3/4	1.65
16-16	250	x 2 1/4	1.70
20-20	250	x 2 1/4	1.85
30-30	250	x 2 1/4	2.25
8-8	450	x 2 1/4	1.70
8-16	450	x 2 1/4	2.00
10-10	450	x 2 1/4	1.85
16-16	450	1 1/8 x 2 1/4	2.25
20-20	450	1 1/8 x 3 1/4	2.50
*30-30	450	1 3/8 x 2 3/4	3.00
*40-20	450	1 3/8 x 2 3/4	2.95
*40-40	450	1 3/8 x 3 1/4	3.35

\*Supplied in paper cases only.

**TRIPLE DANDEES**  
(Triple-Element Units)

Cap. Mfd.	V.D.C.W.	Size—Diameter x Length	List
20-20-20	150	x 1 3/4	\$2.20
30-20-10	150	x 1 3/4	2.15
30-30-30	150	x 2 1/4	2.35
40-20-20	150	x 2 1/4	2.25
40-30-20	150	x 2 1/4	2.35
40-40-40	150	1 1/8 x 2 1/4	2.45
50-30-10	150	x 2 1/4	2.35
50-30-20	150	1 1/8 x 2 1/4	2.45
80-40-20	150	1 1/8 x 2 1/2	2.75

**TYPE PRS MULTIPLES**  
(Common Negative)

Type	Cap. Mfd.	V.D.C.W.	Size—Dia. x Lgth.	List
PRS 64D20A	30-20	x 150 + 100	x 2 1/4	\$2.20
PRS 86D4A	40-30	x 150 + 20	x 2 1/4	2.20
PRS 106D20A	50-30	x 150 + 100	x 2 1/4	2.55
PRS 106D50A	50-30	x 150 + 250	x 2 3/4	3.10
PRS 1010D4A	50-50	x 150 + 20	x 2 1/4	2.50



**TYPE PRS-B 150**  
150V.D.C.W. 200v Surge Peak

Cap. Mfd.	Can Size Dia. x Lgth.	List
20-20	1 x 2 1/2	\$2.05
20-40	1 x 3	2.20

**TYPE HCLV**



**HIGH CAPACITY LOW VOLTAGE**

High capacity—low voltage units used in electric fence control and other applications requiring these capacity-voltage values. Unit supplied with outer insulating tube and mounting ring. External tube sizes indicated below.

**TYPE PRSB**  
**DUAL ELEMENT — 4 LEADS**

TYPE PRS-B 450  
450V.D.C.W. 500v Surge Peak

Cap. Mfd.	Can Size Dia. x Lgth.	List
8-8	1 x 3	\$2.15
8-16	1 1/8 x 3 1/2	2.45
16-16	1 3/8 x 3 1/2	2.80

TYPE PRS-B 250  
250V.D.C.W. 300v Surge Peak

Cap. Mfd.	Can Size Dia. x Lgth.	List
8-16	1 x 3 1/2	2.10
16-16	1 x 3	2.20

**TYPE HCLV12—12 V.D.C.W.**

Cap. Mfd.	Size Dia. x Hght.	List
500	1 1/8 x 3	\$2.70
1000	1 1/8 x 3 1/2	3.25
2000	1 1/8 x 3 1/2	3.65
3000	1 1/8 x 4 1/2	4.55
4000	1 1/8 x 4 1/2	4.75

**TYPE HCLV18—18 V.D.C.W.**

Cap. Mfd.	Size Dia. x Hght.	List
500	1 1/8 x 3	3.00
1000	1 1/8 x 4 1/2	3.80
2000	1 1/8 x 4 1/2	4.75
4000	1 1/8 x 4 1/2	8.45

**TYPE HCLV25—25 V.D.C.W.**

Cap. Mfd.	Size Dia. x Hght.	List
500	1 1/8 x 3	3.30
1000	1 1/8 x 4 1/2	4.30
2000	1 1/8 x 4 1/2	5.25
3000	1 1/8 x 4 1/2	8.00
4000	1 1/8 x 4 1/2	9.50

**TYPE HCLV50—50 V.D.C.W.**

Cap. Mfd.	Size Dia. x Hght.	List
1000	2 1/8 x 3 1/2	6.50
2000	2 1/8 x 4 1/2	8.60

**TYPE PRVC**



**Cleat-Mounting Metal-Can Capacitors**

Originally designed by Aerovox. Replaces other electrolytics requiring mounting hole in chassis. Installed in a jiffy by center screw and metal cleat. Separate sections, two leads each section. Coded leads.

TYPE PRVC 600			
600V.D.C.W. Single Section			
Cap. Mfds.	Dia. x Hght.	List	
4	1 3/8 x 4	\$2.95	
8	1 1/2 x 4	3.15	
16	1 1/2 x 4	3.75	
TYPE PRVC 475			
475V.D.C.W. Single & Double			
8	1 3/8 x 3	2.75	
12	1 3/8 x 3	2.95	
16	1 3/8 x 3	3.15	
8-8	1 1/2 x 4	4.10	
TYPE PRVC 450			
450V.D.C.W. Single Section			
4	1 3/8 x 3	2.00	
8	1 3/8 x 3	2.20	
10	1 3/8 x 3	2.30	
12	1 3/8 x 3	2.40	
16	1 3/8 x 3	2.45	
20	1 3/8 x 3	2.70	
30	1 3/8 x 3	3.00	
40	1 3/8 x 3	3.15	
80	1 3/8 x 4	4.90	
TYPE PRVC 450			
Double Section			
8-8	1 3/8 x 4	3.00	
8-16	1 3/8 x 4	3.30	
10-10	1 3/8 x 4	3.10	
12-12	1 3/8 x 4	3.20	
16-16	1 3/8 x 4	3.55	
20-20	1 3/8 x 4	3.80	
TYPE PRVC 450			
Triple Section			
8-8-8	1 3/8 x 4	5.00	
10-10-10	1 3/8 x 4	5.30	

**TYPE BT**



**DRAWN-CASE "BATHTUB"**

Designed for rigid mounting in minimum space. Extra sturdy construction, immersion proof.

TYPE BT500			
500 V.D.C.W.			
Cap. Mfd.	L. x W. x H.	List	
4	2 x 2 x 1 1/8	\$4.70	
8	2 x 2 x 1 1/8	4.85	
TYPE BT450			
450 V.D.C.W.			
8	1 3/4 x 1 x 1	4.25	
12	1 3/4 x 1 1/4 x 1	4.75	
16	2 x 1 3/4 x 1	5.00	
TYPE BT350			
350 V.D.C.W.			
8	1 3/4 x 1 x 3/8	3.70	
12	1 3/4 x 1 x 3/8	4.20	
16	1 3/4 x 1 x 1	4.40	
20	1 3/4 x 1 1/4 x 1 1/8	4.60	
TYPE BT150			
150 V.D.C.W.			
8	1 3/4 x 1 x 3/8	2.75	
12	1 3/4 x 1 x 3/8	2.80	
16	1 3/4 x 1 x 3/8	2.85	
24	1 3/4 x 1 x 3/8	3.00	
30	1 3/4 x 1 x 1	3.10	
40	1 3/4 x 1 x 1	3.20	
TYPE BT50			
50 V.D.C.W.			
10	1 3/4 x 1 x 3/8	2.65	
25	1 3/4 x 1 x 3/8	2.75	
50	1 3/4 x 1 x 3/8	3.00	
TYPE BT25			
25 V.D.C.W.			
10	1 3/4 x 1 x 3/8	2.60	
25	1 3/4 x 1 x 3/8	2.70	
50	1 3/4 x 1 x 3/8	2.80	

**TYPE E**

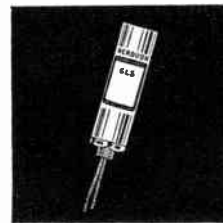


**Upright or Inverted Mounting Capacitors**

Can be mounted in any position with ring-type clamp provided with unit. Single or multiple elements. Two terminals on singles, three on dual, and 4 terminals on triple element units.

SINGLE ELEMENT			
TYPE E475			
475 V.D.C.W. 525 V. Surge Peak			
Cap. Mfds.	Dia. x Hght.	List	
4	1 3/8 x 2 1/4	\$2.20	
TYPE E450			
450 V.D.C.W. 500 V. Surge Peak			
4	1 3/8 x 2 1/4	2.15	
8	1 3/8 x 2 1/4	2.25	
10	1 3/8 x 2 1/4	2.30	
12	1 3/8 x 2 1/4	2.35	
16	1 3/8 x 2 1/4	2.40	
20	1 3/8 x 2 1/4	2.55	
30	1 3/8 x 2 1/4	2.70	
40	1 3/8 x 2 3/4	2.75	
80	1 3/8 x 4 1/4	3.80	
TYPE E50			
50 V.D.C.W. 75 V. Single Peak			
10	1 x 1 3/8	2.00	
25	1 x 1 3/8	2.05	
TYPE E25			
25 V.D.C.W. 40 V. Surge Peak			
10	1 x 1 3/8	2.00	
25	1 x 1 3/8	2.00	
DUAL ELEMENT			
TYPE E450			
450 V.D.C.W. 500 V. Surge Peak			
8-8	1 3/8 x 2 1/4	3.25	
8-16	1 3/8 x 2 1/4	3.50	
10-10	1 3/8 x 2 1/4	3.35	
12-12	1 3/8 x 2 1/4	3.45	
16-16	1 3/8 x 2 3/4	3.80	
20-20	1 3/8 x 2 3/4	4.05	
TRIPLE ELEMENT			
TYPE E450			
8-8-8	1 3/8 x 2 1/4	3.90	
10-10-10	1 3/8 x 2 1/4	4.10	

**TYPE GLS**



**Midget Screw-Mounting Wire-Lead Capacitors**

Similar to Type GL. Smaller diameter cans and minimum length. Best for compact assemblies.

TYPE GLS450			
SINGLE-ELEMENT			
450 V.D.C.W. 500 V. Surge Peak			
Cap. Mfds.	Dia. x Hght.	List	
4	1 x 2 3/8	\$2.00	
8	1 x 2 1/8	2.20	
12	1 x 3 1/4	2.40	
16	1 x 3 1/4	2.45	
TYPE GLS450			
DOUBLE-ELEMENT			
8-8	1 3/8 x 3	3.00	
TYPE GLS250			
SINGLE-ELEMENT			
250 V.D.C.W. 300 V. Surge Peak			
4	1 x 2 3/8	1.40	
8	1 x 2 1/8	1.65	
12	1 x 2 1/8	1.75	
16	1 x 3 1/4	1.80	

**TYPE G**



**Insulated Screw-Mounting Capacitors**

Hermetically-sealed aluminum can unit, threaded cover with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection through terminal in cover.

TYPE G475			
SINGLE ELEMENT			
475 V.D.C.W. 525 V. Surge Peak			
Cap. Mfds.	Dia. x Hght.	List	
4	1 3/8 x 2 1/4	\$2.20	
8	1 3/8 x 2 1/4	2.30	
TYPE G450			
450 V.D.C.W. 500 V. Surge Peak			
4	1 3/8 x 2 1/4	2.15	
8	1 3/8 x 2 1/4	2.25	
10	1 3/8 x 2 1/4	2.30	
12	1 3/8 x 2 1/4	2.35	
16	1 3/8 x 2 1/4	2.40	
20	1 3/8 x 2 1/4	2.55	
30	1 3/8 x 2 1/4	2.70	
40	1 3/8 x 2 3/4	2.75	
80	1 3/8 x 4 1/4	2.80	
TYPE G450			
DUAL-ELEMENT			
8-8	1 3/8 x 2 1/4	3.25	
8-16	1 3/8 x 2 1/4	3.50	
10-10	1 3/8 x 2 1/4	3.35	
12-12	1 3/8 x 2 1/4	3.45	
16-16	1 3/8 x 2 3/4	3.80	
20-20	1 3/8 x 2 3/4	4.05	

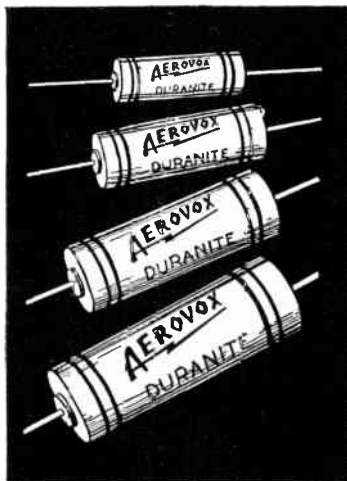
**TYPE GL**  
**SCREW-MOUNTING WIRE-LEAD CAPACITORS**

Inverted mounting, aluminum can unit in single, double and triple elements. Two separate color-coded leads, 5" long brought out from each section. Convenient mounting with palnut and threaded neck.

TYPE GL600			
SINGLE-ELEMENT			
600 V.D.C.W. 750 V. Surge Peak			
Cap. Mfds.	Dia. x Hght.	List	
4	1 3/8 x 4	\$2.95	
8	1 3/8 x 4 1/2	3.15	
16	1 3/8 x 4 1/2	3.75	
TYPE GL475			
SINGLE-ELEMENT			
475 V.D. C.W. 525 V. Surge Peak			
8	1 3/8 x 3	2.75	
12	1 3/8 x 3	2.95	
16	1 3/8 x 3	3.15	
TYPE GL475			
DUAL-ELEMENT			
8-8	1 3/8 x 4	4.10	
TYPE GL450			
SINGLE-ELEMENT			
450 V.D.C.W. 500 V. Surge Peak			
4	1 3/8 x 3	2.00	
8	1 3/8 x 3	2.20	
10	1 3/8 x 3	2.30	
12	1 3/8 x 3	2.40	
16	1 3/8 x 3	2.45	
20	1 3/8 x 3	2.75	
30	1 3/8 x 3	3.00	
40	1 3/8 x 3	3.15	
80	1 3/8 x 4	4.90	
TYPE GL450			
DUAL-ELEMENT			
8-8	1 3/8 x 4	3.00	
8-16	1 3/8 x 4	3.30	
10-10	1 3/8 x 4	3.10	
12-12	1 3/8 x 4	3.20	
16-16	1 3/8 x 4	3.55	
20-20	1 3/8 x 4	3.80	
TYPE GL450			
TRIPLE-ELEMENT			
8-8-8	1 3/8 x 4	5.00	
10-10-10	1 3/8 x 4	5.30	

## DURANITE MOLDED TUBULAR CAPACITORS • TYPE P-88

Toughest capacitors ever offered for radio-electronic equipment. DURANITE capacitors are entirely new—in design, impregnant, processing, and casing. New technique glove-fitting contact and seal throughout. DURANITE provides a permanent, non-varying, rock-hard casing, does not dry out, does not develop cracks or fissures. Pig-tail leads firmly imbedded, won't pull out, won't work loose. Moisture-proof; operate from sub-zero to over 212°F. Exposure to temperatures of 250°F. will not impair life or performance, no deterioration on the shelf.



Mfds.	200 Volts Size List	400 Volts Size List	600 Volts Size List	1000 Volts Size List	1600 Volts Size List
.001			A .25	A .50	B .60
.0015			A .25	A .50	B .60
.002			A .25	A .50	B .60
.0022			A .25	A .50	B .60
.003			A .25	B .50	B .60
.0033			A .25	B .50	B .60
.004			A .25	B .50	B .60
.0047			A .25	B .50	D .60
.005			A .25	B .50	D .60
.006		A .25	C .25	B .50	D .60
.0068		A .25	B .25	B .50	D .60
.007					E .65
.0075		A .25	D .30	B .50	E .65
.008					E .65
.01		A .25	D .30	B .50	E .65
.015	A .25	B .25	D .30	D .50	E .65
.02		B .25	D .30	E .50	F .65
.022		B .30	D .30	E .50	F .65
.025		B .30	D .35	E .50	F .65
.03		B .30	E .35	E .50	F .65
.033		B .30	E .35	E .60	F .70
.04	B .30		E .35	F .60	
.047	B .30	D .30	E .35	F .60	
.05	B .30	D .30	E .40	F .60	
.06			F .40		
.068	C .35	E .35	F .40	F .70	
.075	C .35	E .35	F .45		
.1	C .35	E .35	F .45		
.15	E .40	F .40	F .45		
.22		F .45	F .45		
.25		F .45	F .45		
.33	F .50				
.47	F .60				
.5	F .60				

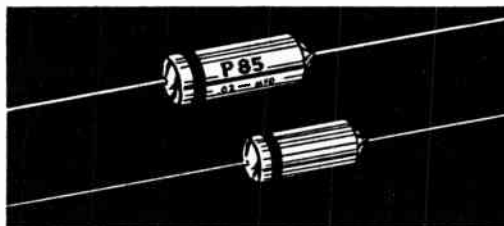
  

Size	Length x Dia.	Size	Length x Dia.
A	1 1/8 x 1/8	D	1 3/8 x 1/8
B	1 3/8 x 1/8	E	1 5/8 x 1/8
C	1 5/8 x 1/8	F	2 x 1/8

## AEROCON MINIATURE CAPACITORS • TYPE P-85

SIZE: Diameter x Length

CAP. MFD.	200 VDCW LIST	400 VDCW LIST	600 VDCW LIST
.00025	3/8 x 1/8 \$ .35	3/8 x 1/8 \$ .35	3/8 x 1/8 \$ .35
.0005	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.001	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.0015	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.002	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.0022	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.003	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.0033	3/8 x 1/8 .35	3/8 x 1/8 .35	3/8 x 1/8 .35
.004	3/8 x 1/8 .35	3/8 x 1/8 .40	3/8 x 1/8 .40
.0047	3/8 x 1/8 .35	3/8 x 1/8 .40	3/8 x 1/8 .40
.005	3/8 x 1/8 .35	3/8 x 1/8 .40	3/8 x 1/8 .40
.006	3/8 x 1/8 .35	3/8 x 1/8 .45	3/8 x 1/8 .45
.0068	3/8 x 1/8 .40	3/8 x 1/8 .45	3/8 x 1/8 .45
.01	3/8 x 1/8 .40	3/8 x 1/8 .45	3/8 x 1/8 .45
.015	3/8 x 1/8 .45	3/8 x 1/8 .45	3/8 x 1/8 .50
.02	3/8 x 1/8 .45	3/8 x 1/8 .45	3/8 x 1/8 .50
.022	3/8 x 1/8 .45	3/8 x 1/8 .45	3/8 x 1/8 .50
.03	3/8 x 1/8 .45	3/8 x 1/8 .45	3/8 x 1/8 .55
.033	3/8 x 1/8 .50	3/8 x 1/8 .50	3/8 x 1/8 .55
.04	3/8 x 1/8 .50	3/8 x 1/8 .50	3/8 x 1/8 .55
.047	3/8 x 1/8 .50	3/8 x 1/8 .50	3/8 x 1/8 .55
.05	3/8 x 1/8 .50	3/8 x 1/8 .50	3/8 x 1/8 .60
.068	3/8 x 1/8 .55	3/8 x 1/8 .55	3/8 x 1/8 .60
.1	3/8 x 1/8 .60	3/8 x 1/8 .65	3/8 x 1/8 .70

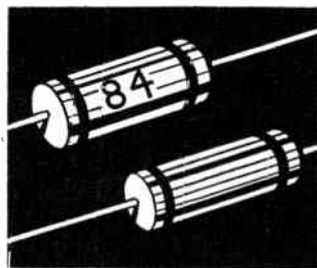


The new, tiny, Aerolene-impregnated tubular unit. Duranite endfill excludes humidity. Designed especially for personal radios, hearing aids and electronic assemblies requiring good performance and minimum size.

TYPE P-85  
SIZE: Diameter x Length

Cap. Mfd.	100 VDCW	List
.25	3/8 x 1 1/8	\$.70
.5	3/8 x 1 1/8	.80

## TYPE 84 LO-VOLTAGE TUBULAR PAPER CAPACITORS

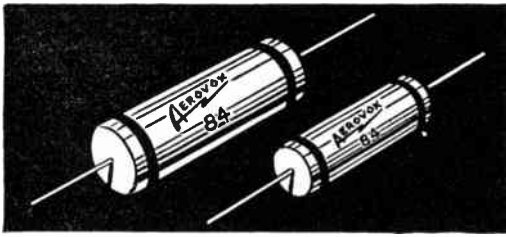


LO-VOLTAGE TYPE 84

Lo-voltage, type 84 units are wax-impregnated, wax-sealed capacitors in paper cases. These capacitors are available with HYVOL H impregnation for operation at temperatures from 70°C. up to 85°C. For over 800 VDC, and 85°C. operation units are available with HYVOL M impregnation. Units are obtainable with a radial mounting band on request at extra cost.  
WAX-IMPREGNATED, WAX-SEALED CARDBOARD TUBULAR CAPACITORS

CAP. MFD.	400 VDCW LIST	600 VDCW LIST	1000 VDCW LIST	1600 VDCW LIST
.001	3/8 x 1 1/8 \$ .23	3/8 x 1 1/8 \$ .23	3/8 x 1 1/8 \$ .45	7/8 x 1 1/4 \$ .50
.002	3/8 x 1 1/8 .23	3/8 x 1 1/8 .23	3/8 x 1 1/8 .45	7/8 x 1 1/4 .50
.003	3/8 x 1 1/8 .23	3/8 x 1 1/8 .23	3/8 x 1 1/8 .45	7/8 x 1 1/2 .50
.004	3/8 x 1 1/8 .23	3/8 x 1 1/8 .23	3/8 x 1 1/8 .45	7/8 x 1 1/2 .50
.005	3/8 x 1 1/8 .23	3/8 x 1 1/8 .23	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .50
.006	3/8 x 1 1/8 .23	3/8 x 1 1/8 .23	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .50
.0075	3/8 x 1 1/8 .23	3/8 x 1 1/8 .27	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .54
.01	3/8 x 1 1/8 .23	3/8 x 1 1/8 .27	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .54
.015	3/8 x 1 1/8 .23	3/8 x 1 1/8 .27	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .54
.02	3/8 x 1 1/8 .23	3/8 x 1 1/8 .27	3/8 x 1 1/8 .45	1 1/2 x 1 1/2 .54
.025	3/8 x 1 1/8 .27	3/8 x 1 1/8 .32	3/8 x 1 1/8 .45	1 1/2 x 2 .54
.03	3/8 x 1 1/8 .27	3/8 x 1 1/8 .32	3/8 x 1 1/8 .45	1 1/2 x 2 .63
.04		3/8 x 1 1/8 .36		
.05	7/8 x 1 1/2 .27	7/8 x 1 1/2 .36	7/8 x 2 .54	1 1/8 x 2 .68
.06	7/8 x 1 1/2 .32	7/8 x 1 1/2 .36	7/8 x 2 .54	7/8 x 2 1/2 .72
.075	7/8 x 1 1/2 .32	7/8 x 1 1/2 .41	7/8 x 2 .63	1 x 2 1/8 .81
.1	7/8 x 1 1/2 .32	7/8 x 1 1/2 .41	7/8 x 2 .65	1 1/8 x 2 1/8 .90
.15	7/8 x 1 1/2 .36	7/8 x 1 1/2 .45	7/8 x 2 1/2 .81	
.2	7/8 x 2 .36	7/8 x 2 .50	1 x 2 1/2 .90	
.25	7/8 x 2 .41	7/8 x 2 .50	1 1/8 x 2 1/8 1.04	
.5	7/8 x 2 .54	1 x 2 1/2 .72		
1.0	1 1/8 x 2 1/2 .81	1 1/8 x 2 1/2 1.13		

## HI-VOLTAGE • TYPE 84 • TUBULAR PAPER CAPACITORS



Hi-voltage type 84 oil impregnated, tubular capacitors are compact high-grade units. Overall wax dipped for high resistance to humidity.

Units rated from 2500 VDCW and up are designed to meet the elevated peaks and transients encountered in television and other cathode-ray tube applications and to reduce the effects of corona.

These high-voltage units are encased in cardboard tubes with tinned wire leads, and have an improved end-seal for longer life under operating conditions to which they are subjected. Supplied with radial mounting band at no extra cost.

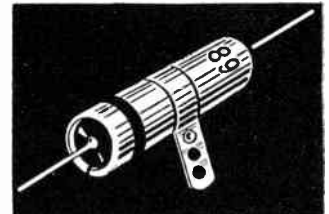
CAP.	2500 VDC	LIST	5000 VDC	LIST	6000 VDC	LIST
.0001	1/8" x 1 1/2"	\$.95	7/8" x 1 5/8"	\$1.05	7/8" x 1 5/8"	\$1.10
.00025	1/8" x 1 1/2"	.95	7/8" x 1 5/8"	1.05	7/8" x 1 5/8"	1.10
.0005	1/8" x 1 1/2"	.95	7/8" x 1 5/8"	1.05	7/8" x 1 5/8"	1.10
.001	1/8" x 1 1/2"	.95	7/8" x 1 5/8"	1.05	7/8" x 1 5/8"	1.10
.003	1/8" x 1 1/2"	.95	7/8" x 1 5/8"	1.05	7/8" x 1 5/8"	1.15
.005	1/8" x 1 1/2"	1.00	7/8" x 1 5/8"	1.10	7/8" x 1 5/8"	1.15
.01	1/8" x 2 1/8"	1.05	7/8" x 2 1/8"	1.15	7/8" x 2 1/8"	1.40
.03	3/8" x 2 5/8"	1.10	1" x 2 1/2"	1.30	1 1/8" x 2 1/2"	1.50
.05	3/8" x 2 5/8"	1.20	1 1/8" x 3"	1.40	1 1/8" x 3"	1.60
.1	1" x 2 5/8"	1.50				
.15	1" x 3 1/8"	1.65				

CAP.	7500 VDC	LIST	10000 VDC	LIST	15000 VDC	LIST
.0001	1/8" x 1 1/2"	\$1.10	7/8" x 2 1/8"	\$1.15	7/8" x 2 3/8"	\$1.75
.00025	1/8" x 1 1/2"	1.10	7/8" x 2 1/8"	1.15	7/8" x 2 3/8"	1.75
.0005	1/8" x 1 1/2"	1.10	7/8" x 2 1/8"	1.15	7/8" x 2 3/8"	1.75
.001	1/8" x 1 1/2"	1.10	7/8" x 2 1/8"	1.15	7/8" x 2 3/8"	1.75
.003	1/8" x 1 1/2"	1.15	7/8" x 2 1/8"	1.20	7/8" x 2 3/8"	1.85
.005	1/8" x 2 1/8"	1.15	7/8" x 2 1/8"	1.35	7/8" x 3 1/8"	2.00
.01	1" x 2 1/8"	1.50	1 1/8" x 2 1/8"	1.60		
.03	1 1/8" x 3 1/8"	1.75				

## OIL FILLED PAPER TUBULAR CAPACITORS • TYPE 89

CAP. MFD.	400 VDCW	LIST	600 VDCW	LIST	1000 VDCW	LIST
.001	3/8" x 1 1/8"	\$1.00	3/8" x 1 1/8"	\$1.05	3/8" x 1 1/8"	\$1.20
.002	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.004	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.005	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.006	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.0075	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.01	3/8" x 1 1/8"	1.00	3/8" x 1 1/8"	1.05	3/8" x 1 1/8"	1.20
.015	3/8" x 1 1/8"	1.10	3/8" x 1 1/8"	1.10	3/8" x 1 1/8"	1.30
.02	3/8" x 1 1/8"	1.10	3/8" x 1 1/8"	1.15	3/8" x 1 1/8"	1.30
.03	3/8" x 1 1/8"	1.15	3/8" x 1 1/8"	1.20	3/8" x 1 1/8"	1.30
.04	3/8" x 1 1/8"	1.15	3/8" x 1 1/8"	1.20	3/8" x 1 1/8"	1.30
.05	3/8" x 1 1/8"	1.15	3/8" x 1 1/8"	1.20	3/8" x 1 1/8"	1.45
.075	5/8" x 1 1/8"	1.20	5/8" x 1 1/8"	1.30	5/8" x 1 1/8"	1.55
.1	5/8" x 1 1/8"	1.30	5/8" x 1 1/8"	1.40	5/8" x 1 1/8"	1.65
.25	3/4" x 2 1/8"	1.60	3/4" x 2 1/8"	1.85	3/4" x 2 1/8"	2.20
.5	1" x 2 1/8"	1.90	1 1/8" x 2 1/8"	2.40		

CAP. MFD.	2000 VDCW	LIST	3000 VDCW	LIST	3500 VDCW	LIST
.001	3/8" x 1 1/8"	\$1.40	3/8" x 1 1/8"	\$1.65	1 1/8" x 1 1/8"	\$1.95
.002	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.004	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.005	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.01	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.015	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.02	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.03	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.04	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.05	3/8" x 1 1/8"	1.40	3/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.075	5/8" x 1 1/8"	1.40	5/8" x 1 1/8"	1.65	5/8" x 1 1/8"	1.95
.1	5/8" x 1 1/8"	1.40	5/8" x 1 1/8"	1.65	5/8" x 1 1/8"	1.95
.25	3/4" x 2 1/8"	1.60	3/4" x 2 1/8"	1.85	3/4" x 2 1/8"	2.20
.5	1" x 2 1/8"	1.90	1 1/8" x 2 1/8"	2.40		

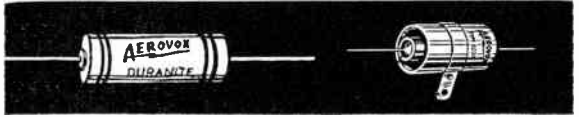


Immersion-proof, oil-impregnated, oil-filled units in handy, space-saving tubes. Ideal for vibrator applications, coupling and bypass functions in transmitters, high-voltage and in test equipment. Fully sealed against oil leakage or moisture penetration. Case is insulated, not connected to the capacitor section. Supplied with mounting strap and outer insulating tube.

CAP. MFD.	2500 VDCW	LIST	3000 VDCW	LIST	3500 VDCW	LIST
.0005	1/8" x 1 1/8"	\$1.50	1/8" x 1 1/8"	\$1.65	1 1/8" x 1 1/8"	\$1.95
.001	1/8" x 1 1/8"	1.50	1/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.005	1/8" x 1 1/8"	1.50	1/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.01	1/8" x 1 1/8"	1.50	1/8" x 1 1/8"	1.65	1 1/8" x 1 1/8"	1.95
.02	1/8" x 2 1/8"	1.65	1/8" x 2 1/8"	1.80	1 1/8" x 2 1/8"	2.10
.03	1/8" x 2 1/8"	1.75	1 1/8" x 2 1/8"	1.95	1 1/8" x 2 1/8"	2.20
.05	1/8" x 2 1/8"	1.95	1 1/8" x 2 1/8"	2.10	1 1/8" x 3 1/8"	2.35
.1	1 1/8" x 3 1/8"	2.65	1 1/8" x 3 1/8"	2.90	1 1/8" x 3 1/8"	3.20

CAP. MFD.	4000 VDCW	LIST	5000 VDCW	LIST	6000 VDCW	LIST
.001	1/8" x 1 1/8"	\$2.20	1 1/8" x 1 1/8"	\$2.50	1 1/8" x 2 1/8"	\$2.75
.002	1/8" x 1 1/8"	2.20	1 1/8" x 1 1/8"	2.50	1 1/8" x 2 1/8"	2.75
.004	1/8" x 1 1/8"	2.20	1 1/8" x 1 1/8"	2.50	1 1/8" x 2 1/8"	2.75
.005	1/8" x 1 1/8"	2.20	1 1/8" x 1 1/8"	2.50	1 1/8" x 2 1/8"	2.75
.01	1/8" x 1 1/8"	2.20	1 1/8" x 1 1/8"	2.50	1 1/8" x 2 1/8"	2.75
.015	1/8" x 1 1/8"	2.20	1 1/8" x 1 1/8"	2.50	1 1/8" x 2 1/8"	2.75
.02	1/8" x 2 1/8"	2.35	1 1/8" x 2 1/8"	2.65	1 1/8" x 3 1/8"	2.90
.03	1/8" x 2 1/8"	2.50	1 1/8" x 2 1/8"	2.75	1 1/8" x 3 1/8"	3.05
.05	1 1/8" x 3 1/8"	2.65	1 1/8" x 3 1/8"	2.90	1 1/8" x 5 1/8"	3.20
.1	1 1/8" x 4 1/8"	3.45				

## TELEVISION CAPACITORS



### TYPE 38 OIL FILLED METAL-CASED

Cap. Mfd.	6000 V.D.C.	List
.0005	1 1/8" x 1 1/8"	\$2.75
.001	1 1/8" x 1 1/8"	2.75
.005	1 1/8" x 2 1/8"	2.75
.01	1 1/8" x 2 1/8"	2.75
.05	1 1/8" x 3 1/8"	3.20

### TYPE P88 MOLDED TUBULAR CAPACITORS

Cap. Mfd.	6000 V.D.C.	List
.0005	3/8" x 2"	\$1.35
.001	3/8" x 2"	1.35
.005	3/8" x 2"	1.35

### Cap. Mfd. 10000 V.D.C. List

.0005	3/8" x 2"	\$1.50
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## ENERGY-STORAGE CAPACITORS • TYPE PX

VDC PEAK	NOMINAL CAP. MFD.	TYPE	LIST
1500	22.5 Watt Seconds	PX10D1	\$15.00
2000	20	PX14D3	22.00
2500	50.0 Watt Seconds	PX14D2	22.00
3000	24	PX18D1	25.00
2500	100.0 Watt Seconds	PX15D1B	37.00
4000	16	PX20D1	24.00



For high-speed flash photography, flash signaling equipment, pulsing and other energy storage uses.

SIZE: Length x Width x Height  
 PX10D1 2 1/2" x 3 3/4" x 4 5/8"  
 PX15D1B 4 1/8" x 3 3/4" x 6 1/2"  
 ALL OTHERS 4 1/8" x 3 3/4" x 4 5/8"

## TYPE 12



## TYPE 10



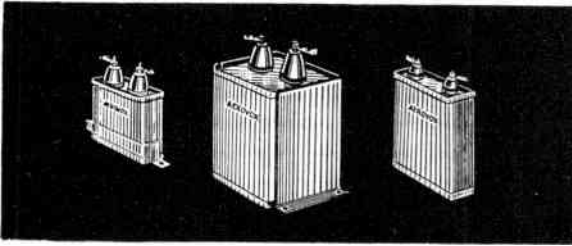
High-voltage, inverted or vertical, immersion-proof unit suitable for such high-voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or as a high-voltage by-pass capacitor.

New immersion-proof unit, physically interchangeable with the old single terminal type unit. One piece molded bakelite terminal assembly. Both terminal lugs insulated from container.

Mfd.	2000 VDCW Hght. x Dia.	List
1.0	3 3/4" x 2 1/4"	\$ 8.10
2.0	5 1/4" x 2 1/4"	10.00
.05	2 1/4" x 2 1/4"	10.25
.1	2 1/4" x 2 1/4"	11.00
.25	3 1/4" x 2 1/4"	12.10
.5	3 3/4" x 2 1/4"	13.20
1.0	5 1/4" x 2 1/4"	16.80
.05	2 3/4" x 2 1/4"	9.90
.1	3 3/4" x 2 1/4"	10.25
.25	5 1/4" x 2 1/4"	11.55
.03	2 3/4" x 2 1/4"	13.20
.05	3 3/4" x 2 1/4"	14.85
.1	4 3/4" x 2 1/4"	18.15

SIZE: Height x Diameter

CAP. MFD.	LIST	
TYPE 1510—1500 VDCW		
.5	2 3/8" x 1 1/2"	\$5.00
1.0	4 1/2" x 1 1/2"	\$5.45
TYPE 1010—1000 VDCW		
1.0	2 3/8" x 1 1/2"	\$4.20
2.0	4 1/2" x 1 1/2"	\$5.45
TYPE 610—600 VDCW		
2.0	2 3/8" x 1 1/2"	\$4.55
4.0	4 1/2" x 1 1/2"	\$6.25
7500 VDCW		
.01	3 1/4" x 2 1/4"	13.20
.02	3 1/4" x 2 1/4"	14.30
.03	3 3/4" x 2 1/4"	15.40
.05	4 1/4" x 2 1/4"	17.05
.1	4 3/4" x 2 1/4"	19.90
.5	4 3/4" x 2 1/4"	26.00



## AEROVOX HYVOL\* • TYPE 09

Immersion-proof in sturdy rectangular metal can. High-voltage screw type pillar terminals fitted with soldering lugs. Use of "HYVOL" allows exceptionally compact size for capacity, working voltage, and safety factor. Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracket is supplied unless otherwise specified, except on units with base sizes 3 3/4" x 3-3/16" and 3 3/4" x 4-9/16" where Type MS bracket is supplied. MSB is available for all types upon request.

Cap. Mfds	600 VDCW		1000 VDCW		1500 VDCW		2000 VDCW		2500 VDCW			
	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List		
.1			2 1/8 x 1 1/8 x 1 1/8	\$4.15	2 1/8 x 1 1/8 x 1 1/8	\$4.15	2 1/8 x 1 1/8 x 1 1/8	\$6.60	2 1/8 x 1 1/8 x 1 1/8	\$7.15		
.25			2 1/8 x 1 1/8 x 1 1/8	4.70	2 1/8 x 1 1/8 x 1 1/8	4.95	2 1/8 x 1 1/8 x 1 1/8	7.45	2 1/8 x 1 1/8 x 1 1/8	7.45	3 1/2 x 2 1/2 x 1 1/8	\$11.55
1.0	2 1/8 x 1 1/8 x 1 1/8	\$4.70	2 1/8 x 1 1/8 x 1 1/8	4.95	2 1/8 x 1 1/8 x 1 1/8	6.35	2 1/8 x 1 1/8 x 1 1/8	7.45	2 1/8 x 1 1/8 x 1 1/8	9.10	3 3/4 x 3 3/4 x 1 1/4	13.20
2.0	2 1/8 x 1 1/8 x 1 1/8	5.80	2 1/8 x 1 1/8 x 1 1/8	6.25	2 1/8 x 1 1/8 x 1 1/8	8.25	2 1/8 x 1 1/8 x 1 1/8	10.45	2 1/8 x 1 1/8 x 1 1/8	10.75	4 1/8 x 3 3/4 x 1 1/4	21.45
3.0	2 1/8 x 1 1/8 x 1 1/8	7.15	2 1/8 x 1 1/8 x 1 1/8	8.25	2 1/8 x 1 1/8 x 1 1/8	9.65	2 1/8 x 1 1/8 x 1 1/8	12.40	2 1/8 x 1 1/8 x 1 1/8	13.20		
4.0	2 1/8 x 1 1/8 x 1 1/8	8.25	2 1/8 x 1 1/8 x 1 1/8	9.10	2 1/8 x 1 1/8 x 1 1/8	10.45	2 1/8 x 1 1/8 x 1 1/8	14.05	2 1/8 x 1 1/8 x 1 1/8	15.15		
5.0	2 1/8 x 1 1/8 x 1 1/8	9.10	2 1/8 x 1 1/8 x 1 1/8	10.45	2 1/8 x 1 1/8 x 1 1/8	12.65	2 1/8 x 1 1/8 x 1 1/8	15.15	2 1/8 x 1 1/8 x 1 1/8	16.80	4 7/8 x 3 3/4 x 3 3/8	30.00
6.0	2 1/8 x 1 1/8 x 1 1/8	10.45	2 1/8 x 1 1/8 x 1 1/8	11.30	2 1/8 x 1 1/8 x 1 1/8	14.05	2 1/8 x 1 1/8 x 1 1/8	17.05	2 1/8 x 1 1/8 x 1 1/8	20.10		
8.0	2 1/8 x 1 1/8 x 1 1/8	11.30	2 1/8 x 1 1/8 x 1 1/8	13.50	2 1/8 x 1 1/8 x 1 1/8	15.15	2 1/8 x 1 1/8 x 1 1/8	20.90	2 1/8 x 1 1/8 x 1 1/8	25.05		
10.0	2 1/8 x 1 1/8 x 1 1/8	13.50	2 1/8 x 1 1/8 x 1 1/8	15.15	2 1/8 x 1 1/8 x 1 1/8	18.15	2 1/8 x 1 1/8 x 1 1/8	25.05	2 1/8 x 1 1/8 x 1 1/8	30.55		
12.0	2 1/8 x 1 1/8 x 1 1/8	15.15	2 1/8 x 1 1/8 x 1 1/8	16.70	2 1/8 x 1 1/8 x 1 1/8	18.15	2 1/8 x 1 1/8 x 1 1/8	27.25	2 1/8 x 1 1/8 x 1 1/8	33.30	6 7/8 x 3 3/4 x 4 1/8	75.10
15.0	2 1/8 x 1 1/8 x 1 1/8	16.70	2 1/8 x 1 1/8 x 1 1/8	18.50	2 1/8 x 1 1/8 x 1 1/8	20.10	2 1/8 x 1 1/8 x 1 1/8	30.00	2 1/8 x 1 1/8 x 1 1/8	40.15		

Cap. Mfds	3000 VDCW		4000 VDCW		5000 VDCW		6000 VDCW		7500 VDCW	
	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List	H. x W. x D.	List
.1	2 1/8 x 2 1/8 x 1 1/8	\$14.05	2 3/4 x 3 3/4 x 2 1/4	\$25.05	2 3/4 x 3 3/4 x 2 1/4	\$26.70	3 3/8 x 3 3/4 x 2 1/4	\$33.55	3 7/8 x 3 3/4 x 2 1/4	\$47.30
.25	2 1/8 x 2 1/8 x 1 1/8	14.85	2 3/4 x 3 3/4 x 2 1/4	26.40	2 3/4 x 3 3/4 x 2 1/4	30.25	3 3/8 x 3 3/4 x 2 1/4	41.80	5 1/8 x 3 3/4 x 2 1/2	50.05
.5	2 1/8 x 2 1/8 x 1 1/8	16.80	2 3/4 x 3 3/4 x 2 1/4	30.00	2 3/4 x 3 3/4 x 2 1/4	33.30	3 3/8 x 3 3/4 x 2 1/4	47.30	5 1/8 x 3 3/4 x 2 1/2	54.20
1.0	2 1/8 x 2 1/8 x 1 1/8	20.10	2 3/4 x 3 3/4 x 2 1/4	36.85	2 3/4 x 3 3/4 x 2 1/4	41.80	3 3/8 x 3 3/4 x 2 1/4	53.65	5 1/8 x 3 3/4 x 2 1/2	
2.0	2 1/8 x 2 1/8 x 1 1/8	25.05	2 3/4 x 3 3/4 x 2 1/4	46.75	2 3/4 x 3 3/4 x 2 1/4	53.65				
4.0	2 1/8 x 2 1/8 x 1 1/8	36.85	2 3/4 x 3 3/4 x 2 1/4	66.85						

## COMPACT HYVOL\* CAPACITORS • TYPE 16CT

Cap. Mfd.	400 VDCW	List	600 VDCW	List	1000 VDCW	List
.01	1 1/8 x 1 1/8 x 1 1/8	\$2.85	1 1/8 x 1 1/8 x 1 1/8	\$2.90	1 1/8 x 1 1/8 x 1 1/8	\$3.10
.05	1 1/8 x 1 1/8 x 1 1/8	2.90	1 1/8 x 1 1/8 x 1 1/8	3.10	1 1/8 x 1 1/8 x 1 1/8	3.15
.1	1 1/8 x 1 1/8 x 1 1/8	3.15	1 1/8 x 1 1/8 x 1 1/8	3.20	1 1/8 x 1 1/8 x 1 1/8	3.25
.25	1 1/8 x 1 1/8 x 1 1/8	3.20	1 1/8 x 1 1/8 x 1 1/8	3.25	1 1/8 x 1 1/8 x 1 1/8	3.35
.5	1 1/8 x 1 1/8 x 1 1/8	3.25	2	3.35	2	3.65
1.0	1 1/8 x 1 1/8 x 1 1/8	3.65	2 1/2	3.75		

Compact, immersion-proof unit, of minimum size and weight. Corrosion-proof metal container. Special immersion-proof terminals for severe atmospheric and climatic conditions. Type 16CT is standard, but Type 16CB (terminals on bottom) units also available.



## COMPACT HYVOL\* CAPACITORS • TYPE 18CB

Compact, immersion-proof unit. Different base sizes make units adaptable for duals and triples. Even on single sections, different base sizes make units fit in particular applications where Type 16's do not fit. Type 18CB is standard, but Type 18CT (terminals on top) also available.

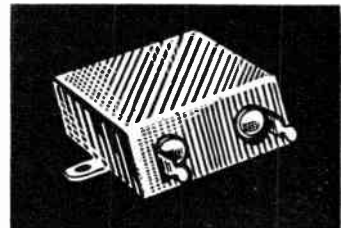
Cap. Mfd.	400 VDCW	List	600 VDCW	List	1000 VDCW	List	SINGLE-ELEMENT		1000 VDCW	List
							600 VDCW	List		
.05	1	\$3.15	1	\$3.20	1	\$3.35	1	1	\$3.35	
.1	1	3.25	1 1/8	3.35	1 1/8	3.45	1 1/8	1 1/8	3.45	
.25	1 1/4	3.35	1 1/8	3.45	1 1/8	3.70	1 1/8	1 1/8	3.65	
.5	1 1/2	3.45	1 1/8	3.70	1 1/8	4.00	1 1/8	1 1/8	3.85	
1.0	2	3.85	2 1/2	4.00						
.05-.05	1	\$4.00	1	\$4.20	1 1/8	\$4.55				
.1-.1	1 1/4	4.15	1 1/8	4.30	1 1/8	4.90				
.25-.25	1 1/2	4.30	1 1/8	4.55	1 1/8	5.00				
.5-.5	2	4.70	2 1/2	4.95						
.05-.05-.05	1	\$4.95	1 1/8	\$5.00	1 1/8	\$5.90				
.1-.1-.1	1 1/2	5.30	1 1/8	5.95	1 1/8	5.95				
.25-.25-.25	2	5.70	2 1/2	6.85						

Standard Width 1 1/4" — Depth 1 1/8"

## BATH TUB CASE HYVOL CAPACITORS • TYPE 30

SIZE: Length x Width x Height

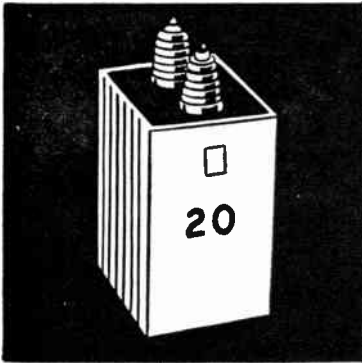
Cap. Mfds.	SINGLE-ELEMENT				1000 VDCW	List
	400 VDCW	List	600 VDCW	List		
.05	1 3/4 x 1 x 3/4	\$1.95	1 3/4 x 1 x 3/4	\$2.85	1 3/4 x 1 x 3/4	\$3.05
.1	1 3/4 x 1 x 3/4	2.20	1 3/4 x 1 x 3/4	2.90	1 3/4 x 1 x 3/4	3.15
.25	1 3/4 x 1 x 3/4	2.50	1 3/4 x 1 x 3/4	3.10	1 3/4 x 1 x 3/4	3.25
.5	1 3/4 x 1 x 3/4	2.65	1 3/4 x 1 x 3/4	3.30	2 1/8 x 1 1/4 x 7/8	3.50
.75	2 1/8 x 1 1/4 x 7/8	2.95	2 1/8 x 1 1/4 x 7/8	3.50	2 1/8 x 1 1/4 x 7/8	4.20
1.0	2 1/8 x 1 1/4 x 7/8	3.15	2 1/8 x 1 1/4 x 7/8	3.75	2 1/8 x 1 1/4 x 7/8	4.40
2.0	2 1/8 x 2 x 1 1/8	3.95	2 x 2 x 1 1/8	5.00		
DUAL-ELEMENT						
.05-.05	1 3/4 x 1 x 3/4	\$3.05	1 3/4 x 1 x 3/4	\$3.65	1 3/4 x 1 x 3/4	\$3.85
.1-.1	1 3/4 x 1 x 3/4	3.30	1 3/4 x 1 x 3/4	3.70	1 3/4 x 1 x 3/4	3.95
.25-.25	1 3/4 x 1 x 3/4	3.60	1 3/4 x 1 x 3/4	3.75	2 1/8 x 1 1/4 x 7/8	4.20
.5-.5	2 1/8 x 1 1/4 x 7/8	4.15	2 x 1 1/4 x 7/8	4.30	2 1/8 x 1 1/4 x 7/8	5.45
1.0-1.0	2 x 2 x 1 1/8	4.95	2 x 2 x 1 1/8	5.30		
TRIPLE-ELEMENT						
.05-.05-.05	1 3/4 x 1 x 3/4	\$3.85	1 3/4 x 1 x 3/4	\$4.05	1 3/4 x 1 x 3/4	\$4.25
.1-.1-.1	1 3/4 x 1 x 3/4	4.00	1 3/4 x 1 x 3/4	4.20	1 3/4 x 1 1/4 x 7/8	4.55
.25-.25-.25	2 x 1 1/4 x 7/8	4.40	2 x 1 1/4 x 7/8	4.75	2 x 2 x 1 1/8	5.50



A compact superior-grade oil-impregnated, oil-filled, drawn-metal case capacitor. Electrically sealed, immersion-proof. Built for severe operating conditions as in aircraft, police, broadcast, public address and other types of communications equipment. The AeroVox-designed terminals are constructed with "doublerubber bakelite" insulators permanently riveted to the case, and make a sturdy, absolutely immersion-proof assembly.



## TYPE 20 • HIGH VOLTAGE TRANSMITTER CAPACITORS



High quality oil-capacitors designed to meet the exacting service requirements of communications and electronic equipment, and general DC applications in industrial equipment. Single capacitors or parallel grouped capacitors available in ratings from 6000 to 50,000 VDCW. These units consist of precision wound, adequately insulated sections connected in parallel and assembled in heavy, welded copper bearing steel tanks, designed to expand or contract with changes in temperature. Finished in long lasting dark grey lacquer. Heavy duty, wet process porcelain insulator assemblies are gasketed, pressure sealed, and oil-filled to prevent internal creepage and corona. The assembled units are heat vacuum dried, vacuum impregnated with Aerovox Hyvol and hermetically sealed for long life under exacting, operating conditions. Single units rated at 30 KV or less are normally supplied with the capacitor element insulated from ground. Type 20 units not carried in stock but are built to order. Submit full application information when ordering.

SIZE: Height x Width x Depth

CAP. MFDS.	6000 VDCW	LIST	7500 VDCW	LIST	10,000 VDCW	LIST	12,500 VDCW	LIST
.1								
.2								
.25								
.5								
1.0			11 x 8 x 4	\$ 83.00			11 x 8 x 4	\$184.00
1.5			11 x 8 x 4	108.00			11 x 12 x 4	233.00
2.0	11 x 8 x 4	\$150.00	11 x 8 x 4	166.00	11 x 12 x 4	275.00	13 x 12 x 6	292.00
3.0			13 x 12 x 4	250.00	13 x 12 x 6	336.00		
4.0	11 x 12 x 4	184.00	13 x 12 x 6	300.00	13 x 12 x 6	368.00	15 x 12 x 9 1/2	551.00
5.0	11 x 12 x 4	208.00						
6.0	13 x 12 x 4	233.00						
10.0	13 x 12 x 6	290.00						
0.25-0.25								
0.5-0.5								

CAP. MFDS.	15,000 VDCW	LIST	20,000 VDCW	LIST	25,000 VDCW	LIST	37,500 VDCW	50,000 VDCW
.1								
.2								
.25	11 x 8 x 4	\$175.00	11 x 8 x 4	\$208.00	11 x 12 x 4	\$217.00	13x13 1/2 x4	13x13 1/2 x4
.5	11 x 12 x 4	208.00	11 x 12 x 4	267.00	11 x 12 x 4	292.00	13x13 1/2 x6	15x13 1/2 x8 1/2
1.0	13 x 12 x 4	292.00	13 x 12 x 6	359.00	11 x 12 x 6	317.00	15x13 1/2 x8 1/2	15x15 1/2 x15
1.5			15 x 12 x 9 1/2	484.00	15 x 12 x 9 1/2	475.00	15x13 1/2 x16	
2.0	15 x 12 x 9 1/2	384.00	15 x 12 x 9 1/2	576.00				
3.0	15 x 12 x 9 1/2	526.00						
4.0								
5.0								
6.0								
10.0								
0.25-0.25								
0.5-0.5								

**TYPE 12520 VD**  
 25,000 Volts Output  
 (12,500—12,500 Volts)  
 Dual Units  
 (For Voltage-Doubler  
 Circuits)  
 11 x 8 x 4    11 x 12 x 4  
**PRICES ON REQUEST**

## HIGH TEMPERATURE METALLIZED — PAPER CAPACITORS

Sizes given are D x L

Capacity	200 Volt		400 Volt		600 Volt	
	Size	List	Size	List	Size	List
.01	1/4 x 1 1/2	\$1.30	1/4 x 1 1/2	\$1.35	1/4 x 1 1/2	\$1.45
.02	1/4 x 1 1/2	1.40	1/4 x 1 1/2	1.45	1/4 x 1 1/2	1.55
.03	1/4 x 1 1/2	1.50	1/4 x 1 1/2	1.55	1/4 x 1 1/2	1.65
.05	1/4 x 1 1/2	1.60	1/4 x 1 1/2	1.65	1/4 x 1 1/2	1.75
.1	1/4 x 1 1/2	1.75	1/4 x 1 1/2	1.80	1/4 x 1 1/2	1.90
.25	1/4 x 1 1/2	2.00	1/4 x 1 1/2	2.10	1/4 x 1 1/2	2.25
.5	1/4 x 1 1/2	2.50	1/4 x 1 1/2	2.85	1/4 x 1 1/2	3.00
1.0	1/4 x 1 1/2	3.00	1/4 x 1 1/2	3.50	1/4 x 1 1/2	4.00
2.0	1/4 x 1 1/2	4.00	1/4 x 1 1/2	5.50	1/4 x 1 1/2	6.00

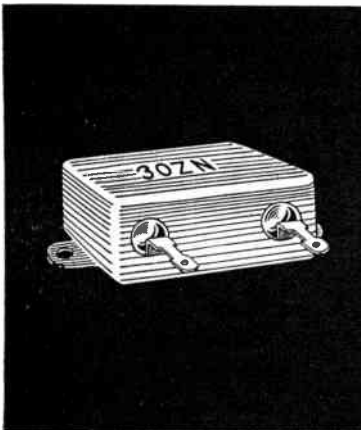
### TYPE P92ZN

Aerovox type P92ZN Aerolene impregnated metallized paper capacitors are modified plastic tubular type, Duranite end-sealed capacitors in paper cases. Operating temperature range is -30°C to +100°C.



Standard Tolerances ±20%. For lower tolerances, ask for quotations.

### TYPE P30ZN



## HIGH TEMPERATURE METALLIZED — PAPER CAPACITORS

Sizes given are L x W x H

Capacity	200 Volt			List	400 Volt			List	600 Volt			List
	Size	Size	Size		Size	Size	Size		Size	Size	Size	
.1	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	\$5.73	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	\$7.00	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	\$8.00
.25	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	6.00	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	7.30	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	8.30
.5	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	6.25	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	7.60	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	8.75
1.0	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	6.75	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	8.20	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	9.50
2.0	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	1 1/4 x 1 x 1/8	7.80	2 x 1 x 1/8	2 x 1 x 1/8	2 x 1 x 1/8	9.50	2 x 2 x 1 1/8	2 x 2 x 1 1/8	2 x 2 x 1 1/8	11.00
3.0					2 x 1 x 1/8	2 x 1 x 1/8	2 x 1 x 1/8	11.00				
4.0					2 x 2 x 1	2 x 2 x 1	2 x 2 x 1	12.20				
5.0					2 x 2 x 1 1/4	2 x 2 x 1 1/4	2 x 2 x 1 1/4	14.30				

Cap. Mfd.	150 Volt	List
3.0	1 1/4 x 1 x 1/8	\$9.00
4.0	1 1/4 x 1 x 1/8	9.80
5.0	1 1/4 x 1 x 1/8	11.20
6.0	1 1/4 x 1 1/4 x 1/8	12.40
8.0	2 x 2 x 1	14.70
10.0	2 x 2 x 1	17.20
12.0	2 x 2 x 1 1/8	19.60
15.0	2 x 2 x 1	23.50

Aerovox type P30ZN Aerolene impregnated metallized-paper capacitors housed in "bathtub" metal-cases with vitrified ceramic or glass terminal seals. Operating temperature range —55°C to +100°C at full rating with operation to +125°C at 75 per cent of voltage rating.

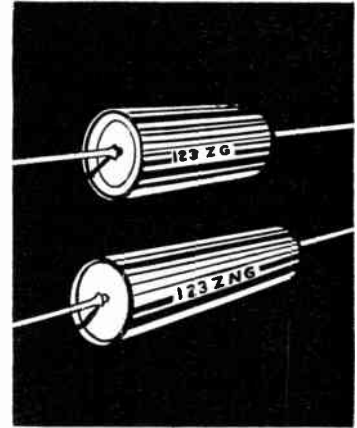
Standard Tolerances ±20%. For lower tolerances, ask for quotations.

**METAL-CASED METALLIZED-PAPER CAPACITORS**

**• TYPE P123ZG**

Ultra-compact, tiny capacitors in hermetically-sealed, metal cases. Bonded glass to metal terminal construction to minimize size. Can be supplied with Plastic insulating tubes. Std. Tolerance  $\pm 20\%$ .

Cap. Mfd.	200 V	List	400 V	List	600 V	List
.0005	.175 x $\frac{7}{16}$	\$2.50	.235 x $\frac{7}{16}$	\$2.60	.235 x $\frac{7}{16}$	\$2.70
.001	.175 x $\frac{7}{16}$	2.55	.235 x $\frac{7}{16}$	2.65	.235 x $\frac{7}{16}$	2.70
.002	.175 x $\frac{7}{16}$	2.55	.235 x $\frac{7}{16}$	2.65	.235 x $\frac{7}{16}$	2.70
.003	.175 x $\frac{7}{16}$	2.60	.235 x $\frac{7}{16}$	2.70	.235 x $\frac{7}{16}$	2.80
.005	.175 x $\frac{7}{16}$	2.65	.235 x $\frac{7}{16}$	2.75	.235 x $\frac{7}{16}$	2.85
.01	.175 x $\frac{7}{16}$	2.65	.235 x $\frac{7}{16}$	2.80	.312 x $\frac{7}{16}$	2.90
.015	.195 x $\frac{7}{16}$	2.65	.235 x $\frac{7}{16}$	2.85	.312 x $\frac{7}{16}$	2.95
.02	.195 x $\frac{7}{16}$	2.70	.235 x $\frac{7}{16}$	2.90	.312 x $\frac{7}{16}$	2.95
.033	.195 x $\frac{7}{16}$	2.70	.235 x $\frac{7}{16}$	2.90	.312 x $\frac{7}{16}$	3.00
.022	.235 x $\frac{7}{16}$	2.75	.312 x $\frac{7}{16}$	2.95	.400 x $\frac{7}{16}$	3.15
.040	.235 x $\frac{7}{16}$	2.85	.312 x $\frac{7}{16}$	3.00	.400 x $\frac{7}{16}$	3.15
.047	.235 x $\frac{7}{16}$	2.85	.400 x $\frac{7}{16}$	3.05	.400 x $\frac{7}{16}$	3.20
.050	.235 x $\frac{7}{16}$	2.85	.400 x $\frac{7}{16}$	3.10	.400 x $\frac{7}{16}$	3.25
.068	.312 x $\frac{7}{16}$	2.90	.400 x $\frac{7}{16}$	3.15	.400 x $\frac{7}{16}$	3.25
.10	.312 x $\frac{7}{16}$	2.95	.400 x $\frac{7}{16}$	3.30	.500 x $\frac{7}{16}$	3.65
.15	.312 x $\frac{1}{8}$	3.00	.500 x $\frac{7}{16}$	3.55	.500 x $\frac{7}{16}$	3.85
.2	.312 x $\frac{1}{8}$	3.15	.500 x $\frac{7}{16}$	3.70	.562 x $\frac{7}{16}$	4.00
.22	.312 x $\frac{1}{8}$	3.25	.562 x $\frac{7}{16}$	3.85	.562 x $\frac{7}{16}$	4.20
.25	.312 x $\frac{1}{8}$	3.40	.562 x $\frac{7}{16}$	3.95	.562 x $\frac{7}{16}$	4.50
.33	.400 x $\frac{7}{16}$	3.55	.562 x $\frac{7}{16}$	4.10	.670 x $\frac{7}{16}$	4.80
.47	.400 x $\frac{7}{16}$	3.85	.562 x $\frac{7}{16}$	4.65	.670 x $\frac{7}{16}$	5.15
.50	.400 x $\frac{7}{16}$	4.00	.670 x $\frac{7}{16}$	4.85	.670 x $\frac{7}{16}$	5.85
.68	.562 x $\frac{7}{16}$	4.15	.670 x $\frac{7}{16}$	5.05	.670 x $\frac{7}{16}$	6.05
1.00	.562 x $\frac{7}{16}$	4.70	.670 x $\frac{7}{16}$	5.05	.750 x $\frac{7}{16}$	6.70
1.5	.562 x $\frac{7}{16}$	5.40				
2.0	.562 x $\frac{7}{16}$	6.80				



**HIGH TEMPERATURE METAL-CASED METALLIZED PAPER CAPACITORS • TYPE 123ZNG**

Aerovox type P123ZNG Aerolene impregnated metallized-paper capacitors housed in tubular metal cases with vitrified ceramic terminal seal. Operating temperature range -55°C to +100°C at full rating with operation to +125°C at 75 percent of voltage rating.

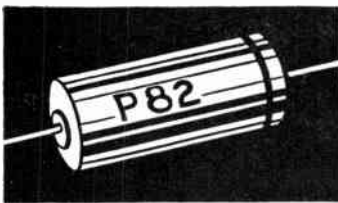
NOTE: For insulated section (insulating terminal at both ends) — specify type P123ZN — add  $\frac{1}{16}$  inch to lengths listed above.

For mounting bracket add Suffix "B" to type designation.

For threaded terminal mounting add Suffix "T" to type designation.

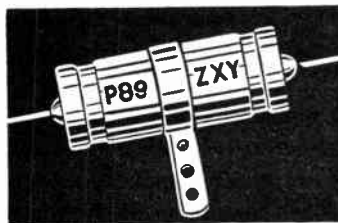
Capacity	200 V	List	400 V	List	600 V	List
.0005	.175 x $\frac{7}{16}$	\$2.95	.235 x $\frac{7}{16}$	\$3.10	.235 x $\frac{7}{16}$	\$3.15
.001	.175 x $\frac{7}{16}$	2.95	.235 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.15
.002	.175 x $\frac{7}{16}$	2.95	.235 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.15
.003	.175 x $\frac{7}{16}$	3.00	.235 x $\frac{7}{16}$	3.15	.235 x $\frac{7}{16}$	3.25
.005	.175 x $\frac{7}{16}$	3.00	.235 x $\frac{7}{16}$	3.15	.235 x $\frac{7}{16}$	3.25
.01	.175 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.20	.312 x $\frac{7}{16}$	3.35
.015	.195 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.35	.312 x $\frac{7}{16}$	3.40
.02	.195 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.40	.312 x $\frac{7}{16}$	3.50
.022	.195 x $\frac{7}{16}$	3.10	.235 x $\frac{7}{16}$	3.40	.312 x $\frac{7}{16}$	3.50
.033	.235 x $\frac{7}{16}$	3.25	.312 x $\frac{7}{16}$	3.45	.400 x $\frac{7}{16}$	3.65
.040	.235 x $\frac{7}{16}$	3.35	.312 x $\frac{7}{16}$	3.55	.400 x $\frac{7}{16}$	3.70
.047	.235 x $\frac{7}{16}$	3.35	.312 x $\frac{7}{16}$	3.55	.400 x $\frac{7}{16}$	3.70
.050	.235 x $\frac{7}{16}$	3.40	.312 x $\frac{7}{16}$	3.60	.400 x $\frac{7}{16}$	3.85
.068	.312 x $\frac{7}{16}$	3.40	.400 x $\frac{7}{16}$	3.70	.400 x $\frac{7}{16}$	3.95
.10	.312 x $\frac{7}{16}$	3.45	.400 x $\frac{7}{16}$	3.85	.400 x $\frac{7}{16}$	4.30
.15	.312 x $\frac{1}{8}$	3.50	.500 x $\frac{7}{16}$	4.15	.500 x $\frac{7}{16}$	4.50
.2	.312 x $\frac{1}{8}$	3.80	.500 x $\frac{7}{16}$	4.35	.562 x $\frac{7}{16}$	4.70
.22	.312 x $\frac{1}{8}$	3.80	.500 x $\frac{7}{16}$	4.50	.562 x $\frac{7}{16}$	4.90
.25	.312 x $\frac{1}{8}$	4.00	.500 x $\frac{7}{16}$	4.65	.562 x $\frac{7}{16}$	5.25
.33	.400 x $\frac{7}{16}$	4.15	.562 x $\frac{7}{16}$	4.80	.562 x $\frac{7}{16}$	5.60
.47	.400 x $\frac{7}{16}$	4.50	.562 x $\frac{7}{16}$	5.45	.670 x $\frac{7}{16}$	6.00
.50	.400 x $\frac{7}{16}$	4.70	.562 x $\frac{7}{16}$	5.70	.670 x $\frac{7}{16}$	6.75
.68	.562 x $\frac{7}{16}$	4.85	.670 x $\frac{7}{16}$	5.90	.670 x $\frac{7}{16}$	7.55
1.00	.562 x $\frac{7}{16}$	5.50	.670 x $\frac{7}{16}$	7.00	.750 x $\frac{7}{16}$	8.60
1.5	.562 x $\frac{7}{16}$	6.25				
2.0	.562 x $\frac{7}{16}$	7.00				

**TYPE P82 METALLIZED-PAPER CAPACITORS • CARDBOARD TUBES**



Cap. Mfds.	200 V	List	400 V	List	600 V	List
.01	$\frac{3}{8}$ x $\frac{5}{8}$	\$ .60	$\frac{3}{8}$ x $\frac{5}{8}$	\$ .65	$\frac{3}{8}$ x $\frac{5}{8}$	\$ .70
.02	$\frac{3}{8}$ x $\frac{5}{8}$	.60	$\frac{3}{8}$ x $\frac{5}{8}$	.65	$\frac{3}{8}$ x $\frac{5}{8}$	.70
.03	$\frac{3}{8}$ x $\frac{5}{8}$	.60	$\frac{3}{8}$ x $\frac{5}{8}$	.65	$\frac{3}{8}$ x $\frac{5}{8}$	.80
.05	$\frac{3}{8}$ x $\frac{5}{8}$	.65	$\frac{3}{8}$ x $\frac{5}{8}$	.70	$\frac{3}{8}$ x $\frac{5}{8}$	.80
.1	$\frac{3}{8}$ x $\frac{5}{8}$	.70	$\frac{3}{8}$ x $1\frac{1}{8}$	.80	$\frac{3}{8}$ x $1\frac{1}{8}$	.90
.25	$\frac{3}{8}$ x $\frac{5}{8}$	.90	$\frac{1}{2}$ x $1\frac{1}{8}$	1.00	$\frac{3}{8}$ x $1\frac{1}{2}$	1.10
.5	$\frac{3}{8}$ x $1\frac{1}{8}$	1.05	$\frac{5}{8}$ x $1\frac{1}{8}$	1.15	$\frac{3}{8}$ x $1\frac{1}{2}$	1.45
1.0	$\frac{1}{2}$ x $1\frac{1}{8}$	1.30	$\frac{3}{4}$ x $2\frac{1}{8}$	1.60	$\frac{3}{8}$ x $2\frac{1}{8}$	1.80
2.0	$\frac{5}{8}$ x $1\frac{1}{8}$	1.80				

**TYPE 89ZXY • METALLIZED-PAPER CAPACITORS**



Cap. Mfds.	Size 200 V.D.C.	List	Size 400 V.D.C.	List	Size 600 V.D.C.	List
.01					$\frac{3}{8}$ x 1	\$1.40
.02					$\frac{3}{8}$ x 1	1.45
.03					$\frac{1}{2}$ x 1	1.50
.05	$\frac{3}{8}$ x 1	\$1.40	$\frac{1}{2}$ x 1	1.45	$\frac{1}{2}$ x 1	1.55
.1	$\frac{1}{2}$ x 1	1.45	$\frac{1}{2}$ x $1\frac{1}{8}$	1.60	$\frac{1}{2}$ x $1\frac{1}{2}$	1.70
.25	$\frac{1}{2}$ x 1	1.60	$\frac{5}{8}$ x $1\frac{1}{8}$	1.80	$\frac{5}{8}$ x $1\frac{1}{2}$	2.00
.5	$\frac{1}{2}$ x $1\frac{1}{8}$	1.70	$\frac{5}{8}$ x 2	2.00	$\frac{3}{4}$ x 2	2.40
1.0	$\frac{5}{8}$ x $1\frac{1}{2}$	2.10	$\frac{3}{4}$ x $2\frac{1}{8}$	2.50	$\frac{3}{4}$ x $2\frac{1}{2}$	3.00
2.0	$\frac{5}{8}$ x 2	2.60	1 x $2\frac{1}{2}$	3.60	1 $\frac{1}{4}$ x $2\frac{1}{2}$	4.00

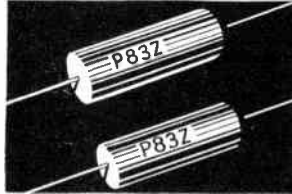
Tubular Aerolites in hermetically-sealed, metal cases. Hyyol K or M impregnated. Unique self-healing feature and Aerovox service-proven, double-rubber bakelite terminal seals. Ideal for extreme conditions and hard use. Tolerance  $\pm 20\%$ .

Cap. Mfds.	Size 150 V.D.C.	List
3.0	$\frac{3}{4}$ x 2	\$3.40
4.0	$\frac{1}{2}$ x 2	4.35
6.0	1 x 2	5.30

Sizes shown are for floating case without insulating tube.

## TYPE P83Z MICROMINIATURES METALLIZED-PAPER CAPACITORS

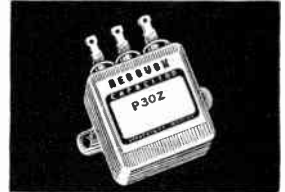
Ultra-small, new metallized-dielectric capacitor particularly applicable in the electronic field to replace the low capacity paper units now being used. Hyvol K impregnated in humidity resistant molded thermo-plastic cases.



Cap. Mfd.	Voltage	Case Size (Inches) Dia. x Lgth.	List
.004	200 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	\$.30
.005	200 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.01	200 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.02	200 VDC	$1\frac{1}{4}$ x $\frac{1}{8}$	.35
.04	200 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.00025	400 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.002	400 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.003	400 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.008	400 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.01	400 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.0005	600 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.0008	600 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.001	600 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.30
.002	600 VDC	$\frac{7}{16}$ x $\frac{1}{8}$	.35
.0022	600 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.0047	600 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.005	600 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35
.0068	600 VDC	$\frac{1}{4}$ x $\frac{1}{8}$	.35

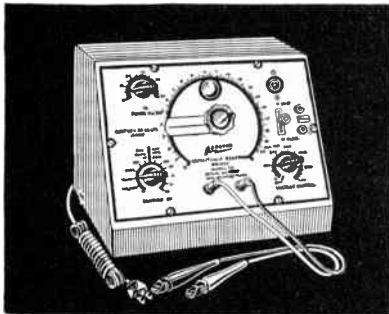
## TYPE P30Z BATHTUBS METALLIZED-PAPER CAPACITORS

Aerolite Metallized-Paper capacitors. Hyvol K or M impregnated in bathtub, hermetically-sealed metal cases. Meets rigid JAN requirements for moisture immersion and vibration testing. Std. Tolerance  $\pm 20\%$ .



Cap. Mfds.	Volts	Size	List
.5	200	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	\$3.30
1.0	200	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.55
2.0	150	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	4.45
4.0	150	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	5.75
6.0	150	2 x $1\frac{3}{4}$ x $\frac{3}{4}$	6.10
8.0	150	2 x 2 x $\frac{3}{4}$	8.40
10.0	150	2 x 2 x $\frac{3}{4}$	9.70
12.0	150	2 x 2 x 1	11.00
.25	400	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.35
.5	400	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.55
1.0	400	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.95
2.0	400	2 x $1\frac{3}{4}$ x $\frac{3}{4}$	4.90
4.0	400	2 x 2 x $1\frac{1}{4}$	7.85
.1	600	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.50
.25	600	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	3.55
.5	600	$1\frac{3}{4}$ x 1 x $\frac{3}{4}$	4.25
1.0	600	$1\frac{3}{4}$ x $1\frac{1}{4}$ x $\frac{3}{4}$	4.90
2.0	600	2 x 2 x 1	6.25

## TEST INSTRUMENTS



**Aerovox Capacitance and Resistance Bridge**

**AEROVOX MODEL 76 Resistance Capacitance**

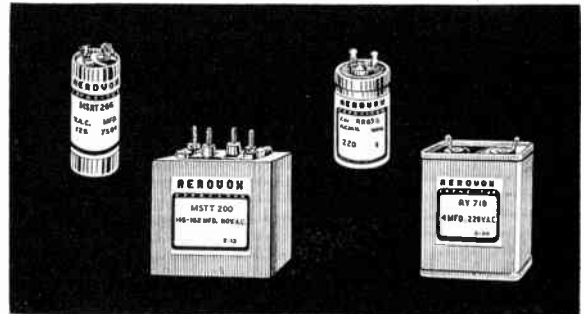
Bridge is the new postwar general-utility instrument combining simplicity of operation, remarkable degree of accuracy, and modest price. Extreme ruggedness makes it equally suitable out on the job, in the shop, or in the laboratory.

Sloping panel 10" x 6". Aluminum, etched and anodized. Steel cabinet, black crackle finish. All readings taken from main 4" dial. Same calibrated scale eliminates trouble and chances for errors in reading. Linear scale, also an exclusive feature, means no crowding at high end to make readings difficult and inaccurate. Both the resistance and the capacitance readings are covered by six overlapping ranges, as against two or three in usual service instruments, for maximum sensitivity and accuracy. Positive "magic eye" indicator.

Here is what Model 76 bridge does: (1) Measures capacitance from 100 mmf. to 200 mfd. in six ranges. (2) Measures resistance from 10 ohms to 20 megohms in six ranges. (3) Measures power factor from 0 to 50%. (4) Provides D.C. polarizing potential for leakage measurements, from 0 to 600 V.D.C., continuously variable and calibrated in volts. (5) Checks leakage or insulation resistance.

Instrument is provided with shockproof, color-coded test leads fitted with banana plugs for panel jacks, and with clips. Instructions. Measures 10" x 7 $\frac{3}{4}$ " x 8 $\frac{1}{4}$ ". Weight 8 lbs. 3 oz.

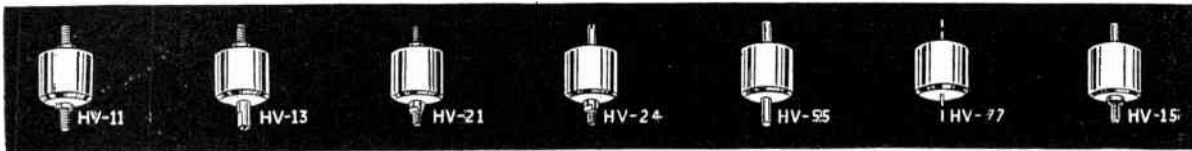
## Aerovox Motor-Starting Capacitors



### A TYPE FOR EVERY APPLICATION

Aerovox motor capacitors are available in two general categories: (1) Exact-Duplicate Replacements, precisely matching the mechanical and electrical features of the original equipment; and (2) Universal Replacements, for a minimum stock of numbers taking care of the maximum range of motor applications. Exact-Duplicate Replacements do the "same-as-new" service job insisted upon by critical customers. Universal Replacements mean maximum convenience with minimum investment. And of course Aerovox also supplies the hardware, housings, caps, mountings.

## HI-Q HIGH VOLTAGE CERAMIC CAPACITORS • TYPE HV



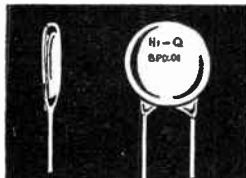
TYPE	MMFD.	VOLT	LIST
HV	500	10,000	\$1.75
HV	500	20,000	\$2.25

These Hi-Q high voltage capacitors of the slug type (thick disk dielectrics) are thoroughly tested units capable of assuring dependable service while withstanding high voltages.

The piercing pressure of the dielectric material is greatly decreased by a meticulously exacting jacketing procedure in conjunction with a newly developed plastic with excellent arc resistant properties. Terminals are silvered brass and integrally soldered to the silver electrodes which are fired directly to the ceramic dielectric.

The HV capacitors provide an excellent working parameter when used in conjunction with high voltage horizontal output transformers.

## HI-Q DISK CAPACITORS • TYPE BPD

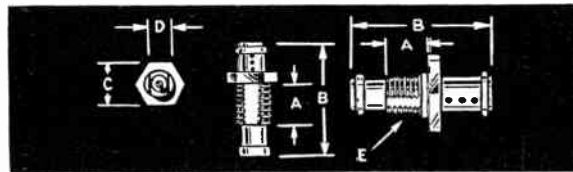


Hi-Q disk capacitors are available in 7 sizes for by-passing, blocking and coupling applications. Hi-Q disks are also available for temperature compensating where high Q and stability of capacity are essential and there is also a line of Hi-Q disks where extended temperature compensating applications require a very large gradient of capacity versus temperature.

Type	A Diameter	B Lead width	List
BPD .00001	max.	3/32"	\$.25
BPD .000015	max.	3/32"	\$.25
BPD .000022	max.	3/32"	\$.25
BPD .000025	max.	3/32"	\$.25
BPD .000033	max.	3/32"	\$.25
BPD .000047	max.	3/32"	\$.25
BPD .00005	max.	3/32"	\$.25
BPD .000068	max.	3/32"	\$.25
BPD .0001	max.	3/32"	\$.25
BPD .00012	max.	3/32"	\$.25
BPD .00015	max.	3/32"	\$.25
BPD .0002	max.	3/32"	\$.25
BPD .00027	max.	3/32"	\$.25
BPD .00033	max.	3/32"	\$.25
BPD .00047	max.	3/32"	\$.25
BPD .0005	max.	3/32"	\$.25
BPD .00068	max.	3/32"	\$.25
BPD .0008	max.	3/32"	\$.25
BPD .001	max.	3/32"	\$.25
BPD .0015	max.	3/32"	\$.25
BPD .002	max.	3/32"	\$.25
BPD .0022	max.	3/32"	\$.25
BPD .0033	max.	3/32"	\$.25
BPD .004	max.	3/32"	\$.25
BPD .0047	max.	3/32"	\$.25
BPD .005	max.	3/32"	\$.25
BPD .01	max.	3/32"	\$.30
BPD 2 x .001	max.	3/32"	\$.40
BPD 2 x .0015	max.	3/32"	\$.40
BPD 2 x .002	max.	3/32"	\$.40
BPD 2 x .0022	max.	3/32"	\$.40
BPD 2 x .003	max.	3/32"	\$.45
BPD 2 x .004	max.	3/32"	\$.45
BPD 2 x .0047	max.	3/32"	\$.45
BPD 2 x .0015	max.	3/32"	\$.50
BPD 3 x .002	max.	3/32"	\$.50

Tolerances — Guaranteed Minimum Value (GMV)

## HI-Q FEED-THRU CAPACITORS



Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. The minimum standard tolerance for feed-thru capacitors is  $\pm 20\%$ . All units are flash tested at 1000 volts D.C.

### DIMENSIONS — INCHES

TYPE	CAP. MMF.	A	B	C	D	THREAD E	LIST
CF-1	1500	3/8"	1 1/8"	1/8"	1 1/4"	1/4"-28	\$1.00
CF-2	3000	1/2"	7/8"	3/8"	1 1/8"	1/8"-24	1.00
CF-3	4000	1/2"	1 1/8"	3/8"	1 1/4"	1/8"-24	1.00
CF-4	7000	1/2"	1 1/8"	1/2"	1 1/8"	3/8"-24	1.00
CFS-1	1500	3/8"	1 1/8"	1/8"	1 1/4"	1/4"-28	1.00

CFS-1 not illustrated  
Tolerance  $\pm 20\%$

## HI-Q STAND OFF CAPACITORS



Hi-Q "stand-off" capacitors are tubular with a screw fixture for mounting to the chassis or common ground. Close coupling and their unique construction make them an excellent choice for by-passing R.F. in the high frequencies.

The multiple tapped model is a compact, by-passing unit when mounted next to tube sockets. Three capacities can be supplied as one unit, with capacity ranges available up to 2000 MMF per section. When fewer than three taps are required, it is possible to obtain higher capacities. Standard capacity tolerance is  $\pm 20\%$  and GMV for "stand-off" capacitors is  $-20\%$ ,  $+30\%$  and GMV for multiple tap units. (Closer tolerances are available on the lower capacity units whenever economical manufacturing permits.)

All units are flash tested for 1000 V.D.C., power factor is under 3% maximum and the insulation resistance is above 7500 megohms. All units are coated with a polymerized high temperature enamel, stamped for capacity and supplied with a nut, if desired. Leads are 20 gauge and a minimum of 1 1/2" long for CS units and 1 1/4" for CIS units.

## SI-TV HIGH VOLTAGE CERAMIC CAPACITORS

A new addition to the already complete line of Aerovox Hi-Q Ceramic capacitors. Especially adapted to television applications this capacitor is available in two sizes. For capacities from 4.7 mmf. to 30. mmf. the size is .312 x 1.125. For 47. mmf. the case size is .385 x 1.850. All units referred to here are 6000 Volts.



Cap. Mmf.	VOLT	LIST	Cap. Mmf.	VOLT	LIST
4.7	6000	\$1.00	22.	6000	\$1.00
5.2	6000	1.00	24.	6000	1.00
12.	6000	1.00	27.	6000	1.00
15.	6000	1.00	30.	6000	1.00
18.	6000	1.00	47.	6000	1.00
20.	6000	1.00			

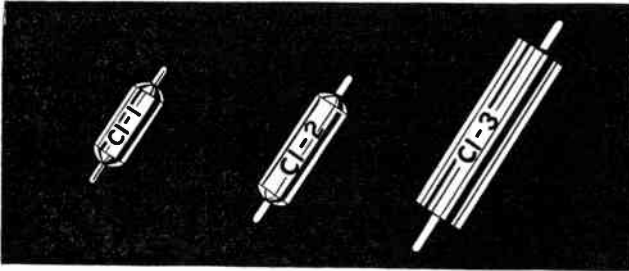
Type	Cap. MMF.	Dimension — inches			Thread	Across Flats—in.	List
		A	B	C	D	E	
CS-1	50	1 1/8"	1	1 1/8"	#1-40	1/4"	\$.60
	100						.60
	500						.60
	1000						.60
CS-2	1500	1 3/8"	1 3/8"	1 3/8"	#1-40	1/4"	.60
	3000						.60
CS-3	4000	1 1/2"	1 1/2"	1 1/2"	#1-40	1/4"	.60
CS-4	7500	1 3/4"	1 3/4"	1 3/4"	#6-32	3/8"	.60
	50						.60
	100						.60
CIS-1	500	3/8"	3/8"	3/8"	#6-32	1/4"	.60
	1000						.60
CIS-2	1000	3/8"	1 1/8"	1/4"	#6-32	1/4"	.60
	1500						.60

## HI-Q TUBULAR CERAMIC CAPACITORS

**STYLE SI:** Style SI provides a radial lead unit for applications requiring an insulated capacitor. Performance is comparable to that of insulated capacitors manufactured in accordance with JAN and REC specifications.

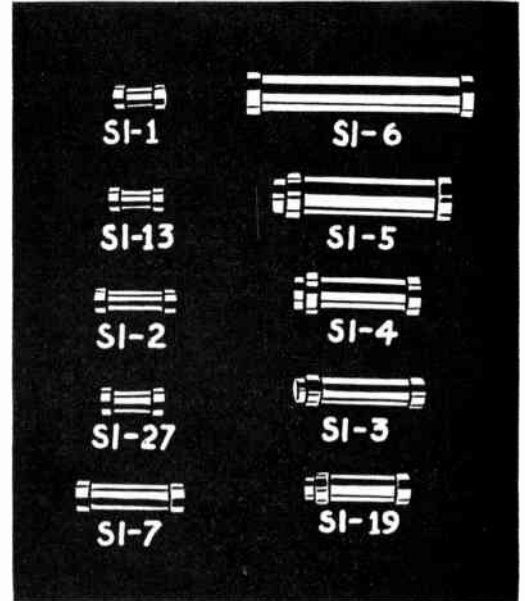
**STYLE CI:** Tubular ceramic capacitors, in three standard sizes, insulated with a ceramic (Steatite) cover-tube sealed with a special end seal which allows the wax, vacuum impregnant to enter and thoroughly fill all voids inside the cover tube. Axial leads in three sizes to meet all requirements of the JAN C20A specifications for insulated capacitors.

**STYLE CN:** Style CN is not listed but is available. It identifies the non-insulated tubular ceramic capacitors as established by the Armed Services Electronics Standards Agency (JAN C20A) and (RMA, REC107) specifications. This style capacitor has radial leads and is coated with a high moisture proof, low factor, non-hydroscopic styrene resin.



Cap. MMFD.	Type	Max. Dimensions	List \$	Cap. MMFD.	Type	Max. Dimensions	List \$
5	SI-1	.234 x .437	.25	5	CI-1	.250 x .562	.25
10	SI-1	.234 x .437	.25	10	CI-1	.250 x .562	.25
12	SI-1	.234 x .437	.25	12	CI-1	.250 x .562	.25
15	SI-1	.234 x .437	.25	15	CI-1	.250 x .562	.25
18	SI-1	.234 x .437	.25	18	CI-1	.250 x .562	.25
20	SI-1	.234 x .437	.25	20	CI-1	.250 x .562	.25
22	SI-1	.234 x .437	.25	22	CI-1	.250 x .562	.25
24	SI-1	.234 x .437	.25	24	CI-1	.250 x .562	.25
25	SI-1	.234 x .437	.25	25	CI-1	.250 x .562	.25
27	SI-1	.234 x .437	.25	27	CI-1	.250 x .562	.25
30	SI-1	.234 x .437	.25	30	CI-1	.250 x .562	.25
33	SI-1	.234 x .437	.25	33	CI-1	.250 x .562	.25
39	SI-1	.234 x .437	.25	39	CI-1	.250 x .562	.25
47	SI-1	.234 x .437	.25	47	CI-1	.250 x .562	.25
50	SI-1	.234 x .437	.25	50	CI-1	.250 x .562	.25
51	SI-1	.234 x .437	.25	51	CI-1	.250 x .562	.25
56	SI-1	.234 x .437	.25	56	CI-1	.250 x .562	.25
68	SI-1	.234 x .437	.25	68	CI-1	.250 x .562	.25
75	SI-1	.234 x .437	.25	75	CI-1	.250 x .562	.25
82	SI-1	.234 x .437	.25	82	CI-1	.250 x .562	.25
100	SI-1	.234 x .437	.25	100	CI-1	.250 x .562	.25
110	SI-1	.234 x .437	.25	110	CI-1	.250 x .562	.25
120	SI-1	.234 x .437	.25	120	CI-1	.250 x .562	.25
150	SI-1	.234 x .437	.25	150	CI-1	.250 x .562	.25
180	SI-1	.234 x .437	.25	180	CI-1	.250 x .562	.25
200	SI-1	.234 x .437	.25	200	CI-1	.250 x .562	.25
220	SI-1	.234 x .437	.25	220	CI-1	.250 x .562	.25
240	SI-1	.234 x .437	.25	240	CI-1	.250 x .562	.25
250	SI-1	.234 x .437	.25	250	CI-1	.250 x .562	.25
270	SI-1	.234 x .437	.25	270	CI-1	.250 x .562	.25
300	SI-1	.234 x .437	.25	300	CI-1	.250 x .562	.25
330	SI-1	.234 x .437	.25	330	CI-1	.250 x .562	.25
360	SI-1	.234 x .437	.25	360	CI-1	.250 x .562	.25
390	SI-1	.234 x .437	.25	390	CI-1	.250 x .562	.25
470	SI-1	.234 x .437	.25	470	CI-1	.250 x .562	.25
500	SI-1	.234 x .437	.25	500	CI-1	.250 x .562	.25
510	SI-1	.234 x .437	.25	510	CI-1	.250 x .562	.25
560	SI-1	.234 x .437	.25	560	CI-1	.250 x .562	.25
680	SI-1	.234 x .437	.25	680	CI-1	.250 x .562	.25
750	SI-1	.234 x .437	.25	750	CI-1	.250 x .562	.25
1000	SI-1	.234 x .437	.25	1000	CI-1	.250 x .562	.25
1200	SI-2	.234 x .687	.25	1200	CI-2	.250 x .812	.25
1500	SI-2	.234 x .687	.25	1500	CI-2	.250 x .812	.25
1800	SI-2	.234 x .687	.25	1800	CI-2	.250 x .812	.25
2000	SI-2	.234 x .687	.25	2000	CI-2	.250 x .812	.25
2200	SI-7	.275 x .875	.25	2200	CI-3	.340 x 1.320	.25
2400	SI-7	.275 x .875	.25	2400	CI-3	.340 x 1.320	.25
2500	SI-7	.275 x .875	.25	2500	CI-3	.340 x 1.320	.25
2700	SI-2GMV	.234 x .687	.25	2700	CI-3	.340 x 1.320	.25
3000	SI-19	.312 x .937	.25	3000	CI-3	.340 x 1.320	.25
3300	SI-19	.312 x .937	.25	3500	CI-3	.340 x 1.320	.25
4000	SI-19	.312 x .937	.25	4000	CI-3	.340 x 1.320	.25
4700	SI-7GMV	.275 x .875	.30	4700	CI-3	.340 x 1.320	.30
5000	SI-3	.312 x .125	.30	5000	CI-3	.340 x 1.320	.30
5100	SI-3	.312 x .125	.30	5100	CI-3	.340 x 1.320	.30
6000	SI-3	.312 x .125	.30	6000	CI-3	.340 x 1.320	.30
6800	SI-4	.375 x 1.093	.30				
7500	SI-4	.375 x 1.093	.30				
10000	SI-5	.375 x 1.600	.30				
15000	SI-6	.375 x 1.968	1.00				
17500	SI-6	.375 x 1.968	1.00				
20000	SI-6GMV	.375 x 1.600	1.00				
25000	SI-6GMV	.375 x 1.600	1.00				
30000	SI-6GMV	.375 x 1.968	1.00				
35000	SI-6GMV	.375 x 1.968	1.00				

CN types, non insulated are available in the same capacities as SI's.  
Types SI and CI, std. tol. ±20



## HI-Q ZERO TEMPERATURE COEFFICIENT CAPACITORS

The temperature coefficient of ceramic capacitors is an inherent characteristic of the ceramic body. By controlling this coefficient, the use of ceramics has been extended to countless applications in the electronic and communications fields. Temperature coefficient is determined by the ceramic mix and therefore certain tolerances are standardized. Following is a list of standard recommended tolerances used in this listing:

Temp. Coef.	Tolerance—PPM
NPO	± 30
N080	± 30
N750	± 100

The tolerances shown are maximum deviation. The actual average temperature coefficient usually runs close to nominal.

### NPO TYPE SI

The zero temperature coefficient capacitor is the most stable ceramic commercial capacitor available. The type SI is a tubular ceramic insulated with a synthetic coating (Durez) and impregnated with a high-melting point, Low-loss, micro-crystalline wax.

When ordering the above units, designate type and MMFD fully. For example: NPOSI-1-1.5 MMFD.

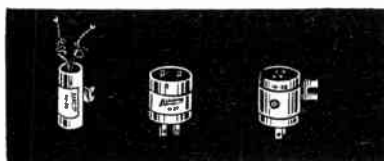
For full information on coding and characteristics refer to ASEA chart on page 25.

### ZERO TEMPERATURE COEFFICIENT CAP.

### NEGATIVE TEMP. COEFFICIENT CAP.

ZERO TEMPERATURE COEFFICIENT CAP.			NEGATIVE TEMP. COEFFICIENT CAP.		
TYPE	MMFD	LIST	TYPE	MMFD	LIST
NPO			N750		
SI-1	1.5	\$.50	SI-1	5	\$.50
SI-1	3.	.50	SI-1	10	.50
SI-1	3.3	.50	SI-27	47	.50
SI-1	4.7	.50	SI-7	75	.50
SI-1	5.	.50	SI-7	100	.50
SI-1	6.8	.50			
SI-1	8.2	.50			
SI-1	10	.50			
SI-1	20	.50			
SI-13	25	.50	TYPE		
SI-2	33	.50	N080		
SI-27	50	.55	SI-1	10	\$.60
SI-7	75	.55	SI-1	22	.60
SI-7	100	.55	SI-2	33	.60
SI-3	150	.60	SI-27	47	.60
SI-4	175	.60	SI-7	62	.60

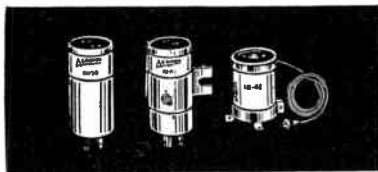
**INTERFERENCE FILTERS**



**TYPE IN-23.** Especially used for neon sign fixtures. Convenient mounting bracket. One filter for each fixture. Flexible leads. Also used on small motors. Size 1 x 2 3/8 inches. **List \$1.05**

**TYPE IN-27.** Simple, inexpensive, plug-in unit where interference is slight. Size 1 3/8 x 1 1/2 inches. **List \$1.50**

**TYPE IN-28.** For use where ground is at considerable distance. Most efficient when mounted on appliance. Bracket supplied. Size: 1 3/8 x 2 inches. **List \$2.00**



**TYPE IN-29.** Effective plug-in unit for local noise sources of variable character but strong intensity. Especially suited for shavers and other vibrating devices. Size: 1 3/8 x 3 inches. **List \$1.75**

**TYPE IN-30.** Similar to IN-29 but with greater inductance to handle more severe noise interference. Size: 1 3/8 x 3 inches. **List \$2.50**

**TYPE IN-31.** Bracket mounted unit with high inductance. Size: 1 3/8 x 3 inches. **List \$3.00**

**TYPE IN-42.** Heavy duty unit for serious interference from power transmission lines, etc. Plugs into outlet. Appliance or radio plugs into receptacle in filter. Mounting ring provided. Rating: 110/220 v. AC; 6 amps. Size: 2 1/2" dia. x 3 3/4". **List \$7.50**

**UHF — INTERFERENCE FILTERS**

These latest filter units provide maximum attenuation from 150 KC well up into the UHF range. And they are extra-rugged, extra-compact, extra-efficient, by any comparison with previous filters.

Primary applications are in r.f. noise suppression work in military or commercial aircraft and for vehicular low-voltage d.c. applications. Also, for special applications such as battery or low-voltage d.c. filters, for shield room applications, and for critical equipment.

Available in seven standard types meeting a wide variety of applications. For extraordinary requirements, special filters can be developed and built to your order.

**Aerovox**

Type	Amps.	VDC	Size (l. x w. x h.)	List
IN 148	2.0	150	1 3/8" x 1" x 7/8"	\$11.00
IN 150	3.0	150	1 1/2" x 1" x 1"	12.50
IN 151	5.0	150	1 3/4" x 1 1/4" x 1"	14.00
IN 152	10.3	150	2 1/8" x 1 1/4" x 1"	16.25
IN 153	25.0	150	2" x 2" x 1 3/8"	23.00
IN 156	40.0	150	5 1/8" x 1 3/8" x 1 1/8"	29.50
IN 154	100.0	150	3 3/8" x 2 1/8" x 2 3/8"	39.00

**AEROVOX RESEARCH WORKER**

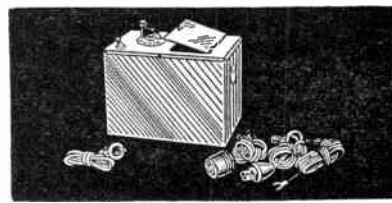
A snappy, informative, practical engineering paper, issued monthly, the **AEROVOX RESEARCH WORKER** is free to servicemen, engineers, hams, and other interested radio workers. Ask your **AEROVOX** jobber how you may subscribe, or write direct.

**INTERFERENCE ANALYZER**

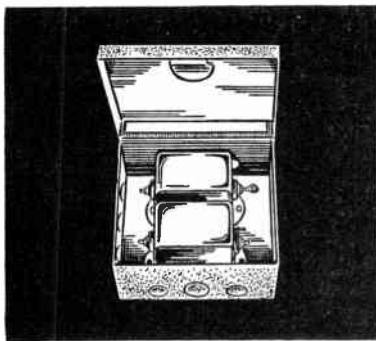
**TYPE ANL-37**

The Aerovox Filter Selector eliminates the guess work in determining the proper filter to use. Plugs between interfering device and outlet. Adjust selector switch until noise is eliminated or minimized. Dial then indicates type filter (IN27 thru IN42) to be used.

Unit in handsome, sturdy metal cabinet. Compartment contains necessary attachment plugs and clips. Size: 5 1/2 x 5 1/2 x 8 inches.



**HEAVY DUTY INDUSTRIAL FILTERS**



Heavy duty, industrial-type interference filters consisting of one or more highly efficient radio noise filter elements. Enclosed in black painted steel surface cabinet for permanent installations of power equipment. One element per line. Cabinets meet Underwriters' requirements, and have standard knockouts. Rating: 250 v. AC — 25 to 60 cps. or 600 v. DC.

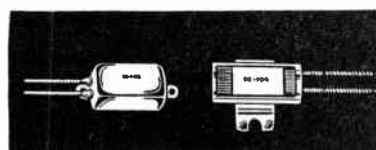
**SINGLE-PHASE BALANCED NETWORK**

Type	Max. Amps.	Elements	List
INB-104	5	1	\$12.50
INB-100	10	1	7.50
INB-101	30	1	27.50
INB-105	5	2	20.00
INB-102	10	2	30.00
INB-103	30	2	49.00

**THREE-PHASE NETWORK**

INB-106	5	3	27.50
INB-107	10	3	42.50
INB-108	30	3	71.00

Other INB filters available for up to 200 amperes. Write for information.



**TYPE IN-104.** Small, inexpensive filter unit of low impedance, delta-connected capacitors. Connect one unit for each fluorescent light fixture or across line leads every eight feet in core lighting. Tubular with single hole mounting bracket. 6" stranded wire insulated leads. Can common for grounding. Rating: 125 v. AC or DC. Size: 1" dia. x 2 3/4". **List \$1.20**

**TYPE IN-105.** Same as IN-104 except container is bathtub type metal can. Size: 1 3/4" x 1" x 3/4" high. **List \$1.25**  
**TYPE IN-106.** Best filter for fluorescents. Balanced network. Especially suited for radio and television salesrooms. One unit per fixture in series where power leads enter. Metal container with four stranded wire leads. Rating: 125 v. AC or DC; 2.6 amp. Size: 1 7/8" x 3" x 1 3/8" high. **List \$3.80**

**TYPE IN-109.** Balanced network filter for severe r-f noises from small appliances. Metal container and four insulated, stranded wire leads. Case common for grounding. Rating: 125 v. AC or DC; 2.5 amps. Size: 1 7/8" x 3" x 1 3/8" high. **List \$3.80**

**TYPE IN-133.** Hermetically sealed, metal cased unit — bracket mounted. Delta-connected capacitor combination for connecting across line. Excellent for use in areas near radio stations. 6" insulated stranded wire leads. Can common for grounding. Rating: 125 v. AC or DC. Size: 1 7/8" x 1 5/8" x 1 3/8" high. **List \$1.75**

**BUILT-IN FILTERS**

High attenuation type, hermetically sealed units for use where severe interference is encountered and dependability is required. For permanently mounted applications.

Aerovox special "Pi type" construction insures efficient radio noise reduction over low frequency broadcast, shortwave, and television bands. Suitable for Army-Navy or aircraft equipment where immersion and severe humidity tests must be met.

Aerovox Type	Maximum Voltage	Maximum Amperes	Size L x W x H	List
IN-101	125 VAC	1.5	2 1/8 x 1 1/4 x 3/4	\$ 3.75
IN-103	50 VDC	50	3 1/8 x 2 1/8 x 2 7/8	22.00
IN-110	250 VAC	5	2 x 2 x 1	7.50
IN-111	250 VAC	10	2 x 2 x 1 1/4	12.50
IN-112	250 VAC	30	3 1/8 x 2 1/8 x 2 7/8	22.00

For single wire unbalanced applications. For two wire filtering use one filter in each line. Filter case must be securely bonded to the filter appliance and ground for maximum efficiency. These filters when used on high-voltage AC should be used only on permanently grounded equipment.

**AEROVOX R-F NOISE CAPACITANCE SUPPRESSORS**

**Type INA-116 Type INA-117 Type INA-118**

These radio-noise suppression capacitors have been especially designed for use in military or commercial, aircraft and vehicular applications. Primary application is as an r-f bypass capacitor from line to ground in low voltage dc supply lines. Units are especially treated to assure extremely long, noise-free life.

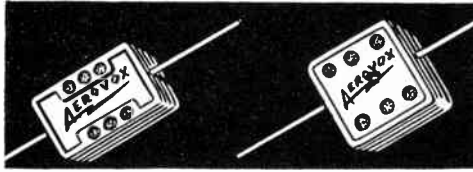
Operating temperature range is minus 55 degrees C to plus 95 degrees C. For full 150 volt rating the operating temperature range is minus 55 degrees C to plus 50 degrees C. Units may be used at operating voltages up to 120 vdc over a temperature range of minus 55 degrees C to plus 71 degrees C; and 60 vdc over a range of minus 55 degrees C to plus 95 degrees C.



Aerovox Type	Voltage	Max. Imped. at 150 Kc (Ohms)	Nom. Cap. Rating (Mfd)	Case Size	Mounting Centers	List
INA-117	150 VDC	.6	2.	1 3/8 x 1 x 3/4	2 1/8	\$ 6.00
INA-116	150 VDC	.3	4.	1 3/8 x 1 x 7/8	2 1/8	7.50
INA-118	150 VDC	.12	10.	2 x 2 x 7/8	2 3/8	10.00

**"POSTAGE-STAMP"  
MOLDED-IN-BAKELITE MICA CAPACITORS**

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.



**TYPE 1441W**  
Compact, with wire leads.

500 V.D.C.W.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.0005	\$.25	.003	\$.50
.00075	.25	.004*	.55
.001	.30	.005*	.60
.0015	.30	.006*	.75
.002	.40	.007*	.90
.0025	.45	.008*	1.00

**TYPE 1441WX**  
Compact, with wire leads.

300 V.D.C.W.		600 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.004	\$.50	.008*	\$.90
.005	.55	.009*	1.00
.006	.70	.01*	1.10
.007*	.80		

Size: 1" x 5/8" x 1/8" Std. Tolerance ±20%  
\*Thickness 1/8"

**TYPE 1467**  
Compact, with wire leads.

500 V.D.C.W.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.0005	\$.25	.004	\$.55
.00075	.25	.005	.60
.001	.30	.006*	.75
.0015	.30	.007*	.90
.002	.40	.008*	1.00
.0025	.45	.009*	1.10
.003	.50	.01*	1.20

**TYPE 1467X**  
Compact, with wire leads.

300 V.D.C.W.		600 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.007	\$.80	.013*	\$1.35
.008	.90	.014*	1.45
.01	1.10	.015*	1.55
.012*	1.25		

Std. Size: 1 1/4" x 3/4" x 3/8" Std. Tolerance ±20%  
\*Thickness 3/8"



**TYPE 1468**  
Midget size with wire leads.

500 V.D.C.W.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.00001	\$.25	.00025	\$.25
.000005	.25	.0003	.25
.00001	.25	.00035	.25
.000025	.25	.0004	.25
.00004	.20	.0005	.25
.00005	.20	.00075	.25
.000075	.20	.001	.30
.0001	.20		
.00015	.20		
.0002	.20		

Size: 3/8" x 3/8" x 1/8" Std. Tolerance ±20%

**TYPE 1478**  
Midget size with wire leads.

500 V.D.C.W.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.0005	\$.30	.0015	\$.45
.00075	.30	.002	.50
.001	.40		

Size: 1 1/8" x 7/8" x 1/8" Std. Tolerance ±20%

**HI-VOLTAGE MICA CAPACITORS  
TYPE 1441WL-HV, 1467L-HV, 1468L-HV**

**TYPE 1468L-HV**  
Size: 1 1/4" x 3/4" x 1/8"  
1500 VDCW

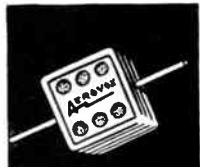
Cap. Mfd.	List
.000005	\$.30
.00001	.30
.000025	.30
.00005	.30
.000075	.30
.0001	.35
.00015	.35
.0002	.40
.00025	.45
.0003	.50
.00035	.50
.0004	.55

**TYPE 1467L-HV**  
Size: 1 1/4" x 3/4" x 1/8"  
1500 VDCW

Cap. Mfd.	List
.0005	\$.70
.00075	.80
.001	.90

1000 VDCW

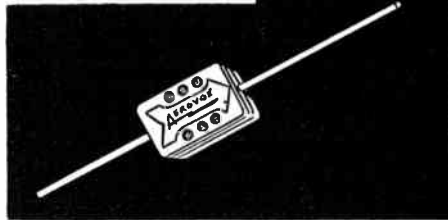
Cap. Mfd.	List
.0015	.70
.002	.80
.0025	1.00
.003	1.10
.004	1.30
.005	1.60



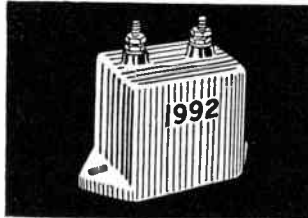
**TYPE 1441WL-HV**  
Size: 1 x 5/8" x 1/8"  
2000 VDCW

Cap. Mfd.	List
.0005	\$.65
.00075	.75
.001	.95

Std. Tolerance ±20%



**PORCELAIN-CASED MICA CAPACITORS**



Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.

SIZE: 4" overall by 3" high; 3 1/2" between mounting holes.

**TYPES 1991-1996**

Cap.	DC Voltage Rating	Type	Max. Current Capacity—Amps.				List
			15 mc	7.5 mc	3750 kc	1875 kc	
.00005	12,500	1996	3	2.5	1.5	1	\$10.40
.0001	12,500	1996	5	4	3	2	10.40
.00025	12,500	1996	7	8	6	4	10.40
.0005	12,500	1996	8	9	8	7	10.40
.001	7,000	1994	7	8	6	4	8.45
.001	12,500	1996	9	10	11	12	10.40
.001	7,000	1994	8	9	10	8	9.45
.0015	3,500	1992	8	9	8	5	8.45
.0015	12,500	1996	9	10	11	12	12.35
.0015	7,000	1994	9	9	10	8	10.40
.0015	5,000	1993	8	9	9	7	13.65
.0015	3,500	1992	8	9	8	5	8.45
.0015	2,000	1991	7	8	8	5	6.50
.002	12,500	1996	9	12	13	15	14.30
.002	7,000	1994	9	9	10	10	12.35
.002	5,000	1993	8	9	9	8	11.40
.002	3,500	1992	8	8	8	7	10.40
.002	2,000	1991	7	8	8	6	8.45
.003	12,500	1996	9	12	13	15	19.85
.003	7,000	1994	9	10	10	10	13.35
.003	5,000	1993	8	9	9	9	12.35
.003	3,500	1992	8	9	9	8	11.40
.003	2,000	1991	7	8	8	7	9.10
.005	10,000	1995	10	13	14	15	18.85
.005	7,000	1994	9	11	12	11	14.30
.005	5,000	1993	9	11	12	10	13.65
.005	3,500	1992	9	10	11	9	13.65
.005	2,000	1991	8	9	10	8	11.05
.01	7,000	1994	10	13	15	15	19.85
.01	5,000	1993	10	13	15	15	19.85
.01	3,500	1992	10	13	14	14	20.80
.01	2,000	1991	10	13	14	14	18.20
.02	3,500	1992	10	14	16	17	20.80
.02	2,000	1991	10	13	15	15	19.20
.05	3,500	1992	10	14	17	18	24.05
.05	2,000	1991	10	14	16	17	22.10
.1	2,000	1991	10	14	17	18	24.05

## HI-VOLTAGE MOLDED-IN-BAKELITE MICA CAPACITORS



### TYPE 1450

For critical service in low-powered transmitting circuits, buffer stages, power amplifiers, laboratory equipment, etc. Non-magnetic parts are used to reduce r.f. losses to minimum. Heavy terminals for minimum r.f. and contact resistance. Intended for point-to-point wiring, supported entirely by soldered connections.

600 V.D.C.D.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.00025	.45	.006	.80
.0003	.45	.008	.90
.00035	.45	.01	1.00
.0004	.45	.015*	1.35
.0005	.45	.02*	1.45
.001	.50	.025*	1.75
.0015	.55	.03*†	2.05
.002	.55	.04*†	2.65
.0025	.60	.05*†	3.30
.003	.70		
.004	.70		
.005	.70		

\*300 V.D.C.W. 600 V.D.C.T.

Size: 1 1/4" x 1 1/4" x 5/8". Std. Tolerance ±10%  
†Thickness 3/4"

### TYPES 1455-57

Same as Types 1445-47 except for sizes and capacitance ranges. Distance between mounting holes is 1 1/2".

#### TYPE 1455

600V.D.C.W.		1000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$1.20	.0025	\$1.30
.0001	1.20	.003	1.45
.00015	1.20	.004	1.50
.0002	1.20	.005	1.55
.00025	1.20	.006	1.80
.0003	1.20	.008	1.90
.00035	1.20	.01	2.15
.0004	1.20	.015	2.65
.0005	1.20	.02	3.05
.001	1.20	.025	3.60
.0015	1.20	.03	4.45
.002	1.30		

#### TYPE 1456

1200 V.D.C.W.		2500 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$1.60	.0015	\$2.30
.0001	1.60	.002	2.40
.00015	1.60	.0025	2.80
.0002	1.60	.003	3.05
.00025	1.60	.004	3.05
.0003	1.60	.005	3.30
.00035	1.60	.006	3.30
.0004	1.60	.008	3.85
.0005	1.60	.01	5.10
.001	1.80		

#### TYPE 1457

2500 V.D.C.W.		5000 V.D.C.T.	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$1.90	.0005	\$2.40
.000075	1.90	.001	2.80
.0001	1.90	.0015	3.55
.00015	1.90	.002	4.15
.0002	1.90	.0025	4.60
.00025	2.20	.003	4.90
.0003	2.25		
.00035	2.25		
.0004	2.30		

Size: 1 1/4" x 1 3/8" x 1 1/2". Std. Tolerance ±10%.

### TYPES 1650-1654

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Threaded mounting holes for roundhead screw terminals or plain holes available. Add suffix A for plain holes. Types 1650, 1651, and 1652 are supplied in brown or low-loss bakelite. Types 1653L and 1654L in low loss bakelite only.

#### TYPE 1650

600 VDCW - 1000 VDCT		350 VACW - 700 VACT	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$1.45	.001	1.45
.0001	1.45	.00025	1.45
.00025	1.45	.0003	1.45
.0003	1.45	.00035	1.45
.00035	1.45	.0004	1.45
.0004	1.45	.0005	1.45
.0005	1.45	.001	1.45
.001	1.45	.0015	1.45
.0015	1.45	.002	1.65
.002	1.65	.0025	1.70
.0025	1.70	.003	1.85
.003	1.85	.004	2.00
.004	2.00	.005	2.10
.005	2.10	.006	2.20
.006	2.20	.008	2.45
.008	2.45	.01	2.80
.01	2.80	.015	3.05
.015	3.05	.02	3.55
.02	3.55	.025	4.35
.025	4.35	.03	4.55
.03	4.55	.04*	5.85
.04*	5.85	.05*	7.10
.05*	7.10	.06*	8.05

#### TYPE 1651 (Con.)

Cap. Mfd.	List
.001	\$1.90
.0015	2.25
.002	2.50
.0025	2.80
.003	2.95
.004	3.10
.005	3.30
.006	3.45
.008	4.10
.01	4.70
.015	5.80
.02*	7.05
.025*	7.90
.03*	8.10

#### TYPE 1652

2500 VDCW - 5000 VDCT  
1750 VACW - 3500 VACT

Cap. Mfd.	List
.00005	\$1.90
.000075	1.90
.0001	1.90
.00015	2.00
.0002	2.10
.00025	2.15
.0003	2.20
.00035	2.25
.0004	2.50
.0005	2.55
.001	2.90
.0015	3.90
.002	4.25
.0025	4.60
.003	5.10
.004	5.65
.005	6.20
.006	6.35
.008*	6.85
.01*	7.30

#### TYPE 1653L

3750 VDCW - 7500 VDCT		2625 VACW - 5250 VACT	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$3.30	.00005	3.65
.000075	3.65	.0001	3.80
.0001	3.80	.00015	4.15
.00015	4.15	.0002	4.30
.0002	4.30	.00025	4.75
.00025	4.75	.0003	4.90
.0003	4.90	.00035	5.75
.00035	5.75	.0004	5.90
.0004	5.90	.0005	6.50
.0005	6.50	.001	7.70
.001	7.70	.0015	10.10
.0015	10.10	.002	11.50
.002	11.50	.0025	12.90
.0025	12.90	.003*	14.25

#### TYPE 1654L

5000 VDCW 10000 VDCT		3500 VACW - 7000 VACT	
Cap. Mfd.	List	Cap. Mfd.	List
.00005	\$3.75	.00005	4.15
.000075	4.15	.0001	4.65
.0001	4.65	.00015	5.05
.00015	5.05	.0002	6.25
.0002	6.25	.00025	6.80
.00025	6.80	.0003	7.15
.0003	7.15	.00035	7.50
.00035	7.50	.0004	7.70
.0004	7.70	.0005	9.90
.0005	9.90	.001*	12.50

Size: 1 3/4" x 1 1/8" x 1 1/8"  
\*Thickness 3/4"  
Std. Tolerance ±10%



### HIGH VOLTAGE MICAS TYPES 1445-47

Designed with insulated mounting holes 1 1/8" apart independent of soldering lugs. Used to shunt meter windings, large or small meter-mounting brackets available. Specify by suffix (A) for large or (E) for small brackets.

#### TYPE 1445

600 VDCW - 1000 VDCT	
Cap. Mfd.	List
.00005	\$1.20
.0001	1.20
.00015	1.20
.0002	1.20
.00025	1.20
.0003	1.20
.00035	1.20
.0004	1.20
.0005	1.20
.001	1.20
.0015	1.30
.002	1.30
.0025	1.30
.003	1.45
.004	1.50
.005	1.55
.006	1.80
.008	1.90
.01	2.15
.015*	2.65
.02*	3.05
.025*	3.60
.03*	4.45
.04*	5.65

#### TYPE 1446

1200 VDCW - 2500 VDCT	
Cap. Mfd.	List
.00005	\$1.60
.0001	1.60
.00015	1.60
.0002	1.60
.00025	1.60
.0003	1.60
.00035	1.60
.0004	1.60
.0005	1.60
.001	1.80
.0015	2.30
.002	2.40
.0025	2.40
.003	3.05
.004*	3.05
.005*	3.30
.006*	3.30
.008*	3.85
.01*	5.10
.015*	6.00

#### TYPE 1447

2500 VDCW - 5000 VDCT	
Cap. Mfd.	List
.00005	\$1.90
.000075	1.90
.0001	1.90
.00015	1.90
.0002	1.90
.00025	2.20
.0003	2.25
.00035	2.25
.0004	2.30
.0005	2.40
.001	2.80
.0015	3.55
.002*	4.15
.0025*	4.60
.003*	4.90
.004*	5.65
.005*	6.40

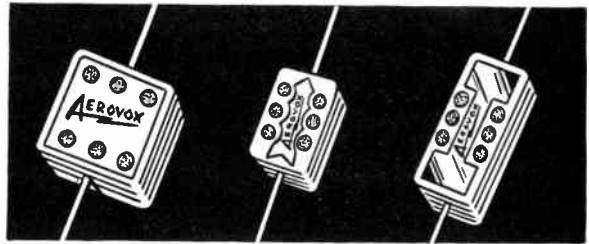
Size: 1 1/2" x 1 1/8" x 1 1/2"  
\*Thickness 1/2" Tolerance ±10%



## SILVERED MICA CAPACITORS

AEROVOX silvered mica units for most critical applications where precise capacity values are required. Encased in red low-loss bakelite. Similar in external appearance to standard bakelite molded mica units.

Available with temperature coefficient and retrace characteristics as defined by characteristics A to F inclusive of REC-115 and JAN-C-5 specifications for molded capacitors. Exceptionally high "Q." Mechanically protected against physical damage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for circuits where inductance and capacity product must remain constant under all operating conditions.



TYPE 1464 • 500 VDCW - 1000 VDCT				TYPE 1469 • 500 VDCW - 1000 VDCT				TYPE 1479 • 500 VDCW - 1000 VDCT			
Cap. Mfd.	List	Cap. Mfd.	List	Cap. Mfd.	List	Cap. Mfd.	List	Cap. Mfd.	List	Cap. Mfd.	List
.00075	\$ .90	.0025	\$1.80	.000005	\$.45	.00015	\$.45	.0001	\$ .40	.0005	\$ .70
.0008	.95	.003	2.05	.000001	.40	.0002	.45	.00015	.45	.0007	.85
.0009	1.00	.004*	2.15	.000025	.40	.00025	.45	.0002	.45	.00075	.90
.001	1.10	.005*	2.25	.00004	.40	.0003	.55	.00025	.45	.0008	.95
.0015	1.35	.006*	3.00	.00005	.40	.00035	.60	.0003	.55	.0009	1.00
.002	1.55			.00007	.40	.0004	.65	.00035	.60	.001	1.10
				.000075	.40	.0005	.70	.0004	.65		
				.0001	.40						

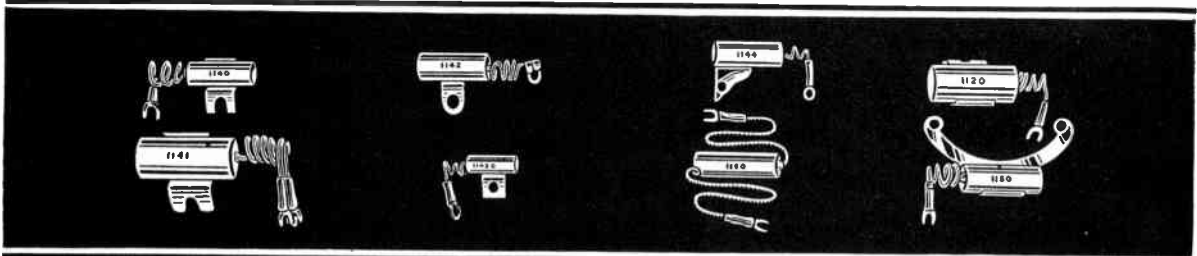
TYPE 1464X • 300 VDCW - 600 VDCT

Cap. Mfd.	List	Cap. Mfd.	List
.004	\$2.15	.007*	3.40
.005	2.25	.008*	4.00
.006	3.00	.01*	4.80

Size:  $\frac{11}{16}$ " x  $\frac{11}{16}$ " x  $\frac{3}{16}$ " provided with wire leads  
Standard Tolerance  $\pm 5\%$ .  
\*Thickness  $\frac{11}{16}$ ".

Size:  $\frac{11}{16}$ " x  $\frac{11}{16}$ " x  $\frac{3}{16}$ " provided with wire leads.  
Maximum characteristic available F.

## AUTO-RADIO CAPACITORS



Car Generators	Cap. Mfd.	List	Motorola Auto Radios	Cap. Mfd.	List
Type 1120	1.0	\$1.75	Type 1466	.0008	\$.90
Type 1140	0.5	.90	Ammeter Condenser		
	Dual Element		Type 1160	0.5	.90
Type 1141	0.5-0.5	3.25	Gas Gage Filter Condenser		
Ford Auto Radios			Type 1143-G	0.05	.90
Type 1144	0.5	.90	Oil Gage Filter Condenser		
Ford 1936 Models			Type 1142-0	0.25	.90
Type 1150	0.5	.90			



TYPE VBC

## VIBRATOR BUFFER CAPACITORS

Type	Cap. Mfd.	Size	List
VBC-2	.001	$\frac{7}{16}$ x $1\frac{1}{2}$	\$.50
VBC-3	.002	$\frac{7}{16}$ x $1\frac{1}{2}$	.50
VBC-4	.0022	$\frac{7}{16}$ x $1\frac{1}{2}$	.50
VBC-5	.003	$\frac{7}{16}$ x $1\frac{1}{2}$	.50
VBC-6	.0033	$\frac{7}{16}$ x $1\frac{1}{2}$	.50
VBC-7	.004	$\frac{7}{16}$ x $1\frac{1}{2}$	.50
VBC-8	.0047	$\frac{1}{2}$ x $1\frac{1}{2}$	.50
VBC-9	.005	$\frac{1}{2}$ x $1\frac{1}{2}$	.50
VBC-22	.006	$\frac{1}{2}$ x $1\frac{1}{2}$	.50
VBC-23	.0068	$\frac{1}{2}$ x $1\frac{1}{2}$	.50
VBC-24	.007	$\frac{1}{2}$ x $1\frac{1}{2}$	.55
VBC-25	.0075	$\frac{7}{16}$ x $1\frac{1}{2}$	.55
VBC-26	.008	$\frac{7}{16}$ x $1\frac{1}{2}$	.55
VBC-27	.01	$\frac{7}{16}$ x $1\frac{1}{2}$	.55
VBC-28	.015	$\frac{7}{16}$ x $1\frac{1}{2}$	.55
VBC-29	.02	$\frac{7}{16}$ x 2	.55
VBC-32	.025	$\frac{7}{16}$ x 2	.55
VBC-33	.03	$\frac{7}{16}$ x 2	.65
VBC-34	.05	$\frac{7}{16}$ x 2	.70
VBC-35	.015-.015	$\frac{7}{16}$ x 2	.80

VIBRATOR "HASH" CAPACITOR VHC36  
.5 Mfd. 100 Volts WVDC



RC SERIES

## AEROVOX RESONANT CAPACITORS

Again the radio-electronic art imposes still more critical capacitor requirements. This time it's adequate bypassing of IF circuits in order to keep IF frequencies from entering such circuits and causing troublesome squeals and howls. And AeroVox comes up with the new AEROVOX RESONANT CAPACITORS.

AEROVOX RESONANT CAPACITORS, Series RC, are now available in conventional paper tubular design, wax impregnated and wax sealed as follows:

CAT. #	MFD.	VVDC	O. D.	LIST
RC2	.05	400	$\frac{1}{2}$ d. x $1\frac{1}{2}$	\$.50
RC3	.1	400	$\frac{1}{2}$ d. x $1\frac{1}{2}$	.65
RC4	.2	400	$\frac{7}{16}$ d. x $1\frac{1}{2}$	.70

## AEROVOX RESEARCH WORKER

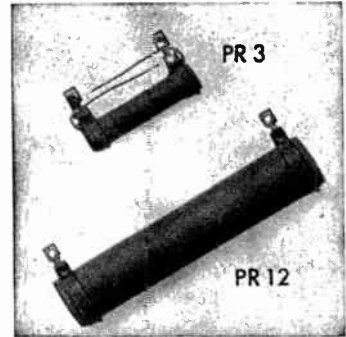
A snappy, informative, practical engineering paper, issued monthly, the AEROVOX RESEARCH WORKER is free to servicemen, engineers, hams, and other interested radio workers. Ask your AEROVOX jobber how you may subscribe, or write direct.

# WIRT PRODUCTS

## DIVISION OF EBY SALES CO.

### WIRE WOUND FIXED RESISTORS

To satisfy the most exacting needs of the Radio and Electronic Industries, Wirt Fixed Wire-wound Resistors are regularly furnished in PHENOCOTE protective coatings, developed and steadily improved over a period of many years in the Wirt Laboratories. The resistor wire is space wound on low loss ceramic tubes. The PHENOCOTE covering is an exclusive organic cement coating offering maximum protection to the resistance winding against the detrimental effects of moisture, humidity and electrolysis. Absolutely inert chemically, it will not effect the most delicate windings. It is particularly recommended for fine wire sizes and all applications where the maximum temperature of the unit will not exceed 300° F. These Resistors are universally used in the Radio, Electronic, Instrument, Public Address and Test Equipment fields.



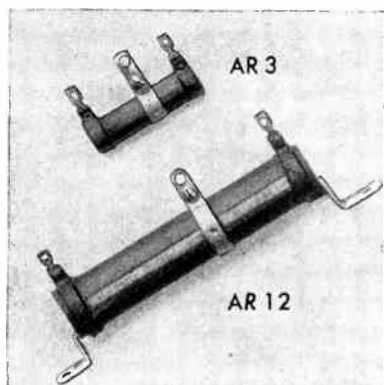
### TABLE OF SPECIFICATIONS OF FIXED RESISTORS

Cat. No.	Watts	Sizes Phys.	Resistance Limits (Ohms)	List Price (Ea.)	Accessories Terminals	Mounting Brackets	Mounting Centers	Packing
PR 1	5	3/8" x 1"	1 to 10000	\$0.53	Soldering Lugs & Wire Leads	None	.....	10 to a box
PR 3	10	3/8" x 1 3/4"	1 to 10000 11 to 25000	.59 .65	Soldering Lugs & Wire Leads	None	.....	10 to a box
PR 4	20	1/2" x 2"	5 to 15000 16000 to 50000 51000 to 100000	.91 1.11 1.43	Soldering Lugs & Wire Leads	None	.....	10 to a box
PR 12	50	3/4" x 4"	5 to 5000 5100 to 25000 26000 to 100000	1.56 1.82 2.08	Soldering Lugs	2	5"	Individual
PR 19	100	1 1/8" x 6 1/2"	5 to 5000 5100 to 25000 26000 to 50000 51000 to 75000 76000 to 100000	2.15 2.54 2.86 3.25 3.58	Soldering Lugs	2	7"	Individual
PR 22	160	1 1/8" x 8 1/2"	5 to 10000 11000 to 50000 51000 to 100000	2.86 3.43 3.86	Soldering Lugs	2	9"	Individual
PR 23	200	1 1/8" x 10 1/2"	5 to 10000 11000 to 100000	3.58 4.29	Soldering Lugs	2	11"	Individual

When ordering state: Quantity, Catalogue Number and Resistance Value.

# WIRT PRODUCTS

## DIVISION OF EBY SALES CO.



### WIRE WOUND ADJUSTABLE RESISTORS

WIRT Adjustable Resistors are space wound on low loss ceramic tubes to which the resistance wire is bonded, resulting in dependability and long life. Protection of the windings is afforded by the PHENOCOTE covering which is described fully on the preceding page. One adjustable Slider Band, screw driver type, is furnished as standard. Bakelite knob type bands can be furnished on special order at slightly higher prices as shown below.

These bands are made with small contact buttons located on the inside of the band so that a number of taps may be made without shorting out excessive resistance.

### TABLE OF SPECIFICATIONS OF ADJUSTABLE RESISTORS

Cat. No.	Watts	Sizes		Resistance Limits (Ohms)	List Price (Ea.)	Accessories			Mounting Centers	Packing
		Phys.				Terminals	Brackets Mounting	Slider Bands		
AR 3	10	$\frac{3}{8}$ "x1 $\frac{3}{4}$ "		1 to 10000	\$0.98	Soldering Lugs	None	1	.....	Individual
AR 7	25	$\frac{3}{4}$ "x2"		1 to 5000	1.24	Soldering Lugs	2	1	3"	Individual
				6000 to 15000	1.43					
				20000 to 25000	1.56					
AR 12	50	$\frac{3}{4}$ "x4"		5 to 5000	1.95	Soldering Lugs	2	1	5"	Individual
				7000 to 25000	2.15					
				30000 to 50000	2.47					
				60000 to 100000	2.86					
AR 15	75	$\frac{3}{4}$ "x6"		10 to 5000	2.54	Soldering Lugs	2	1	7"	Individual
				7500 to 25000	2.86					
				30000 to 50000	3.25					
				60000 to 100000	3.58					
AR 19	100	1 $\frac{1}{8}$ "x6 $\frac{1}{2}$ "		5 to 10000	2.86	Soldering Lugs	2	1	7"	Individual
				15000 to 50000	3.25					
				75000 to 100000	3.90					
AR 22	160	1 $\frac{1}{8}$ "x8 $\frac{1}{2}$ "		5 to 10000	3.25	Soldering Lugs	2	1	9"	Individual
				15000 to 50000	4.15					
				60000 to 100000	4.65					
AR 23	200	1 $\frac{1}{8}$ "x10 $\frac{1}{2}$ "		5 to 10000	4.29	Soldering Lugs	2	1	11"	Individual
				15000 to 100000	5.01					

Extra Adjustable Slider Bands are obtainable and priced as follows:

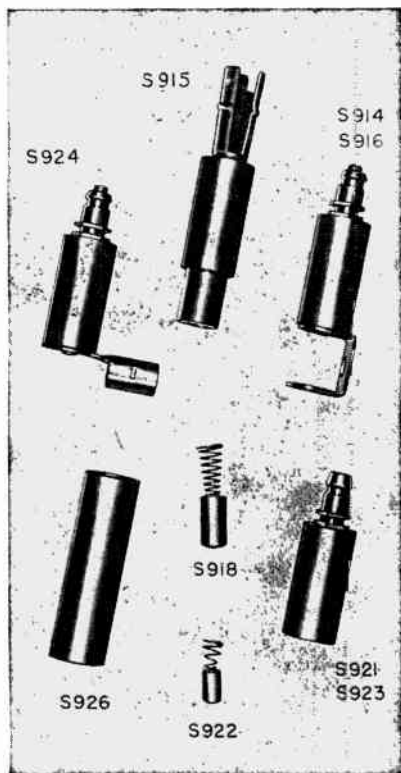
Wattage Size	Screw Driver Type	Bakelite Knob Type
10, 25, 50, 75	\$0.26	List Price Each \$0.39
100, 160, 200	.33	List Price Each .50

When ordering state: Quantity, Catalogue Number and Resistance Value.

# WIRT PRODUCTS

## DIVISION OF EBY SALES CO.

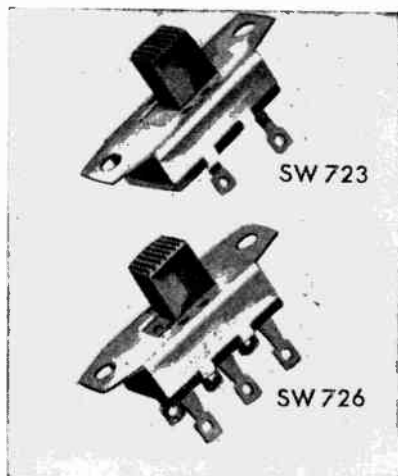
### AUTO RADIO IGNITION SUPPRESSORS



Wirt Suppressors are made with moulded black bakelite housings. All metal parts are made of rugged unfinished brass. Terminals are securely fastened to casings and sealed with special moisture and heat resisting dielectric cement. Resistor pills are sprayed with zinc and then double impregnated with a special moisture-proofing compound. Resistance value of all standard types is 10000 ohms  $\pm 20\%$ ; for FV8 types 50000 ohms  $\pm 20\%$ . The distributed capacity is less than 1.5 mmf. Resistance values will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change of not more than 3%. Wirt Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Cat. No.	Type	List Price
S914	Bracket—Standard	\$0.30 Each
S916	Bracket—For FV-8	.30 Each
S915	Distributor—Slip Fitting	.30 Each
S918	FV-8 Brush—Years 1933-34-35	.30 Each
S922	FV-8 Brush—Years 1936 to 1940	.30 Each
S921	Universal Screw—Standard	.30 Each
S923	Universal Screw—For FV-8	.30 Each
S924	Snap-on Plug	.30 Each
S926	Cable—Screw Fitting	.30 Each

### WIRT SLIDE SWITCHES



**General:** All Wirt Slide Switches are compact and sturdy. Housings are made of steel and are cadmium plated. The physical dimensions of the switches have been standardized, width 35/64", length 1-13/32" and mounting centers 1 1/8". Standard buttons are of black bakelite. All contacts and terminals are silver plated. Switches SW723 and SW725 are supplied with a dot which indicates the "On" position. These switches are used in the Radio, Signal, Phonograph and Instrument industries.

Cat. No.	Type	List Price
SW723	SPST Slide Switch, .75A-125V-AC-DC, 2 Terminals	\$0.31 Each
SW724	SPDT Slide Switch, .75A-125V-AC-DC, 3 Terminals	.37 Each
SW725	DPST Slide Switch, .50A-125V-AC-DC, 4 Terminals	.44 Each
SW726	DPDT Slide Switch, .50A-125V-AC-DC, 6 Terminals	.55 Each

# CLAROSTAT

## SERIES "M" AND "AM" COMPOSITION-ELEMENT CONTROLS



Dia.: 1 1/8". Shaft: 3" milled.  
3/8-32 brass bushing.

★ Composition element affording greatest stability. Clarostat Series "A" Switch can be added. Series 59-186 High-Voltage Coupler may be attached for high-voltage operation. Series "M" incorporates factory-attached 3" flatted shaft. Series "AM" uses any Clarostat Pick-A-Shaft.

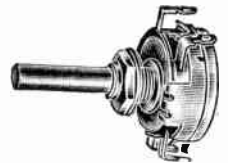
Cat. No.	Cat. No.	Ohms	Curve	Suggested Use
AM-5-S	M-5-S	500	S	Std. Pot.
AM-8-S	M-8-S	1000	S	Std. Pot.
AM-11-S	M-11-S	2000	S	Std. Pot.
AM-15-S	M-15-S	3000	S	Std. Pot.
AM-80-S	M-80-S	4000	S	Std. Pot.
AM-19-S	M-19-S	5000	S	Std. Pot.
AM-20-U	M-20-U	5000	U	Ant. & C — Bias
AM-23-S	M-23-S	7500	S	Std. Pot.
AM-27-S	M-27-S	10,000	S	Std. Pot.
AM-29-U	M-29-U	10,000	U	Ant. & C — Bias
AM-30-V	M-30-V	10,000	V	C Bias Rheo.
AM-31-W	M-31-W	10,000	W	Sc. Grid & Phono.
AM-81-Z	M-81-Z	10,000	Z	Ant. Shunt
AM-32-S	M-32-S	15,000	S	Std. Pot.
AM-33-U	M-33-U	15,000	U	Ant. & C — Bias
AM-34-V	M-34-V	15,000	V	C Bias Rheo.
AM-36-W	M-36-W	15,000	W	Sc. Grid & Phono.
AM-36-S	M-36-S	20,000	S	Std. Pot.
AM-37-U	M-37-U	20,000	U	Ant. & C — Bias
AM-40-S	M-40-S	25,000	S	Std. Pot.
AM-41-W	M-41-W	25,000	W	Sc. Grid & Phono.
AM-72-V	M-72-V	25,000	V	C Bias Rheo.
AM-42-S	M-42-S	30,000	S	Std. Pot.
AM-43-S	M-43-S	40,000	S	Std. Pot.
AM-44-S	M-44-S	50,000	S	Std. Pot.
AM-45-W	M-45-W	50,000	W	Sc. Grid & Phono.
AM-46-Z	M-46-Z	50,000	Z	Auto Grid & Tone
AM-47-S	M-47-S	75,000	S	Std. Pot.
AM-48-V	M-48-V	75,000	V	C Bias Rheo.
AM-49-S	M-49-S	100,000	S	Std. Pot.
AM-51-Z	M-51-Z	100,000	Z	Audio & Tone
AM-52-S	M-52-S	200,000	S	Std. Pot.
AM-55-S	M-55-S	250,000	S	Std. Pot.
AM-64-Z	M-64-Z	250,000	Z	Audio & Tone
AM-57-S	M-57-S	300,000	S	Std. Pot.
AM-58-S	M-58-S	500,000	S	Std. Pot.
AM-59-Y	M-59-Y	500,000	Y	Audio Shunt
AM-60-Z	M-60-Z	500,000	Z	Audio & Tone
AM-79-Z	M-79-Z	750,000	Z	Audio & Tone
AM-61-S	M-61-S	1,000,000	S	Std. Pot.
AM-63-Z	M-63-Z	1,000,000	Z	Audio & Tone
AM-83-S	M-83-S	2,000,000	S	Std. Pot.
AM-66-Z	M-66-Z	2,000,000	Z	Tone & AVC
AM-84-S	M-84-S	2,500,000	S	Std. Pot.
AM-67-Z	M-67-Z	3,000,000	Z	Tone & AVC
AM-68-Z	M-68-Z	4,000,000	Z	Tone & AVC
AM-85-S	M-85-S	5,000,000	S	Std. Pot.
AM-69-Z	M-69-Z	5,000,000	Z	Tone & AVC
AM-86-S	M-86-S	10,000,000	S	Std. Pot.
AM-99-Z	M-99-Z	10,000,000	Z	Tone & AVC

LIST PRICE \$1.25

Standard Packing — 10 (ten) per carton

## SERIES "T" AND "AT" TAPPED CONTROLS

★ Tapped for most common needs. Composition element. Standard units listed. Series "T" incorporates factory-attached shaft. Series "AT" may be used with any Clarostat Pick-A-Shaft.

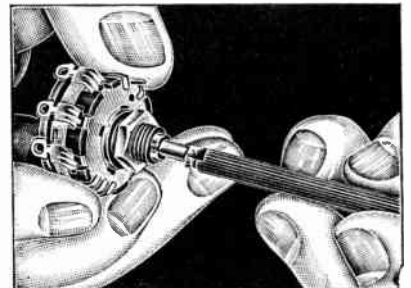


Cat. No.	Cat. No.	Ohms	Tap No. 1	Tap No. 2	Tap No. 3
AT-25	T-25	50,000		25,000	
AT-38	T-38	200,000			100,000
AT-39	T-39	250,000		25,000	
AT-42	T-42	250,000		125,000	
AT-43	T-43	250,000			50,000
AT-44	T-44	250,000	60,000		125,000
AT-45	T-45	250,000	30,000	60,000	
AT-60	T-60	350,000		25,000	
AT-69	T-69	350,000	75,000		
AT-70	T-70	350,000		75,000	
AT-78	T-78	500,000		100,000	
AT-80	T-80	500,000			100,000
AT-81	T-81	500,000	25,000		
AT-82	T-82	500,000			200,000
AT-88	T-88	500,000		50,000	
AT-90	T-90	500,000		250,000	
AT-92	T-92	500,000	100,000		300,000
AT-98	T-98	1,000,000	250,000		
AT-101	T-101	1,000,000		50,000	
AT-102	T-102	1,000,000	100,000		500,000
AT-103	T-103	1,000,000		100,000	
AT-109	T-109	1,000,000		225,000	
AT-110	T-110	1,000,000		170,000	
AT-111	T-111	1,000,000			200,000
AT-112	T-112	1,000,000		500,000	
AT-95	T-95	1,500,000	250,000		500,000
AT-125	T-125	1,500,000		350,000	
AT-114	T-114	2,000,000		100,000	
AT-115	T-115	2,000,000		500,000	
AT-116	T-116	2,000,000		1,000,000	
AT-118	T-118	2,000,000	20,000		400,000
AT-119	T-119	2,000,000		200,000	
AT-120	T-120	2,000,000		400,000	
AT-121	T-121	2,000,000	250,000		500,000
AT-124	T-124	2,000,000		5,000	
AT-126	T-126	2,000,000		200,000	400,000
AT-129	T-129	2,000,000		15,000	
AT-123	T-123	2,500,000	250,000		500,000
AT-128	T-128	4,000,000		500,000	

LIST PRICE \$1.85 (Without Switch)

For Power Switch, see Series SW listed below.  
Standard Packing — 10 (ten) per carton

## PICK-A-SHAFT CONTROLS



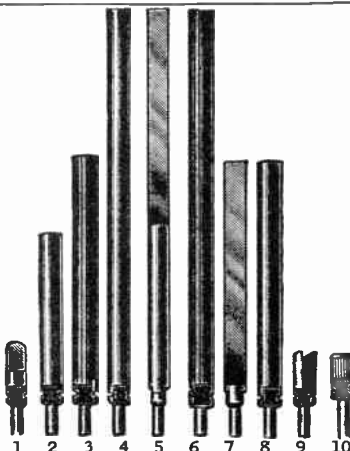
★ Clarostat Pick-A-Shaft, as shown at left may be used with any AM, AT, AK, or AG control. Easily attached in the field. Merely insert and tap lightly. Shaft locks securely and permanently.

### Choice of Pick-A-Shafts

★ A choice of Pick-A-Shafts (shown at right) covers all requirements, as follows:

- | Cat No.      | Description                          |
|--------------|--------------------------------------|
| (1) SS-3/8"  | (Male) to take female fitting        |
| (2) RS-2     | Round shaft, 2" long                 |
| (3) KSS-3    | Knurled, split shaft 3" lg.          |
| (4) RS-5     | Round shaft, 5" long                 |
| (5) FS-5     | Flatted shaft, 5" long               |
| (6) KSS-5    | Knurled, split shaft, 5" lg.         |
| (7) FS-3     | Flatted shaft, 3" long               |
| (8) RS-3     | Round Shaft, 3" long                 |
| (9) DFS-1/2  | Double flatted Philco Type 1/2" long |
| (10) FKS-1/4 | Fine knurled slotted shaft 1/4" long |

List price of each shaft..... \$0.30  
One selected shaft furnished FREE with each Pick-A-Shaft control.



# CLAROSTAT

## Original "AD-A-SWITCH" Feature for Series "M," "AM," "T," "AT" Controls

Cat. No.	Wiring	List Price
SW-A	Single-Pole Single-Throw	\$0.60
SW-A1	Three-Way, No "Off" position S.P.D.T.	.75
SW-A2	Double-Pole, Single-Throw	.75
SW-A4	Four-Wire (to control A, B and C voltages)	.75
SW-A5	S.P.S.T. (reverse action)	.75
SW-A6	S.P.S.T. with dummy lug	.75



Ad-A-Switch is used in place of usual dust-protection cover, and lugs bend over to hold it in place.

## DUAL SERIES DC CONTROLS

★ The Series DC controls are carbon dual units—two controls of the same resistance values and tapers, connected in tandem for joint operation.

Cat. No.	Panel Unit	Rear Unit	Cat. No.	Panel Unit	Rear Unit
DC-34-S	10,000-S	25,000-S	DC-10-Z	500,000-Z	500,000-Z
DC-23-S	10,000-S	50,000-S	DC-11-Z	1,000,000-Z	1,000,000-Z
DC-5-S	50,000-S	50,000-S	DC-35-S	1,000,000-S	1,000,000-S
DC-8-Z	100,000-Z	100,000-Z	DC-36-S	2,000,000-S	2,000,000-S
DC-29-S	250,000-S	250,000-S	DC-37-S	5,000,000-S	5,000,000-S
DC-8-Z	250,000-Z	250,000-Z			

LIST PRICE \$3.10  
Standard packing—Individual carton.

## SERIES "K" AND "AK" TAPPED 15/16" DIAMETER CONTROLS



★ Series "K" Tapped Controls are of the composition-element type tapped at most commonly needed values. Factory equipped with 3" flatted shaft. Takes any



one of Series SWB Ad-A-Switches. Series "AK" Controls same as Series "K" controls except offering the added advantage of Clarostat Pick-A-Shafts in addition to Ad-A-Switches.

Cat. No.	Cat. No.	Ohms	Tap No. 1	Tap No. 3
AK38	K38	200,000		100,000
AK43	K43	250,000		50,000
AK69	K69	350,000	75,000	
AK80	K80	500,000		100,000
AK81	K81	500,000	25,000	
AK82	K82	500,000		200,000
AK98	K98	1,000,000	250,000	
AK111	K111	1,000,000		200,000
AK118	K118	2,000,000	20,000	
AK124	K124	2,000,000	5,000	
AK129	K129	2,000,000	15,000	

LIST PRICE \$1.85  
Standard Packing—10 (ten) per carton.

Cat. No.	Cat. No.	Ohms	Curve	Suggested Use
AG-5-S	G-5-S	500	S	Std. Pot.
AG-8-S	G-8-S	1,000	S	Std. Pot.
AG-11-S	G-11-S	2,000	S	Std. Pot.
AG-15-S	G-15-S	3,000	S	Std. Pot.
AG-80-S	G-80-S	4,000	S	Std. Pot.
AG-19-S	G-19-S	5,000	S	Std. Pot.
AG-23-S	G-23-S	7,500	S	Std. Pot.
AG-27-S	G-27-S	10,000	S	Std. Pot.
AG-30-V	G-30-V	10,000	V	C Bias Rheo.
AG-31-W	G-31-W	10,000	W	Sc. Grid & Phono.
AG-81-Z	G-81-Z	10,000	Z	Ant. Shunt
AG-32-S	G-32-S	15,000	S	Std. Pot.
AG-34-V	G-34-V	18,000	V	C Bias Rheo.
AG-35-W	G-35-W	15,000	W	Sc. Grid & Phono.
AG-36-S	G-36-S	20,000	S	Std. Pot.
AG-40-S	G-40-S	25,000	S	Std. Pot.
AG-41-W	G-41-W	25,000	W	Sc. Grid & Phono.
AG-72-V	G-72-V	25,000	V	C Bias Rheo.
AG-42-S	G-42-S	80,000	S	Std. Pot.
AG-43-S	G-43-S	40,000	S	Std. Pot.
AG-44-S	G-44-S	50,000	S	Std. Pot.
AG-45-W	G-45-W	50,000	W	Sc. Grid & Phono.
AG-46-Z	G-46-Z	50,000	Z	Audio & Tone

## ROTARY SWITCHES

★ Compact, positive contact, bakelite, molded and Underwriters' approved. Rated 1 amp. 250 volt; 3 amp. 125 volt. The physical dimensions of the switch are as follows:  
Diameter 1 3/8", body depth 1 1/2", lug protrusion 1/4", locking projection on a 1/2" radius, rotation for actuation 30 degrees. All standard stock numbers have 3/8" bushing, 1 1/2" shaft, and 1 locking projection.



Cat. No.	Switch Description	List Price
8590	Single Pole Single-Throw	\$0.60
8591	Single Pole Bussing Lug	.75
8592	Double Pole Single Throw	.75
8593	Single Pole Double Throw	.75
8594	Single Pole Reversed Action	.75
8595	Four Wire Single Throw	.75

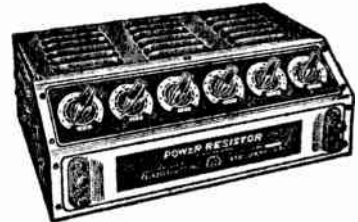
Standard packing 10 (ten) per carton.

## POWER RESISTOR DECADE BOX

★ For power resistance measurements under actual load. Any value from 1 ohm to 999,999 ohms in steps of 1 ohm. No resistance breakdown between steps. Power rating of 225 watts and maximum voltage of 1000 volts DC and 660 volts AC. Heavy gauge metal case in frosted gray wrinkle, and etched panel.

Dimensions: 13 in. long; 8 1/2 in. deep; 5 3/4 in. high. Weight, 11 lbs.  
Suggested Uses: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

List Price ..... \$90.00



## SERIES "G" AND "AG" 15/16" DIAMETER CONTROLS

★ Series "G" Composition element controls fill most commonly needed values. Any Series SWB switch may be added. Series "AG" controls same as Series "G" except utilizes Pick-A-Shaft construction in addition to Ad-A-Switch.



Cat. No.	Cat. No.	Ohms	Curve	Suggested Use
AG-47-S	G-47-S	75,000	S	Std. Pot.
AG-48-V	G-48-V	75,000	V	C Bias Rheo
AG-49-S	G-49-S	100,000	S	Std. Pot.
AG-51-Z	G-51-Z	100,000	Z	Audio & Tone
AG-52-S	G-52-S	200,000	S	Std. Pot.
AG-55-S	G-55-S	250,000	S	Std. Pot.
AG-64-Z	G-64-Z	250,000	Z	Audio & Tone
AG-57-S	G-57-S	800,000	S	Std. Pot.
AG-58-S	G-58-S	500,000	S	Std. Pot.
AG-60-Z	G-60-Z	500,000	Z	Audio & Tone
AG-79-Z	G-79-Z	750,000	Z	Audio & Tone
AG-61-S	G-61-S	1,000,000	S	Std. Pot.
AG-63-Z	G-63-Z	1,000,000	Z	Audio & Tone
AG-66-Z	G-66-Z	2,000,000	Z	Audio & Tone
AG-83-S	G-83-S	2,000,000	S	Std. Pot.
AG-84-S	G-84-S	2,500,000	S	Std. Pot.
AG-67-Z	G-67-Z	3,000,000	Z	Audio & Tone
AG-68-Z	G-68-Z	4,000,000	Z	Audio & Tone
AG-69-Z	G-69-Z	5,000,000	Z	Audio & Tone
AG-85-S	G-85-S	5,000,000	S	Std. Pot.

LIST PRICE \$1.25  
Standard Packing—10 (ten) per carton.

# CLAROSTAT

## SERIES SWB AD-A-SWITCH FOR "G," "AG," "K" AND "AK" CONTROLS

For the first time a switch is offered for installation in the field to popular-sized 15/16" controls. Now the serviceman does not have to stock all the popular controls in duplication—with switches and without switches.

These switches add to all Clarostat Series K, AK, G and AG controls in a matter of seconds for a permanent, excellent assembly. All are rated at 5 amperes at 125 Volts A.C.

### AD-A-SWITCH Feature for "G," "AG," "K," "AK" Controls

These Switches are rated 5 Amperes at 125 Volts A.C.

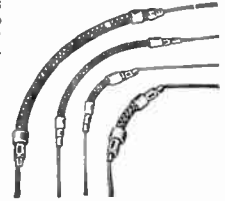
Cat. No.	Wiring	List Price
SWB	—Single Pole Single Throw	\$0.60
SWB-1	—Threeway No "Off" Position S.P.D.T.	.75
SWB-2	—Double Pole Single Throw	.75

Standard Packing—10 (ten) per carton.

★ Handy, inexpensive, ceramic-cased midget wire-wound resistors for tight spots, especially with point-to-point wiring. These tiny resistors take the place of more cumbersome and costlier bracket-mounted units. This "junior" version of the well-known Greenohm power resistors features a wire winding on fibre-glass core, 1 1/2" axial pigtail leads, and a steatite protective casing sealed with exclusive Greenohm cold-setting inorganic cement. This resistor will not blister, crack, or change shape. Type C7GJ, 1 3/4" long by 5/16" dia., rated at 7 watts. Smaller Type C4GJ, 1" long by 1/8" dia., rated at 4 watts. In characteristic Greenohm green, with printed values on casing.

Cat. No.	List Price
Type C7GJ (1 to 5000 ohms)	\$0.55
Type C4GJ (1 to 1000 ohms)	.55

★ A resistance wire-winding on a **GLASOHMS** fibre-glass core. Covering of braided glass-fibre. Completely flexible. May be operated very hot as there is nothing to char. Handy and inexpensive.



**TYPE FYG — 2-WATT**  
1" Fabric Length with 2" Pigtails  
3/8" dia. core. RMA Color-coded

Cat. No.	Ohms	Cat. No.	Ohms
FYG5	5	FYG350	350
FYG10	10	FYG375	375
FYG15	15	FYG400	400
FYG25	25	FYG500	500
FYG35	35	FYG600	600
FYG40	40	FYG700	700
FYG50	50	FYG750	750
FYG60	60	FYG800	800
FYG75	75	FYG850	850
FYG100	100	FYG900	900
FYG125	125	FYG1000	1000
FYG150	150	FYG1250	1250
FYG200	200	FYG1500	1500
FYG225	225	FYG1600	1600
FYG250	250	FYG1750	1750
FYG300	300	FYG2000	2000

LIST PRICE \$0.30

Standard Packing—10 (ten) per carton.

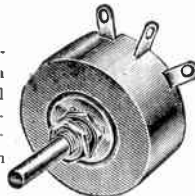


### Pick-A-Shaft High-Voltage Coupler

May be used with Clarostat Pick-A-Shaft Controls Types AT and AM, AG and AK.  
Cat. No. List Price  
59-186 Spacer and Bushing Assembly ... \$1.00  
RN-3" Non-Metallic Shaft, (Round) ... \$0.85

## POWER RHEOSTATS

★ Exceptionally rugged. Trouble-free design. Withstands severe overloading without smoking, burning, charring. Element imbedded in cold-setting cement. Resistance winding supported on insulated metal core for maximum heat conduction and radiation, even at partial rotation settings. Single-hole mounting. Adjustable locking pin firmly anchors unit against bodily rotation. Shaft and bushing insulated from current-carrying arm for safety. 25 and 50 watt sizes.



### Series PW-25—25 Watt

Cat. No.	Max. Cur.			List Price
	Total Resis. Ohms	at Res. Amps.	Up to 1/2 Max. Cur. Res. Amps.	
PW-25-1	1	5.000	7.500	\$5.85
PW-25-2	2	3.536	5.304	5.20
PW-25-3	3	2.887	4.330	5.20
PW-25-6	6	2.041	3.062	5.20
PW-25-8	8	1.768	2.652	5.20
PW-25-10	10	1.581	2.372	5.20
PW-25-15	15	1.291	1.936	5.20
PW-25-25	25	1.000	1.500	5.20
PW-25-35	35	.845	1.268	5.20
PW-25-50	50	.707	1.061	5.20
PW-25-75	75	.577	.866	5.20
PW-25-100	100	.500	.750	5.20
PW-25-125	125	.447	.671	5.20
PW-25-175	175	.378	.567	5.20
PW-25-250	250	.316	.474	5.20
PW-25-350	350	.267	.401	5.20
PW-25-500	500	.224	.335	5.20
PW-25-750	750	.183	.274	5.20
PW-25-1000	1000	.158	.237	5.85
PW-25-1500	1500	.129	.194	5.85
PW-25-2500	2500	.100	.150	5.85
PW-25-3500	3500	.085	.127	6.20
PW-25-5000	5000	.071	.107	6.50

Standard Packing—Individual Carton

### Series PW-50—50 Watt

Cat. No.	Max. Cur.			List Price
	Total Resis. Ohms	at Res. Amps.	Up to 1/2 Max. Cur. Res. Amps.	
PW-50-0.5	0.5	10.000	15.000	\$6.50
PW-50-1	1	7.071	10.607	6.50
PW-50-2	2	5.000	7.500	6.50
PW-50-4	4	3.536	5.304	5.85
PW-50-6	6	2.887	4.330	5.85
PW-50-8	8	2.500	3.750	5.85
PW-50-12	12	2.041	3.062	5.85
PW-50-16	16	1.768	2.652	5.85
PW-50-22	22	1.508	2.261	5.85
PW-50-35	35	1.195	1.793	5.85
PW-50-50	50	1.000	1.500	5.85
PW-50-80	80	.791	1.186	5.85
PW-50-125	125	.632	.949	5.85
PW-50-150	150	.577	.866	5.85
PW-50-225	225	.471	.707	5.85
PW-50-300	300	.408	.612	5.85
PW-50-500	500	.316	.474	5.85
PW-50-800	800	.250	.375	6.20
PW-50-1000	1000	.224	.335	6.20
PW-50-1600	1600	.177	.265	6.20
PW-50-2500	2500	.141	.212	6.20
PW-50-3500	3500	.120	.179	6.50
PW-50-5000	5000	.100	.150	6.50

Standard Packing—Individual Carton

## AUTOMATIC LINE-VOLTAGE REGULATORS



★ A device that minimizes line-voltage surges or increases up to 140 volts. Does not raise voltage. At the normal 110-volt line voltage the resistance of the unit is low and the voltage drop across it is negligible. However, as the line voltage increases, the resistance of the unit increases proportionately, with a constant increase in voltage drop across it. This control operates on the ballast action principle.

Dimensions are 1 3/4" dia. x 1 3/4" long.

Standard female and male receptacle.

Standard packing—Ten (10) to a carton.

## CLAROSTAT SPECIAL ITEMS

★ Clarostat Mfg. Co. Inc. is now the leading manufacturer of precision wire-wound and composition-element controls. This type of item is not listed herewith. However, engineering bulletins and technical data are available upon request.

Clarostat Mfg. Co., Inc. is now engaged in a miniaturization program and controls of either wire-wound or composition element as small as 5/8" diameter are available.

Clarostat precision controls are available as single units or multiple units. Special mechanical requirements such as bushings, water-tight bushings, slip-drives, etc., can be met by Clarostat. The Clarostat engineering department will give prompt and full attention to any control problems you may wish to submit.

# CLAROSTAT

## CONSTANT IMPEDANCE OUTPUT ATTENUATORS Series CIB—10 Watts

Cat. No.	Resistance in Ohms
CIB-6	6
CIB-8	8
CIB-15	15
CIB-50	50
CIB-200	200
CIB-250	250
CIB-500	500
CIB-600	600
Net Price	\$6.50*



db steps are 3, 6, 9, 12, 15, 18, 21, 24 and 30. Absolutely noiseless and distortionless in operation.

★ Developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss, Series CIB attenuators provide linear attenuation with ample power-handling capacity.

These units are rated at 10 watts when used on DC or constant frequency signals. However, they have successfully been used up to 30 watts on audio circuits.

Compact, capable of safely handling the rated wattages at any setting of the dial, these units are

recommended as an output level control for power amplifiers or as an input attenuator for individual or group speakers in a public address system. Linear attenuation is provided in steps of 3 decibels up to 30, with final step to infinity.

Unit is furnished in black baked-enamel metal casing, 2" in diameter by 2 3/4" long, equipped with dial plate and bar knob. Not available with powerswitch. One-hole mounting 3/8" diameter bushing. Shaft 1" long.

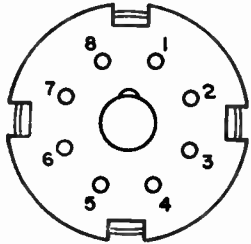
## CLAROSTAT RTV PROGRAM

★ Clarostat has made available through their distributors the most comprehensive and complete program for identification and supply of television controls and resistors. This program includes the availability of over 99% of all controls used in 2500 different TV receivers.

These exact-duplicate replacement controls are factory-assembled, ready-to-install units.

Complete cross-reference manuals and supplements are available through Clarostat distributors. Listings as to the frequency of use of the various units are included to prevent the overstocking of the less popular models.

## TUBE-TYPE WIRE-WOUND RESISTORS



★ Clarostat developed and pioneered the tube-type resistor for voltage-reducing purposes and for supplying needed voltage for pilot lamp operation in AC-DC receivers. Strictly non-inflammable, with the resistance element wound on a mica form firmly secured in the metal tube and connected with the base prongs, the Clarostat construction is notably superior to others.

To simplify servicing of receivers using tube-type resistors, Clarostat has selected the most popular values for so-called Universal numbers serving most replacement needs. Standard resistor tubes of the most popular types are also listed below.

In connection with listings, the following nomenclature applies: Prefixes: K denotes 6.3 volt 150 ma. No. 40 pilot lamp.

L denotes 6.3 volt 250 ma. No. 46 pilot lamp.

M denotes 6.3 volt 200 ma. No. 51 pilot lamp.

The numeral indicates total voltage drop across resistance unit.

Suffixes designate:

- A—No pilot lamp taps.
- B—1 pilot lamp tap for 1 lamp.
- C—1 pilot lamp tap for 2 lamps.
- D—2 pilot lamp taps for 2 lamps.
- E—3 pilot lamp taps for 3 lamps.
- E1—1 pilot lamp tap for 3 lamps.
- F—1 pilot lamp tap for 1 lamp.
- G—1 pilot lamp tap for 2 pilot lamps. (Tapped sections isolated from main reducing body.)



H—2 pilot lamp taps for 2 pilot lamps. (Tapped section isolated from main reducing body.)

The letter "J" following any of the suffixes denotes a shorted connection between 2 prongs of the tube, i.e., K-67-BJ, the short is located between Nos. 3 and 4 prongs.

Care must be exercised when replacing any tube whose number ends in "J", as the shorted pins are not always as in above example. Some are between Nos. 6 and 7 prongs, and others between 5 and 3.

When replacing any plug-in resistor tube with a Clarostat Universal type, note prongs missing on replaced tube and cut off corresponding prongs on the Universal Replacement tube.

The numeral indicates total voltage drop across resistance unit.

## Standard Resistor Tubes

Cat. No.	Cat. No.
BK-29-B	K-74-B
BK-29-D	K-80-B
BK-32-D	K-82-B
BK-36-B	K-86-B
BK-36-D	K-90-A
BK-36-H	K-90-B
BK-42-B	K-92-A
BK-42-C	K-92-B
BK-49-B	L-42-B
BK-49-C	L-42-C
BK-55-B	L-42-D
BK-67-BJ	L-49-A
BL-42-B	L-49-B
BL-42-D	L-49-C
BM-49-B	L-49-D
BM-55-B	L-49-H
K-26J-218	L-55-B
K-36-D	L-55-CJ
K-42-A	L-55-C
K-42-AJ	L-55-CPR
K-42-B	L-55-D
K-42-C	M-30-H
K-42-D	M-42-B
K-49-A	M-49-B
K-49-B	M-55-B
K-49-C	M-55-H
K-49-D	M-80-B
K-49-H	M-86892-9
K-55-A	10-610
K-55-B	100-37
K-55-C	100-70
K-55-CPR	100-76
K-55-D	100-77
K-55-H	100-79
K-67-A	115-78
K-67-B	5459
K-67-BJ	28602
K-72-B	43X106

List Price ..... \$1.00  
Standard Packing —  
10 per carton

## UNIVERSAL RESISTOR TUBES

Universal Tube No.	Replaces AC-DC Tubes Beginning with Letters	Having Numbers From	Ending in Letter
10—23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10—23-E	BK, BL, K, L, M	10 to 23	E
10—23-F	BK, BL, K, L, M	10 to 23	F, G, H
23—55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23—55-E	BK, BL, K, L, M	23 to 55	E
23—55-F	BK, BL, K, L, M	23 to 55	F, G, H
60—92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60—92-E	BK, BL, K, L, M	60 to 92	E
60—92-F	BK, BL, K, L, M	60 to 92	F, G, H
92—105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

List Price.....\$1.50

Standard Packing — 10 (ten) per carton

## TELEVISION BALLASTS

Universal Tube No.	List Price	Replaces AC-DC Tubes Beginning with Letters	Having Numbers From	Ending in Letter	List Price
B9M16067 for Belmont Television.....	\$3.00				\$3.00
B9M16534 for Belmont Television.....	3.00				3.00
B9M15822 for Belmont Television.....	3.00				3.00
B9M17571 for Belmont Television.....	3.00				1.25
B9M18941 for Belmont Television.....	3.00				3.00
17A470303 for Motorola Television.....	3.00				3.00
17A485459 for Motorola Television.....	3.00				3.00
TBR 102D for Teletone Television.....	3.00				3.00
TBR 103D for Teletone Television.....	3.00				3.00
TBR 104D for Teletone Television.....	3.00				3.00
*397021 for Emerson Television.....	\$3.00				\$3.00
*397022 for Emerson Television.....	3.00				3.00
*397023 for Emerson Television.....	3.00				3.00
*397036 for Emerson Television.....	1.25				1.25
ST507300 for Stewart-Warner Television.....	3.00				3.00
35-37 for Pilot Television.....	3.00				3.00

\* These Emerson ballast tubes are used as protective resistors and any internal failure in the circuit may burn them out. Therefore, this unit is expendable.



# CLAROSTAT

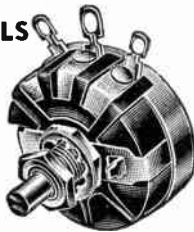
## SERIES 58 WIRE-WOUND CONTROLS

★ Sturdy and reliable, yet capable for delicate control use. Noiseless in operation. Ideal for radio and laboratory work. Switch position at extreme counter-wise direction. Tested at 500 Volts A.C.

Cat. No.	Res. Ohms	List	Cat. No.	Res. Ohms	List
58-1	1	\$1.25	58-15	15	1.25
58-2	2	1.25	58-20	20	1.25
58-4	4	1.25	58-25	25	1.25
58-6	6	1.25	58-30	30	1.25
58-10	10	1.25			

Cat. No.	Res. Ohms	List	Cat. No.	Res. Ohms	List
58-40	40	\$1.25	58-2000	2000	\$1.25
58-50	50	1.25	58-2500	2500	1.25
58-60	60	1.25	58-3000	3000	1.25
58-75	75	1.25	58-5000	5000	1.25
58-100	100	1.25	58-7500	7500	1.25
58-200	200	1.25	58-10K	10,000	1.60
58-300	300	1.25	58-15K	15,000	1.60
58-400	400	1.25	58-20K	20,000	1.60
58-500	500	1.25	58-25K	25,000	1.60
58-750	750	1.25	58-30K	30,000	2.25
58-1000	1000	1.25	58-40K	40,000	2.25
58-1500	1500	1.25	58-50K	50,000	2.25

Power switch attached at factory. Designate with "S." S.P.S.T. standard. If other type desired, state so.



Shaft 1 1/2 long. 3/8" bushing.

## CONSTANT IMPEDANCE CONTROLS

★ Self-compensating volume controls or attenuators known as L-pads and T-pads are essential in eliminating the distortion that arises from the mismatching of impedances in broadcast transmission, sound recording or public address systems. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated equipment in a circuit can be kept within the limits of a constant required value.



These pads have a continuous range from 0.5 to 30 decibels attenuation in 90% of rotation, the last 10% affording infinite attenuation. Employable at either the source or the load in a circuit (see diagrams) these units are readily one-hole mounted. They afford a wide range of uses as mixers, faders, multiple-speaker controls, etc. Such controls can be used as individual volume controls for multiple-speaker systems, without affecting or changing the source impedance.

These units are rated at 2 1/2 watts when used on DC or constant frequency signals. However, they have successfully been used up to 10 watts on audio circuits.

### SERIES CIT Wire-Wound T-Pads

Cat. No.	Resistance in Ohms	List Price
CIT-4	4	\$4.25
CIT-6	6	4.25
CIT-8	8	4.25
CIT-15	15	4.25
CIT-50	50	4.25
CIT-100	100	4.25
CIT-200	200	4.25
CIT-250	250	4.25
CIT-500	500	4.25
CIT-600	600	4.25
CIT-1000	1000	4.25
CIT-2000	2000	4.25

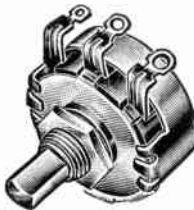
### SERIES CIL Wire-Wound L-Pads

Cat. No.	Resistance in Ohms	List Price
CIL-4	4	\$3.75
CIL-6	6	3.75
CIL-8	8	3.75
CIL-15	15	3.75
CIL-50	50	3.75
CIL-100	100	3.75
CIL-200	200	3.75
CIL-250	250	3.75
CIL-500	500	3.75
CIL-600	600	3.75
CIL-1000	1000	3.75
CIL-2000	2000	3.75

## SERIES 43 WIRE-WOUND CONTROLS

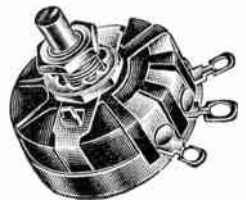
★ Space-saving wire-wound type. Winding on bakelite strip. Rotor sweeps inside of winding. Molded bakelite housing. 1 1/8" dia. x 3/8" body depth. 7/8" deep with switch. 3/8" bushing. Switch attached at factory.

Resistance Ohms	Current-carrying Capacity in Ma.	Type No. Without Switch	Type No. With Switch
5	630	43-5	43S-5
10	450	43-10	43S-10
20	320	43-20	43S-20
25	280	43-25	43S-25
30	260	43-30	43S-30
40	225	43-40	43S-40
50	200	43-50	43S-50
75	165	43-75	43S-75
100	140	43-100	43S-100
150	115	43-150	43S-150
200	100	43-200	43S-200
300	90	43-300	43S-300
400	70	43-400	43S-400
500	65	43-500	43S-500
750	55	43-750	43S-750
1,000	45	43-1000	43S-1000
1,500	37	43-1500	43S-1500
2,000	31	43-2000	43S-2000
2,500	28	43-2500	43S-2500
3,000	26	43-3000	43S-3000
4,000	22	43-4000	43S-4000
5,000	20	43-5000	43S-5000
7,500	16	43-7500	43S-7500
10,000	14	43-10000	43S-10000



## SERIES 10 WIRE-WOUND CONTROLS

★ Series 10 wire-wound controls rated at 4 watts. All units are of linear taper. Molded bakelite case same dimensions as Series 58 with the exception of depth which measures 3/4". Switch units attached at factory. Can be ordered in any ohmage from 1 ohm to 100K ohms. For example if a 4-watt 100-ohm control is desired it would be ordered as a 10-100 ohm. For prices on Series 10 add 60c to the list on the Series 58 control. For Series 10S controls, add the price of the switch to the price of the Series 10 controls. In accordance with RTMA standards, overall tolerances are plus/minus 10% for all values.



Cat. No. Without Switch	Cat. No. With Switch	Resistance in Ohms	List Price
10-75K	10S-75K	75,000	\$3.50
10-100K	10S-100K	100,000	3.50

## GREENOHM KIT

★ Wall Card holding 20 most popular size 10-watt Greenohm resistors. As units are removed, value appears on card for reordering. Metal clips afford easy mounting of units replaced. Dimensions: 10 1/2" x 12".

Cat. No. GK-1 — List Price \$11.00

Wall card contains Wire-Wound Fixed Power Resistors as follows:

1 each..... 25 ohms	1 each..... 2,000 ohms
1 each..... 250 ohms	1 each..... 2,500 ohms
2 each..... 500 ohms	2 each..... 5,000 ohms
1 each..... 750 ohms	1 each..... 7,500 ohms
2 each..... 1,000 ohms	2 each..... 10,000 ohms
1 each..... 1,250 ohms	1 each..... 12,500 ohms
1 each..... 1,500 ohms	2 each..... 15,000 ohms
1 each..... 25,000 ohms	

## TV TUBE BEAM BENDERS

★ Initial equipment with most leading TV receiver manufacturers. Available in either single or double magnet types. Spring collar provides mounting on tube neck. No screws to tighten.

TV-3 Double Magnet for Use with the Following Tubes			
10BP4	12UP4A	16CP4	16JP4
10BP4A	12UP4B	16DP4	16KP4
10EP4	12VP4	16DP4A	16KP4A
10MP4	14BP4	16EP4	16LP4
12JP4	14DP4	16EP4A	16LP4A
12LP4	15CP4	16EP4B	16MP4
12TP4	16AP4	16HP4	16OP4
12UP4	16AP4A	16HP4A	16OP4A
			16RP4
			16WP4A

For all tubes requiring two bends in beam.

LIST PRICE ..... \$3.00 Standard Packing — Individual Carton

TV-2 Single Magnet for Use with the Following Tubes			
12LP4A	16CP4A	16VP4	19AP4B
12OP4	16FP4	16YP4	19AP4C
12QP4A	16GP4	17AP4	19BP4
12RP4	16GP4A	17BP4	19BP4A
14CP4	16GP4B	17CP4	19DP4
14EP4	16TP4	19AP4	19DP4A
15DP4	16UP4	19AP4A	19EP4
			22AP4
			22AP4A

For all tubes requiring only one bend in beam.

LIST PRICE ..... \$2.00 Standard Packing — Individual Carton

# CLAROSTAT

## GREENOHM POWER RESISTORS—FIXED VALUES

### SERIES PR-5-F—5-WATT

Dimensions:  $\frac{1}{8}$ " dia. x 1" long.

The baby member of the famous Clarostat Greenohm family. Available in standard resistance value from 1 ohm to 10,000 ohms (See exact values in listings for Series AC-10-F up to 10,000).

All ohmages ..... List Price \$0.50  
Standard Packing — 10 (ten) per carton.

### Series AC-10-F—10-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 1  $\frac{1}{2}$ " long

Ohms	Ohms	Ohms	Ohms
1	125	1200	10000
2	150	1250	11000
3	200	1500	12000
4	225	1750	12500
5	250	2000	13500
7.5	300	2250	14500
10	350	2500	15000
12	400	3000	16000
15	450	3500	17500
20	500	4000	18000
25	600	4500	20000
30	700	5000	22500
35	750	6000	25000
40	800	7000	30000
50	900	7500	35000
75	1000	8000	40000
100	1100	8500	50000
		9000	

All ohmages — List Price \$0.55  
Standard Packing — 10 (ten) per carton

### Series A-25-K—25-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 2  $\frac{1}{2}$ " long

Ohms	Ohms	Ohms	Ohms	Ohms
1	150	2250	10000	75000
2	200	2500	12000	80000
3	250	3000	15000	85000
5	300	3500	20000	90000
7.5	400	4000	25000	100000
10	500	4500	30000	
15	750	5000	35000	
20	800	6000	40000	
25	1000	7000	45000	
50	1250	7500	50000	
75	1500	8000	60000	
100	2000	9000	70000	

LIST PRICES:  
1 to 5000 ohms ..... \$0.75  
6000 to 15000 ohms ..... .85  
20000 to 50000 ohms ..... 1.00  
60000 ohms ..... 1.15  
70000 ohms ..... 1.25  
75000 ohms ..... 1.30  
80000 ohms ..... 1.35  
85000 ohms ..... 1.50  
90000 ohms ..... 1.60  
100000 ohms ..... 1.75

Supplied with Mounting Brackets at No Extra Cost  
Standard Packing — Individually Boxed

### Series AC-20-K—20-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 2" long

Ohms	Ohms	Ohms	Ohms
	800	8000	65000
5	850	7000	70000
10	1000	7500	75000
25	1200	8000	80000
50	1250	9000	85000
75	1500	10000	90000
100	1750	12500	95000
150	1850	15000	100000
200	2000	20000	
250	2250	25000	
300	2500	30000	
350	2750	35000	
400	3000	40000	
500	3500	45000	
650	4000	50000	
700	4500	55000	
750	5000	60000	

LIST PRICE:  
5 to 15,000 ohms ..... \$0.65  
20,000 to 50,000 ohms ..... .85  
55,000 to 100,000 ohms ..... 1.10  
Standard Packing — 5 (five) per carton

### Series K-40-N—40-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 3  $\frac{1}{2}$ " long

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
5	125	1000	7500	85000	125000
10	150	1500	8500	40000	150000
15	200	2000	10000	50000	175000
20	250	2500	12500	60000	200000
25	300	3000	15000	70000	
50	400	4000	20000	80000	
75	500	5000	25000	90000	
100	750	6000	30000	100000	

LIST PRICES:  
5 to 5000 ohms ..... \$0.90  
6000 to 25000 ohms ..... 1.00  
30000 to 100000 ohms ..... 1.20  
125000 to 150000 ohms ..... 1.40  
175000 ohms ..... 1.50  
200000 ohms ..... 1.60

Supplied with Mounting Brackets at No Extra Cost  
Standard Packing—Individually Boxed

## ADJUSTABLE GREENOHM RESISTORS

### Series AC-10-FA—10-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 1  $\frac{1}{2}$ " long

Ohms	Ohms	Ohms	Ohms
1	100	1000	6000
2	150	1250	7000
3	200	1500	7500
5	250	2000	8000
7.5	300	2250	8500
10	350	2500	9000
15	400	3000	10000
20	500	3500	
25	600	4000	
50	750	4500	
75	800	5000	

LIST PRICE: All Sizes \$0.85  
Standard Packing—10 (ten) per carton

### Series A-25-KA—25-Watt

Dimensions:  $\frac{1}{8}$ " dia. x 2  $\frac{1}{2}$ " long

Ohms	Ohms	Ohms	Ohms
1	100	1500	7500
2	150	2000	8000
3	200	2250	9000
5	250	2500	10000
7.5	300	3000	12000
10	400	3500	15000
15	500	4000	20000
20	750	4500	25000
25	800	5000	50000
50	1000	6000	
75	1250	7000	

LIST PRICES:  
1 to 6000 ohms ..... \$0.95  
6000 to 15000 ohms ..... 1.10  
20000 to 25000 ohms ..... 1.25  
50000 ohms ..... 1.50  
Supplied with Mounting Brackets at No Extra Cost.  
Extra Slider Bands ..... \$0.10 each  
Standard Packing — Individually Boxed

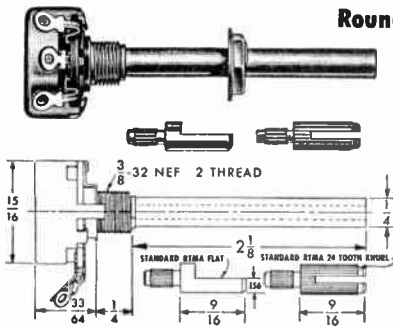
Ohms	Series K-50-N $\frac{1}{2}$ " dia. x $4\frac{1}{2}$ " l. 50-watt	Series K-80-N $\frac{3}{8}$ " dia. x $8\frac{1}{2}$ " l. 80-watt	Series K-100-W $1\frac{1}{8}$ " dia. x $6\frac{1}{2}$ " l. 100-watt	Series K-160-W $1\frac{1}{2}$ " dia. x $8\frac{1}{2}$ " l. 160-watt	Series K-200-W $1\frac{3}{8}$ " dia. x $10\frac{1}{2}$ " l. 200-watt
5	\$1.10	\$1.25	\$1.75	\$2.25	\$2.50
10	1.10	1.25	1.75	2.25	2.50
25	1.10	1.25	1.75	2.25	2.50
50	1.10	1.25	1.75	2.25	2.50
75	1.10	1.25	1.75	2.25	2.50
100	1.10	1.25	1.75	2.25	2.50
150	1.10	1.25	1.75	2.25	2.50
200	1.10	1.25	1.75	2.25	2.50
250	1.10	1.25	1.75	2.25	2.50
300	1.10	1.25	1.75	2.25	2.50
400	1.10	1.25	1.75	2.25	2.50
500	1.10	1.25	1.75	2.25	2.50
750	1.10	1.25	1.75	2.25	2.50
1,000	1.10	1.25	1.75	2.25	2.50
1,250	1.10	1.25	1.75	2.25	2.50
1,500	1.10	1.25	1.75	2.25	2.50
2,000	1.10	1.25	1.75	2.25	2.50
2,250	1.10	1.25	1.75	2.25	2.50
2,500	1.10	1.25	1.75	2.25	2.50
3,000	1.10	1.25	1.85	2.25	2.50
3,500	1.10	1.25	1.85	2.25	2.50
4,000	1.10	1.25	1.85	2.25	2.50
4,500	1.10	1.25	1.85	2.25	2.50
5,000	1.10	1.25	1.85	2.25	2.50
6,000	1.35	1.50	1.95	2.25	2.50
7,500	1.35	1.50	1.95	2.25	2.50
8,000	1.35	1.50	1.95	2.25	2.50
9,000	1.35	1.50	1.95	2.25	2.50
10,000	1.35	1.50	1.95	2.25	2.50
12,000	1.35	1.50	1.95	2.30	2.75
12,500	1.35	1.50	1.95	2.30	2.75
15,000	1.35	1.50	1.95	2.65	3.00
20,000	1.35	1.50	1.95	2.65	3.00
25,000	1.35	1.50	1.95	2.65	3.00
30,000	1.70	1.75	2.50	2.65	3.00
35,000	1.70	1.75	2.50	2.65	3.00
40,000	1.70	1.75	2.50	2.65	3.00
50,000	1.70	1.75	2.50	2.65	3.00
60,000	1.70	2.00	2.75	3.00	3.00
70,000	1.70	2.00	2.75	3.00	3.00
75,000	1.70	2.00	2.75	3.00	3.00
80,000	1.70	2.10	2.85	3.00	3.00
100,000	1.70	2.25	3.00	3.00	3.00
125,000	2.00	3.10	3.20	3.00	3.00
150,000	2.25	3.35	3.50	3.00	3.00
175,000	2.25	3.35	3.50	3.00	3.00
200,000	3.00	3.75	3.75	3.00	3.00

All resistors furnished with mounting brackets at no extra cost.  
Standard Packing — Individually Boxed.

## ADJUSTABLE GREENOHM RESISTORS

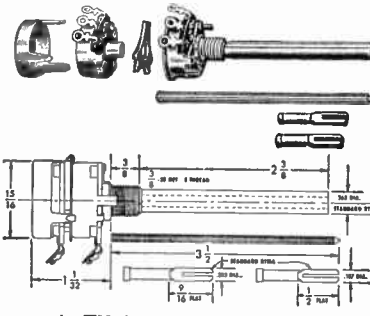
Ohms	Series K-50-NA $\frac{1}{2}$ " dia. x $4\frac{1}{2}$ " l. 50-watt	Series K-80-NA $\frac{3}{8}$ " dia. x $8\frac{1}{2}$ " l. 80-watt	Series K-100-WA $1\frac{1}{8}$ " dia. x $6\frac{1}{2}$ " l. 100-watt	Series K-160-WA $1\frac{1}{2}$ " dia. x $8\frac{1}{2}$ " l. 160-watt	Series K-200-WA $1\frac{3}{8}$ " dia. x $10\frac{1}{2}$ " l. 200-watt
5	\$1.50	\$1.75	\$2.00	\$2.50	\$3.00
10	1.50	1.75	2.00	2.50	3.00
15	1.50	1.75	2.00	2.50	3.00
20	1.50	1.75	2.00	2.50	3.00
25	1.50	1.75	2.00	2.50	3.00
50	1.50	1.75	2.00	2.50	3.00
75	1.50	1.75	2.00	2.50	3.00
100	1.50	1.75	2.00	2.50	3.00
150	1.50	1.75	2.00	2.50	3.00
200	1.50	1.75	2.00	2.50	3.00
250	1.50	1.75	2.00	2.50	3.00
300	1.50	1.75	2.00	2.50	3.00
400	1.50	1.75	2.00	2.50	3.00
500	1.50	1.75	2.00	2.50	3.00
750	1.50	1.75	2.00	2.50	3.00
1,000	1.50	1.75	2.00	2.50	3.00
1,250	1.50	1.75	2.00	2.50	3.00
1,500	1.50	1.75	2.00	2.50	3.00
2,000	1.50	1.75	2.00	2.50	3.00
2,500	1.50	1.75	2.00	2.50	3.00
3,000	1.50	1.75	2.00	2.50	3.00
4,000	1.50	1.75	2.00	2.50	3.00
4,500	1.50	1.75	2.00	2.50	3.00
5,000	1.50	1.75	2.00	2.50	3.00
6,000	1.50	1.75	2.00	2.50	3.00
7,000	1.50	1.75	2.00	2.50	3.00
7,500	1.50	1.75	2.00	2.50	3.00
8,000	1.50	1.75	2.00	2.50	3.00
9,000	1.50	1.75	2.00	2.50	3.00
10,000	1.50	1.75	2.00	2.50	3.00
12,000	1.50	1.75	2.00	2.50	3.00
15,000	1.50	1.75	2.00	2.50	3.00
20,000	1.50	1.75	2.00	2.50	3.00
25,000	1.75	2.00	2.25	2.50	3.00
30,000	2.00	2.25	2.75	2.50	3.00
35,000	2.00	2.25	2.75	2.50	3.00
40,000	2.00	2.25	2.75	2.50	3.00
45,000	2.00	2.25	2.75	2.50	3.00
50,000	2.00	2.25	2.75	2.50	3.00
60,000	2.50	2.50	3.00	2.50	3.00
75,000	2.50	2.50	3.00	2.50	3.00
80,000	2.50	2.50	3.00	2.50	3.00
100,000	2.50	2.50	3.00	2.50	3.00
125,000	2.50	2.50	3.00	2.50	3.00
150,000	2.50	2.50	3.00	2.50	3.00

**Round Shaft Midgetrols**



Compact, 1 5/16" diameter carbon element control. Used in industrial electronic equipment; also, in control circuits of television sets, home radios, auto radios and audio amplifiers. AC-DC power switches are available which may be attached quickly and permanently. Has 2 1/4" long, 1/4" round brass shaft. 2 shaft-end knob adaptors for knurled, push-on knobs, and one hex nut furnished. List Price \$1.25 each.

**Dual Midgetrol Volume Controls and Accessories**



Mallory Midgetrol Volume Control Parts and Accessories enable the serviceman to duplicate the physical and electrical characteristics of hundreds of Concentric Shaft Dual Carbon Controls, Single Shaft Dual Carbon Controls and Concentric Shaft Dual Wire-Wound Carbon control combinations for fast replacement in TV, home and auto radio sets. Supplied as separate front and rear control sections, these parts are easy to assemble, practical and economical, and eliminate delays while waiting delivery of manufacturer's original controls. UF is 1/16" diameter carbon front section; UR is 1/16" carbon rear section; WF is wire-wound front section. A kit of standard assembly parts is supplied with each front section. For accessory fittings and switches, see page 2, Mallory Resistors and Controls Section, this catalog. Average mounting depth behind panel for a carbon dual is 1 1/4"; with switch, is 1 3/4".

Cat. No.	Ohms	Taper†	Cat. No.	Ohms	Taper†
U12	5M	1	U41	100M	4
U14	5M	4	U42	150M	1
U18	10M	1	U43	200M	4
U19	10M	2	U44	250M	1
U20	10M	4	U45	250M	2
U21	15M	1	U46	250M	4
U22	15M	2	U48	500M	1
U24	20M	1	U50	500M	4
U26	20M	4	U51	750M	1
U28	25M	2	U53	1 Meg.	1
U29	25M	4	U54	1 Meg.	4
U33	50M	1	U55	2 Meg.	1
U34	50M	2	U56	2 Meg.	4
U35	50M	4	U255	2.5 Meg.	4
U36	75M	1	U57	3 Meg.	1
U39	100M	1	U59	3 Meg.	4
U40	100M	2	U65	5 Meg.	1

†See Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog.

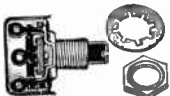
**Single Tapped Midgetrols—List Price \$1.85 Each**

Cat. No.	Ohms	Tap At	Cat. No.	Ohms	Tap At
UT-420	250M	50M	UT-443	1 Meg.	450M
UT-425	350M	70M	UT-450	2 Meg.	125M
UT-429	500M	50M	UT-448	2 Meg.	250M
UT-427	500M	100M	UT-454	2 Meg.	400M
UT-430	500M	150M	UT-449	2 Meg.	600M
UT-431	500M	225M	UT-451	2 Meg.	900M
UT-440	1 Meg.	200M	UT-457	3 Meg.	900M
UT-438	1 Meg.	300M			

**Double Tapped Midgetrols—List Price \$1.85 Each**

Catalog Number	Overall Resistance	Tap Resistance	
		Tap 1	Tap 2
UDT-283	500M	100M	200M
UDT-289	1 Meg.	250M	500M
UDT-291	1.5 Meg.	225M	500M
UDT-295	2.25 Meg.	250M	500M
UDT-296	2.25 Meg.	500M	1 Meg.

**Television and Special Application Midgetrols**



For use as exact replacement. Meet physical and electrical requirements for special applications. Equipped with fixed, knurled and screw driver-slotted phenolic shafts, 1/4" in diameter and 1/4" long. List Price \$1.50 each

Cat. No.	Ohms	Cat. No.	Ohms
SU-14	5M	SU-50	500M
SU-20	10M	SU-54	1 Meg.
SU-29	25M	SU-56	2 Meg.
SU-35	50M	SU-565	2.5 Meg.
SU-41	100M	SU-59	3 Meg.
SU-46	250M	SU-67	5 Meg.

All SU-No. 4—Linear Taper. (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

Front Section List Price—\$2.00 Catalog Number	Rear Section List Price—\$1.00 Catalog Number	Resistance Ohms	Taper†
UF13R	UR13R	1000	4
UF13L	UR13L	1000	4
UF152R	UR152R	1500	4
UF23R	UR23R	2000	4
UF23L	UR23L	2000	4
UF33L		3000	4
UF53R	UR53R	5000	2
UF53L	UR53L	5000	4
UF73R		7000	2
	UR14R	10M	2
UF14L	UR14L	10M	4
UF253R		25M	2
UF253L	UR253L	25M	4
UF34A		30M	1
UF54A		50M	1
UF54L	UR54L	50M	4
UF15A		100M	1
UF15R	UR15R	100M	2
UF15L	UR15L	100M	4
UF254A	UR254A	250M	1
UF254L	UR254L	250M	4
	UR354A	350M	1
UF55A		500M	1
UF55R		500M	2
UF55L	UR55L	500M	4
UF18A	UR18A	1 Meg.	1
UF18L	UR18L	1 Meg.	4
UF26A	UR26A	2 Meg.	1
UF26L	UR26L	2 Meg.	4
	UR36A	3 Meg.	1
	UR36L	3 Meg.	4
	UR56L	5 Meg.	1
		4 Meg.	1
UF46A			

†See Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog.

**Tapped Sections**

Front Section List Price—\$2.25 Catalog Number	Rear Section List Price—\$1.25 Catalog Number	Resistance Ohms	Tapped at
	UR254-T753	250M	75M
	UR354-T74	350M	70M
	UR55-T54	500M	50M
UF55-T54	UR55-T254	500M	250M
	UR16-T1253	1 Meg.	125M
UF16-T25	UR16-T25	1 Meg.	200M
UF16-T154		1 Meg.	150M
	UR16-T254	1 Meg.	250M
UF16-T35	UR16-T35	1 Meg.	300M
	UR26-T25	2 Meg.	200M
UF26-T55		2 Meg.	500M
	UR26-T95	2 Meg.	900M

**Two Watt Wire-Wound Front Sections**

Catalog Number	Res. Ohms	List Price	Catalog Number	Res. Ohms	List Price
WF751-T251	750*	\$2.50	WF33	3000	\$2.10
WF13	1000	2.10	WF53	5000	2.10
WF13-T251	1000*	2.50	WF73	7000	2.10
WF252	2500	2.10			

\* Tapped at 250 Ohms.

For Midgetrol accessory parts, see Page 2, Mallory Resistors and Controls Section, this catalog.



**Midgetrol Accessory Parts**

- DS-35—Flatted split knurl shaft end. Special for Zenith. List Price \$0.45
- DS-36—Special 3" extension shaft for tubular shaft Midgetrols and 2-watt, wire-wound controls. Also used for coupling a front and rear section together to make a single-shaft, dual control for oscilloscope and other push-pull amplifier service. List Price \$0.45
- DS-37— $\frac{3}{16}$ " diameter shafts for use with round-shaft Midgetrols to accommodate knobs requiring  $\frac{3}{16}$ " shaft. List Price \$0.45
- EB-158—Special bushing.  $\frac{7}{16}$ "-28 thread,  $1\frac{1}{16}$ " long with  $\frac{3}{8}$ " milled double flat. List Price \$0.60
- EB-214—Special bushing:  $\frac{1}{2}$ "-28 thread,  $2\frac{3}{16}$ " long with .403 milled flat. List Price \$0.60



**Attachable Midgetrol Switches**

Cat. No.	Description	List Price
US-26	Single Pole—Single Throw.....	<b>\$0.60</b>
US-26T	Single Pole—Single Throw (with dummy terminal).....	
US-27	Double Pole—Single Throw.....	.75
US-28	Single Pole—Double Throw.....	.75

**Explanation of Mallory Tapers**

Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

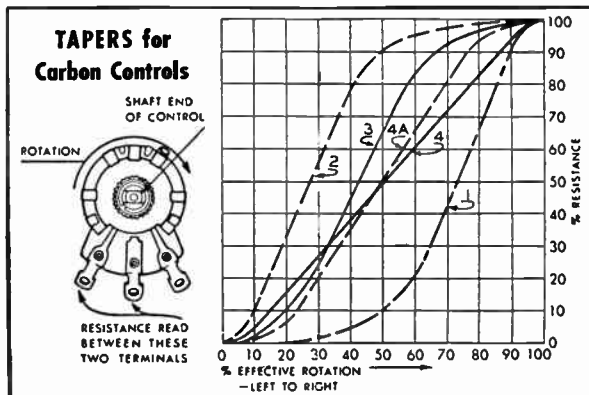
Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.

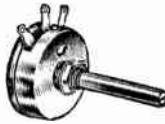
Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.

Taper Number 4A is a modification of the regular linear taper Number 4.

Taper Number 7 is made only in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



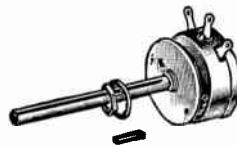
**TV Focus Controls**



These  $1\frac{1}{2}$ " diameter units are designed especially for focus control replacement in TV sets. They are 4 watt, wire-wound, and have a special taper. One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance (Maximum)	Type Element	Shaft Length	List Price
TVF140	1500	WW	2"	<b>\$1.85</b>
TVF143	2500	WW	2"	<b>1.85</b>

**$1\frac{1}{2}$ " Dia. Fixed Shaft Wire-Wound Controls**



For bias control and voltage divider circuits. Provided with stop plate for bias feature. Has 3" channel shaft. Case diameter is  $1\frac{1}{2}$ ". Will carry 4 watts power.

List Price \$1.50 each

Catalog Number	Ohms Resistance	Taper†	Catalog Number	Ohms Resistance	Taper†
Q	2	4	D12§	3000	1
R	6	4	D§	3000	2
S	10	4	A3MP§	3000	4
T	20	4	D7§	3000	7
U	30	4	A4MP§	4000	4
V	60	4	E§	5000	2
W	100	4	A5MP§	5000	4
X	200	4	E7§	5000	2
A400P	400	4	F§	7500	7
A	500	1	F7§	7500	7
A550P	550	4	G§	10000	2
B	1000	1	A10MP§	10000	4
UC500	1000	2	G7§	10000	7
A1MP	1000	4	H§	15000	2
C12§	2000	1	H7§	15000	7
C§	2000	2	A20MP§	20000	4
A2MP§	2000	4			

§ Have exclusive Mallory adjustable bias feature, providing 500 ohms in 100 ohm steps in all values over 1000 ohms.

† See Explanation of Mallory Tapers, this page.

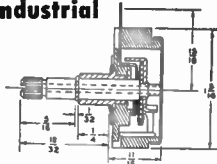
**T and L Pad Attenuators**

High quality attenuators having a peak audio rating of 15 watts and a continuous DC dissipation rating of 4 watts. Packaged with instructions, 366 knob, 395 dial plate and hex nut.



"T" Pad Attenuators List Price \$4.25 each Catalog Number	"L" Pad Attenuators List Price \$3.75 each Catalog Number	Ohms Impedance
T2	L2	2
T4	L4	4
T6	L6	6
T8	L8	8
T15	L15	15
T50	L50	50
T100	L100	100
T200	L200	200
T250	L250	250
T500	L500	500
T800	L800	600
T1000	L1000	1000
T2000	L2000	2000
T3000	L3000	3000

**Two Watt Wire-Wound TV and Industrial Potentiometers**



For replacement of positioning, hold and focus controls in TV. Also ideal for industrial circuits up to 1500 volts AC. Completely enclosed in 1 1/16" diameter phenolic case. Thumb-knurled 1/4" diameter, 3/16" long, screw driver, slotted, insulated shaft. All have linear resistance change.

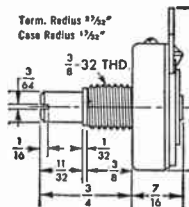
For special 3" extension shaft, DS-36, see page 2, Mallory Resistors and Controls Section, this catalog.

Catalog Number	Total Ohms	List Price
R20L	20	\$1.25
R20CT	20	1.85
R25L	25	1.25
R30L	30	1.25
R30CT	30	1.85
R50L	50	1.25
R250L	250	1.25
R500L	500	1.25
R1000L	1000	1.40
R1500L	1500	1.40
R2500L	2500	1.40
R5000L	5000	1.40

All R type are linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

**Two Watt Wire-Wound Potentiometers and Rheostats**

1 1/16" diameter. 1/4" diameter by 3/8" long shaft with screw driver slot. For use in test and special instruments, bias control and bridge circuits. Has grounded contact arm. Rheostat has "open" or "off" position—all have linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).



For Dial plate 393, see page 4, Mallory Resistors and Controls Section, this catalog.

Potentiometer		Rheostat			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
C6P	\$1.50	C6R	\$1.25	6	.58
C10P	1.50	C10R	1.25	10	.45
C15P	1.50	C15R	1.25	15	.37
C20P	1.50	C20R	1.25	20	.32
C30P	1.50	C30R	1.25	30	.26
C40P	1.50	C40R	1.25	40	.22
C50P	1.50	C50R	1.25	50	.2
C100P	1.50	C100R	1.25	100	.14
C200P	1.50			200	.1
C400P	1.50			400	.07
C1MP	1.75			1M	.045
C3MP	1.75			3M	.025
C5MP	2.00			5M	.02
C6MP	2.00			6M	.018
C10MP	2.00			10M	.014
C15MP	2.00			15M	.011

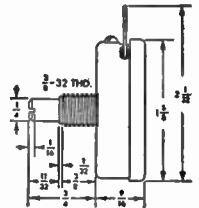
**Theater Speaker Controls**



Designed for use with Motiograph, Simplex, International and other outdoor theater motion picture equipment. Quality constructed with pig-tail rotor connections and corrosion-resistant finish to assure long, noise-free life. Housed in 1 1/16" diameter metal case. Mounting nut supplied.

Cat. No.	Description	List Price
TSA-10	4-Ohm L Pad	\$2.00
TSA-35	35-ohm Potentiometer	1.50
TSA-6	6-ohm Potentiometer	1.50

**Four Watt Wire-Wound Potentiometers and Rheostats**



Four-watt, wire-wound controls designed especially for low voltage TV, test equipment, industrial and electronic applications. These controls are supplied with a 3/8" long bushing and have 1/4" round screw driver slotted shafts 3/8" long. Overall case diameter is 1 1/8". Mounting radius, including solder lugs, is 1/4" and mounting depth is 3/8". Rheostat styles have "off" position. All have linear resistance change and insulated shaft. For Dial Plate No. 395, see page 4, Mallory Resistors and Controls Section, this catalog.

Potentiometer		Rheostat*			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
M1P	\$1.50	M05R	\$1.25	1/2	2.80
M3P	1.50	M1R	1.25	1	2.00
M6P	1.50	M2R	1.25	2	1.4
M10P	1.50	M3R	1.25	3	1.15
M15P	1.50	M4R	1.25	4	1.0
M20P	1.50	M6R	1.25	6	.82
M25P	1.50	M10R	1.25	10	.63
M30P	1.50	M15R	1.25	15	.52
M40P	1.50	M20R	1.25	20	.45
M50P	1.50	M25R	1.25	25	.40
M60P	1.50	M30R	1.25	30	.37
M75P	1.50	M40R	1.25	40	.32
M100P	1.50	M50R	1.25	50	.28
M200P	1.50	M60R	1.25	60	.26
M400P	1.50	M75R	1.25	75	.23
M600P	1.50	M100R	1.25	100	.20
M1MP	1.75			200	.14
M2MP	1.75			400	.10
M3MP	1.75			500	.09
M4MP	1.75			600	.082
M5MP	1.75			1M	.063
M10MP	2.00			2M	.045
M15MP	2.00			3M	.037
M20MP	2.00			4M	.032
M25MP	2.00			5M	.028
M50MP	2.40			10M	.020
M70MP	2.40			15M	.016
				20M	.014
				25M	.013
				50M	.009
				70M	.0075

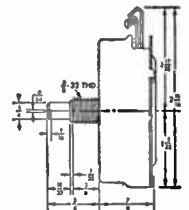
\* "Open" or "Off" position counter-clockwise.

**Center Tapped Potentiometer**

Catalog Number	List Price	Ohms	Cap. in Amperes
MT10P	\$2.25	10	.63
MT20P	2.25	20	.45
MT30P	2.25	30	.37

**Seven Watt Wire-Wound Potentiometers**

Has 7-watt dissipation, grounded contact arm and linear resistance change. Metal case is 2 3/8" diameter, 3/8" deep. Shaft is 1/4" diameter and 3/8" long with screw driver slot. For Dial plate No. 399, see page 4, Mallory Resistors and Controls Section, this catalog.



Catalog Number	Ohms	Capacity in Amperes	List Price
E5MP	5M	.042	\$3.50
E10MP	10M	.03	3.50
E20MP	20M	.021	3.50
E25MP	25M	.019	3.90
E50MP	50M	.0135	3.90
E75MP	75M	.011	3.90
E100MP	100M	.0095	3.90
E125MP	125M	.0085	3.90
E150MP	150M	.0078	3.90

# RESISTANCE KITS • CONTROL HARDWARE

P. R. MALLORY & CO., INC. • INDIANAPOLIS



## Yard-Ohm Resistance Kits

Each Yard-Ohm Kit consists of the following: 1 yard spiral wound resistance wire; 1 yard insulated braid; 24 spiral wire leads. The kit is available in eight resistance values.



Dissipation—all types: ½ watt per inch.

List Price \$0.75 each

Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes	Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes
YO-1	1	.707	YO-50	50	.100
YO-5	5	.315	YO-100	100	.071
YO-10	10	.223	YO-250	250	.044
YO-25	25	.141	YO-500	500	.031

## Shafts—Couplers—Bushings—Dial Plates



Cat. No.	Description	List Price
EC240	For coupling two ¼" shafts or ¼" and ⅜" (D).....	\$0.30
EB247	⅝" Extension Bushing (F).....	.25
UB241	Panel Bushing for ¼" shaft (G).... per 10	.95
EC257	Insulated shaft coupler (E).....	.30
178	½" and ⅜" Wrench (H).....	.25
RS242	4" long x ¼" diameter x ⅜" flat (K).....	.40
RS243	4" long x ¼" diameter x ⅜" flat (J).....	.40
RS244	4" long x ⅜" diameter x ⅜" flat (L)....	.40
RS245	2" long x ¼" diameter x slotted ⅜" (M)...	.45
389	0-100 All Rheostats and Potentiometers (compromise scale) 2¼" (N).....	.25
391	Increase Volume—All Rheostats and Potentiometers—1½" (N).....	.15
393	0-10 For "C" Type Rheostats and Potentiometers—2¼" (N).....	.25
395	0-10 For Standard Wire-Wound Controls with Plain cover; also "M" Type Rheostats and Potentiometers—2¼" (N)....	.25
396	0-10 For Standard Wire-Wound Controls with switch type cover—2¼" (N).....	.25
397	0-10 For Standard Carbon Controls with Plain cover—2¼" (N).....	.25
398	0-10 For Standard Carbon Controls with switch type cover—2¼" (N).....	.25
399	0-10 For "E" Type Potentiometers—2¼" (N).....	.25

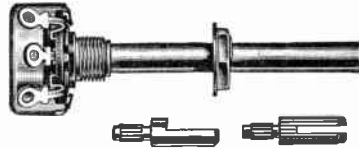
## Adjustable Mounting Brackets



Cat. No.	Description	List Price
RB248	1¾" Mounting Centers (A).....	\$0.25
RB249	2½" Mounting Centers (B).....	.25
RB254	Universal.....	.25

## NEW MALLORY MIDGETROL

### SINGLE SECTION

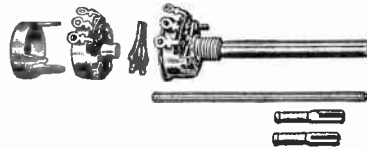


Now the *time-proved* Mallory Midgetrol offers two important new time-saving features.

This sturdy ⅜" control is supplied with a permanently fixed, tubular brass shaft that can be adapted for split-knurl or flatted type knobs in a few seconds by inserting one of the two steel shaft-ends packaged with every Mallory Midgetrol. It gives you utmost convenience—without sacrificing a stable, permanently secured shaft.

Also, switch attachment is made simple and sure by positive indexing. Switch locks securely in position without removing the control housing.

### DUAL SECTION



This revolutionary new control can be assembled in five easy steps, in less than five minutes—permits you to match a wide range of combinations immediately from convenient distributor stocks, and without high "time" costs

The "exploded" view above illustrates the parts and assembled control sections supplied. Extremely simple instructions show you how to assemble them quickly and surely—without soldering—with only the simplest of tools.

Both front and rear sections are *factory-assembled and carefully inspected*. You can be sure that your final dual assembly will give the performance you want!

The Mallory Midgetrol gives you fast, sure, simple installation—with precision-controlled carbon element, smooth taper, quiet operation, accurate resistance value and less drift in TV sets.

For Complete Listing and Description see Page 1, Mallory Resistors and Controls Section, This Catalog

**Mallory Fixed and Adjustable Vitreous Enamel Resistors**



Wire-wound, covered with a special, vitreous, non-alkaline, non-hygroscopic enamel coating which assures exceptional sealing and permanence of electrical characteristics. Adjust-

able types equipped with slider. 5 and 10 watt sizes have tinned-copper leads. All others supplied with mounting feet.

**Fixed Types**

**Type HHJ-5 Watt Rating**  
Tube Size 5/16" x 1"

Resistance Ohms						
1	10	40	250	700	1250	3500
1.5	12	50	300	750	1500	4000
2	15	75	350	800	1750	4500
3	20	100	400	900	2000	5000
4	25	125	450	1000	2250	
5	30	150	500	1100	2500	
7.5	35	200	600	1200	3000	

Ohms	List Price
1 Thru 1000	<b>\$0.67</b>
1100 Thru 5000	<b>.75</b>

**Type 1HJ-10 Watt Rating**  
Tube Size 5/16" x 1 3/4"

Resistance Ohms						
1	25	225	800	2500	8500	18000
2	30	250	900	3000	10000	20000
3	35	300	1000	3500	11000	22500
4	40	350	1100	4000	12000	25000
5	50	400	1200	4500	12500	30000
7.5	75	450	1250	5000	13500	35000
10	100	500	1500	6000	14300	40000
12	125	600	1750	7000	15000	45000
15	150	700	2000	7500	16000	50000
20	200	750	2250	8000	17500	

Ohms	List Price
1 Thru 1000	<b>\$0.75</b>
1100 Thru 5000	<b>.80</b>
6000 Thru 10000	<b>.92</b>
11000 Thru 20000	<b>1.03</b>
22500 Thru 50000	<b>1.11</b>

**Type 2HJ-20 Watt Rating**  
Tube Size 1/2" x 2"

Resistance Ohms						
5	100	500	2000	4000	12500	40000
10	150	750	2250	4500	15000	50000
15	200	1000	2500	5000	20000	75000
25	250	1250	2750	6000	25000	100000
50	300	1500	3000	7500	30000	
75	400	1750	3500	10000	35000	

Ohms	List Price
5 Thru 1000	<b>\$0.95</b>
1250 Thru 5000	<b>.97</b>
6000 Thru 10000	<b>1.12</b>
12500 Thru 20000	<b>1.20</b>
25000 Thru 40000	<b>1.37</b>
50000	<b>1.50</b>
75000 Thru 100000	<b>1.75</b>

**Type 5HJ-50 Watt Rating**  
Tube Size 3/8" x 4 1/2"

Resistance Ohms					
10	250	1500	7500	20000	50000
25	500	2000	10000	25000	75000
50	750	2500	12500	30000	100000
100	1000	5000	15000	40000	

Ohms	List Price
10 Thru 5000	<b>\$1.75</b>
7500 Thru 10000	<b>1.92</b>
12500 Thru 20000	<b>2.12</b>
25000 Thru 40000	<b>2.33</b>
50000	<b>2.58</b>
75000	<b>2.92</b>
100000	<b>3.20</b>

**Type 10HJ-100 Watt Rating**  
Tube Size 1 1/8" x 6 1/2"

Resistance Ohms					
25	500	2000	10000	25000	50000
50	750	2500	15000	30000	75000
100	1000	5000	20000	40000	100000
250	1500	7500			

Ohms	List Price
25 Thru 1000	<b>\$2.48</b>
1500 Thru 5000	<b>2.53</b>
7500 Thru 10000	<b>2.70</b>
15000 Thru 20000	<b>2.97</b>
25000 Thru 40000	<b>3.26</b>
50000	<b>3.37</b>
75000	<b>3.58</b>
100000	<b>3.80</b>

**Type 20HJ-200 Watt Rating**  
Tube Size 1 1/8" x 10 1/2"

Resistance Ohms						
25	100	750	2000	5000	20000	50000
50	250	1000	2500	7500	30000	75000
75	500	1500	3000	10000	40000	100000

Ohms	List Price
25 Thru 1000	<b>\$3.29</b>
1500 Thru 5000	<b>3.34</b>
7500 Thru 10000	<b>3.54</b>
20000	<b>3.75</b>
30000 Thru 40000	<b>3.90</b>
50000	<b>4.03</b>
75000	<b>4.25</b>
100000	<b>4.53</b>

**Adjustable Types**

**Type 1AV-10 Watt Rating**  
Tube Size 5/16" x 1 3/4"

Resistance Ohms						
1	15	150	500	1500	4000	8000
2	20	200	600	2000	4500	8500
3	25	250	750	2250	5000	9000
5	50	300	800	2500	6000	10000
7.5	75	350	1000	3000	7000	
10	100	400	1250	3500	7500	

Ohms	List Price
1 Thru 1000	<b>\$1.47</b>
1100 Thru 5000	<b>1.53</b>
6000 Thru 10000	<b>1.63</b>

**Type 2AV-25 Watt Rating**  
Tube Size 3/8" x 2 1/2"

Resistance Ohms						
1	25	200	750	2500	6000	20000
3	50	250	1000	3000	7500	25000
5	75	300	1250	3500	10000	
10	100	400	1500	4000	12000	
15	150	500	2000	5000	15000	

Ohms	List Price
1 Thru 1000	<b>\$1.84</b>
1250 Thru 5000	<b>1.88</b>
6000 Thru 10000	<b>2.03</b>
12000 Thru 20000	<b>2.08</b>
25000	<b>2.28</b>

**Type 5AV-50 Watt Rating**  
Tube Size 3/8" x 4 1/2"

Resistance Ohms						
5	75	250	1500	4000	15000	40000
10	100	500	2000	5000	20000	50000
25	150	750	2500	7500	25000	
50	200	1000	3000	10000	30000	

Ohms	List Price
5 Thru 1000	<b>\$2.37</b>
1500 Thru 5000	<b>2.47</b>
7500 Thru 10000	<b>2.63</b>
15000 Thru 20000	<b>2.83</b>
25000 Thru 40000	<b>3.08</b>
50000	<b>3.31</b>

**Type 10AV-100 Watt Rating**  
Tube Size 1 1/8" x 6 1/2"

Resistance Ohms					
50	2000	5000	15000	30000	50000
100	2500	7500	20000	35000	75000
500	3000	10000	25000	40000	
1000	4000				

Ohms	List Price
50 Thru 1000	<b>\$3.55</b>
2000 Thru 5000	<b>3.67</b>
7500 Thru 10000	<b>3.87</b>
15000 Thru 20000	<b>4.12</b>
25000 Thru 40000	<b>4.37</b>
50000	<b>4.57</b>
75000	<b>4.75</b>

**Type 20AV-200 Watt Rating**  
Tube Size 1 1/8" x 10 1/2"

Resistance Ohms				
50	1000	2500	20000	50000
100	1500	5000	25000	75000
500	2000	10000	30000	

Ohms	List Price
50 Thru 1000	<b>\$4.37</b>
1500 Thru 5000	<b>4.45</b>
10000	<b>4.70</b>
20000	<b>4.92</b>
25000 Thru 30000	<b>5.03</b>
50000	<b>5.17</b>
75000	<b>5.42</b>

# INSULATED RESISTORS

*Preferred for Performance*





## ADVANCED TYPE BT


### INSULATED COMPOSITION RESISTORS

IRC Advanced Type BT Resistors are supplied in 4 miniature units from 1/3 to 2 watts. They are particularly suited to television requirements. Extremely low operating temperature and excellent power dissipation are assured. All types, except BTR, are clearly stamped with value and wattage, plus color code.

 **BTR 1/3 WATT**  
 1 1/2" x 3/8"—82 ohms to 22 meg.—250 volts max.  
 10% Tolerance — LIST 17¢      5% Tolerance — LIST 33¢

 **BTS 1/2 WATT**  
 1 3/8" x 1/2"—82 ohms to 22 meg.—350 volts max.  
 10% Tolerance — LIST 17¢      5% Tolerance — LIST 33¢

 **BTA 1 WATT**  
 3/8" x 1/4"—100 ohms to 22 meg.—500 volts max.  
 10% Tolerance — LIST 25¢      5% Tolerance — LIST 50¢

 **BTB 2 WATTS**  
 1 1/4" x 1/4"—330 ohms to 22 meg.—500 volts max.  
 10% Tolerance — LIST 33¢      5% Tolerance — LIST 66¢

**RTMA RANGES**—Advanced Type BT Resistors and Type BW Insulated Wire Wounds are supplied in RTMA Ranges subject to the minimum and maximum values for each type. These stock values are listed below.

#### VALUES AVAILABLE AT ±10% TOLERANCE

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Meg	Megs	Megs
—	1.0	10	100	1,000	10,000	0.1	1.0	10
—	1.2	12	120	1,200	12,000	0.12	1.2	12
—	1.5	15	150	1,500	15,000	0.15	1.5	15
—	1.8	18	180	1,800	18,000	0.18	1.8	18
—	2.2	22	220	2,200	22,000	0.22	2.2	22
0.27	2.7	27	270	2,700	27,000	0.27	2.7	—
0.33	3.3	33	330	3,300	33,000	0.33	3.3	—
0.39	3.9	39	390	3,900	39,000	0.39	3.9	—
0.47	4.7	47	470	4,700	47,000	0.47	4.7	—
0.56	5.6	56	560	5,600	56,000	0.56	5.6	—
0.68	6.8	68	680	6,800	68,000	0.68	6.8	—
0.82	8.2	82	820	8,200	82,000	0.82	8.2	—


#### VALUES AVAILABLE AT ±5% TOLERANCE


Ohms	Ohms	Ohms	Ohms	Meg	Megs	Megs
10	100	1,000	10,000	0.1	1.0	10
11	110	1,100	11,000	0.11	1.1	11
12	120	1,200	12,000	0.12	1.2	12
13	130	1,300	13,000	0.13	1.3	13
15	150	1,500	15,000	0.15	1.5	15
16	160	1,600	16,000	0.16	1.6	16
18	180	1,800	18,000	0.18	1.8	18
20	200	2,000	20,000	0.20	2.0	20
22	220	2,200	22,000	0.22	2.2	22
24	240	2,400	24,000	0.24	2.4	—
27	270	2,700	27,000	0.27	2.7	—
30	300	3,000	30,000	0.30	3.0	—
33	330	3,300	33,000	0.33	3.3	—
36	360	3,600	36,000	0.36	3.6	—
39	390	3,900	39,000	0.39	3.9	—
43	430	4,300	43,000	0.43	4.3	—
47	470	4,700	47,000	0.47	4.7	—
51	510	5,100	51,000	0.51	5.1	—
56	560	5,600	56,000	0.56	5.6	—
62	620	6,200	62,000	0.62	6.2	—
68	680	6,800	68,000	0.68	6.8	—
75	750	7,500	75,000	0.75	7.5	—
82	820	8,200	82,000	0.82	8.2	—
91	910	9,100	91,000	0.91	9.1	—

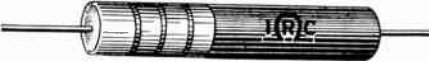
## TYPE BW

### INSULATED WIRE WOUND RESISTORS

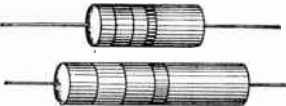
Exceptionally stable, inexpensive wire wound resistors for low range requirements. Small and completely insulated. Double width color code band distinguishes Type BW from Type BT. Wire resistance element is tightly wound on an insulated core.

 **BW-1/2 1/2 WATT**  
 10% Tolerance (82 ohms to 820 ohms) ..... LIST 17¢  
 5% Tolerance (10 ohms and above) ..... LIST 33¢

 **BW-1 1 WATT**  
 10% Tolerance (1 1/4" x 1/4"—0.47 to 4700 ohms) ..... LIST 25¢  
 5% Tolerance (10 ohms and above) ..... LIST 50¢

 **BW-2 2 WATTS**  
 10% Tolerance (1 3/8" x 21/64"—1.0 to 8,200 ohms) ..... LIST 33¢  
 5% Tolerance (10 ohms and above) ..... LIST 66¢

### INSULATED CHOKES

 IRC Insulated Chokes are available in two sizes designated as types CLA and CL-1. Both types are fully insulated in molded phenolic housings for full protection against high humidity. The insulated housing also guards the winding from abrasion and physical damage, and prevents any possibility of shorting to chassis. Color coded for easy identification.

The wide range of size and characteristic combinations available permits accurate replacement with respect to space and electrical requirements.

**TYPE CLA** ..... LIST 35¢ each  
**TYPE CL-1** ..... LIST 35¢ each

#### TYPE CLA

Inductance (Microhenrys)	Approx. "Q" at 12 Megacycles (higher at higher frequencies)	D.C. Resistance (Ohms)	Approx. Self Resonant Frequency (Megacycles)	Current Rating (1)* (2)*	Rating (2)*
0.47 ± 15%	26	0.22 ± 30%	300	890	1510
0.56 ± 15%	25	0.31 ± 30%	280	750	1270
0.68 ± 15%	25	0.44 ± 30%	260	630	1070
0.82 ± 15%	24	0.59 ± 30%	240	540	920
1.0 ± 10%	24	0.80 ± 30%	210	470	790
1.2 ± 10%	23	0.85 ± 20%	190	450	770
1.5 ± 10%	23	1.2 ± 20%	160	380	650
1.8 ± 10%	22	1.6 ± 20%	150	330	560
2.2 ± 10%	22	1.8 ± 20%	130	310	580
2.7 ± 10%	22	2.2 ± 10%	120	280	480
3.3 ± 10%	21	3.0 ± 10%	110	240	390

#### TYPE CL-1

Inductance (Microhenrys)	Approx. "Q" at 12 Megacycles (higher at higher frequencies)	D.C. Resistance (Ohms)	Approx. Self Resonant Frequency (Megacycles)	Current Rating (1)* (2)*	Rating (2)*
0.47 ± 15%	30	0.14 ± 30%	220	1460	2310
0.56 ± 15%	30	0.20 ± 30%	210	1220	1940
0.68 ± 15%	30	0.22 ± 30%	200	1170	1850
0.82 ± 15%	30	0.27 ± 30%	190	1050	1670
1.0 ± 10%	30	0.41 ± 30%	180	850	1350
1.2 ± 10%	30	0.51 ± 20%	170	770	1210
1.5 ± 10%	29	0.72 ± 20%	160	650	1020
1.8 ± 10%	29	0.77 ± 20%	150	620	990
2.2 ± 10%	29	1.1 ± 20%	140	520	820
2.7 ± 10%	28	1.5 ± 20%	130	450	710
3.3 ± 10%	28	2.0 ± 20%	120	390	610
4.7 ± 10%	27	2.6 ± 10%	110	340	540
5.6 ± 10%	26	2.8 ± 10%	95	330	520
6.8 ± 10%	24	4.0 ± 10%	85	270	430
8.2 ± 10%	22	5.6 ± 10%	75	230	370
10.0 ± 10%	21	6.1 ± 10%	70	220	350
10.0 ± 10%	20	8.2 ± 10%	65	190	300

(1) \*Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

(2) \*Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.





# UNIVERSAL REPLACEMENTS

## for TV Concentric Dual Controls

*Preferred for Performance*

### NEW, SIMPLIFIED CONCENTRIKITS FOR LESS-THAN-A-MINUTE ASSEMBLY OF TV CONCENTRIC DUALS

Two new, four-piece CONCENTRIKITS of improved design—plus a full line of Exact Duplicate Shafts, Base Elements and Switches—provide less-than-a-minute assembly of concentric dual replacements. Both carbon and wire-wound replacements are covered for more than 5,000 TV models—at a fraction of the cost of factory assembled controls. Assembled CONCENTRIKIT replacements are IRC Exact Duplicate Controls.

No other device on the market gives such wide replacement coverage at such low stock cost. Each control you assemble requires only two Base Elements, and a pair of Shafts plus CONCENTRIKIT. (In some instances, a switch also is needed.) IRC's Replacement Listing by Trade Name Part Number (Form SO12—available on request) gives complete listing of parts needed for each manufacturer's part number.

#### K-2 CONCENTRIKIT

For assembly of concentric dual controls having two carbon sections. Contains four parts: Panel Cover, Rear Cover, Bushing and Mounting Nut. Assembly instructions included. Requires following additional parts, depending upon specification desired:

- 2—Base Elements (Type B)
- 1—Outer Shaft (Types P1 or P2)
- 1—Inner Shaft (Types R1, R2, R3, or R4)
- 1—Switch—when needed (Types 76-1 or 76-2)

LIST \$8.00

(K-2 Universal Shaft Kit may be used with K-2 CONCENTRIKIT in place of Special Replacement Outer and Inner Shafts.)

#### K-3 CONCENTRIKIT

For assembly of concentric dual controls having wire-wound panel section and carbon rear section. Contains four parts: Panel Cover, Rear Cover, Ground Plate and Mounting Nut. Assembly instructions included. Requires additional parts, depending upon specification desired, as follows:

- 1—Panel Base Element (Type W)
- 1—Rear Base Element (Type B)
- 1—Outer Shaft (Types P3 or P4)
- 1—Inner Shaft (Types R1, R2, R3 or R4)
- 1—Switch—when needed—(Types 76-1 or 76-2)

LIST \$8.00

(K-3 Universal Shaft Kit may be used with K-3 CONCENTRIKIT in place of Special Replacement Outer and Inner Shafts.)

#### UNIVERSAL SHAFT KITS FOR CONCENTRIKIT

For use with CONCENTRIKITS in place of Exact Duplicate Shafts. Require shaft modification to desired specification. K-2 Shaft Kit with K-2 CONCENTRIKIT are equivalent to former K-1 CONCENTRIKIT. Shaft Ends E-187 and E-202 are included in both Shaft Kits.

K-2 Universal Shaft Kit for use with K-2 CONCENTRIKIT.

LIST \$1.20

K-3 Universal Shaft Kit for use with K-3 CONCENTRIKIT.

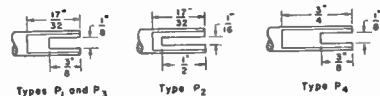
LIST \$1.20

### NEW EXACT DUPLICATE SHAFTS FIT WITHOUT ALTERATION

IRC Exact Duplicate Shafts are ready for assembly into completed concentric duals. No filing, slotting, soldering or cutting required. No special tools needed. Shafts are supplied in proper lengths and with factory-tooled ends for satisfactory fit. Accurate specifications and are assured. Both inner and outer shafts are of one-piece construction with contactors attached.

#### EXACT DUPLICATE SHAFTS FOR CONCENTRIKITS

**TYPE P1 OUTER SHAFTS.**  $\frac{1}{8}$ " wide slot and flat. Use with K-2 CONCENTRIKIT only.



Stock Number	Shaft Length*	Stock Number	Shaft Length*	Stock Number	Shaft Length*
P1-020	$\frac{5}{8}$ "	P1-126	$1\frac{1}{8}$ "	P1-224	$2\frac{3}{8}$ "
P1-028	$\frac{7}{8}$ "	P1-128	$1\frac{3}{8}$ "	P1-229	$2\frac{7}{8}$ "
P1-102	$1\frac{1}{8}$ "	P1-200	$2\frac{1}{8}$ "	P1-304	$3\frac{1}{8}$ "
P1-106	$1\frac{3}{8}$ "	P1-204	$2\frac{3}{8}$ "	P1-310	$3\frac{5}{8}$ "
P1-109	$1\frac{5}{8}$ "	P1-210	$2\frac{5}{8}$ "	P1-400	$4\frac{1}{8}$ "
P1-112	$1\frac{3}{8}$ "	P1-212	$2\frac{3}{8}$ "	P1-405	$4\frac{5}{8}$ "
P1-114	$1\frac{1}{8}$ "	P1-216	$2\frac{1}{8}$ "		
P1-121	$1\frac{3}{8}$ "	P1-220	$2\frac{5}{8}$ "		

**TYPE P2 OUTER SHAFTS.**  $\frac{1}{16}$ " wide slot and flat. Use with K-2 CONCENTRIKIT only.

P2-031	$\frac{3}{4}$ "	P2-128	$1\frac{7}{8}$ "	P2-214	$2\frac{7}{8}$ "
P2-116	$1\frac{1}{8}$ "	P2-200	$2\frac{1}{8}$ "	P2-218	$2\frac{7}{8}$ "
P2-118	$1\frac{1}{8}$ "	P2-209	$2\frac{3}{8}$ "	P2-226	$2\frac{1}{8}$ "

**TYPE P3 OUTER SHAFTS.**  $\frac{1}{8}$ " wide slot and flat. Use with K-3 CONCENTRIKIT only.

P3-100	$1\frac{1}{8}$ "	P3-116	$1\frac{1}{2}$ "	P3-131	$1\frac{3}{4}$ "
P3-104	$1\frac{1}{4}$ "	P3-118	$1\frac{3}{8}$ "	P3-203	$2\frac{3}{8}$ "
P3-106	$1\frac{3}{8}$ "	P3-121	$1\frac{3}{8}$ "	P3-208	$2\frac{1}{4}$ "
P3-111	$1\frac{1}{4}$ "	P3-123	$1\frac{1}{8}$ "	P3-223	$2\frac{3}{4}$ "
P3-114	$1\frac{1}{4}$ "	P3-127	$1\frac{1}{8}$ "	P3-400	$4\frac{1}{8}$ "

**TYPE P4 OUTER SHAFTS.**  $\frac{1}{8}$ " wide slot and flat. Use with K-3 CONCENTRIKIT only.

P4-124  $1\frac{3}{8}$ "

**TYPE R1 INNER SHAFTS.**  $\frac{1}{16}$ " diameter. Flatted and slotted. Use with K-2 and K-3 CONCENTRIKITS.

R1-028	$\frac{7}{8}$ "	R1-207	$2\frac{3}{8}$ "	R1-300	$3\frac{1}{8}$ "
R1-115	$1\frac{1}{8}$ "	R1-210	$2\frac{5}{8}$ "	R1-304	$3\frac{1}{4}$ "
R1-118	$1\frac{1}{8}$ "	R1-212	$2\frac{3}{8}$ "	R1-308	$3\frac{1}{4}$ "
R1-122	$1\frac{1}{8}$ "	R1-216	$2\frac{1}{2}$ "	R1-312	$3\frac{3}{8}$ "
R1-126	$1\frac{1}{8}$ "	R1-220	$2\frac{5}{8}$ "	R1-326	$3\frac{1}{2}$ "
R1-130	$1\frac{1}{8}$ "	R1-223	$2\frac{3}{8}$ "	R1-417	$4\frac{1}{2}$ "
R1-202	$2\frac{1}{8}$ "	R1-226	$2\frac{1}{8}$ "	R1-420	$4\frac{5}{8}$ "
R1-205	$2\frac{3}{8}$ "	R1-228	$2\frac{3}{8}$ "		

**TYPE R2 INNER SHAFTS.**  $\frac{1}{16}$ " diameter. Flatted and slotted. Use with K-2 and K-3 CONCENTRIKITS.

R2-110	$1\frac{1}{8}$ "	R2-131	$1\frac{3}{4}$ "	R2-226	$2\frac{1}{2}$ "
R2-115	$1\frac{1}{8}$ "	R2-204	$2\frac{1}{4}$ "	R2-230	$2\frac{1}{4}$ "
R2-117	$1\frac{1}{8}$ "	R2-206	$2\frac{3}{8}$ "	R-2306	$3\frac{1}{8}$ "
R2-119	$1\frac{1}{8}$ "	R2-212	$2\frac{3}{8}$ "	R2-314	$3\frac{1}{8}$ "
R2-124	$1\frac{3}{8}$ "	R2-216	$2\frac{1}{2}$ "	R2-322	$3\frac{1}{4}$ "
R2-127	$1\frac{3}{8}$ "	R2-218	$2\frac{1}{8}$ "	R2-420	$4\frac{5}{8}$ "

**TYPE R3 INNER SHAFTS.**  $\frac{1}{16}$ " diameter. Split knurl. Use with K-2 or K-3 CONCENTRIKITS.

R3-223  $2\frac{3}{8}$ "

**TYPE R4 INNER SHAFTS.**  $\frac{1}{16}$ " diameter. Round and slotted. Use with K-2 or K-3 CONCENTRIKIT.

R4-210  $2\frac{1}{8}$ "  
R4-226  $2\frac{1}{8}$ "

\*Shaft lengths shown are when used with K-2 only. Shaft lengths are  $\frac{1}{8}$ " shorter when used with K-3 CONCENTRIKIT.

EXACT DUPLICATE SHAFTS

List \$6.00

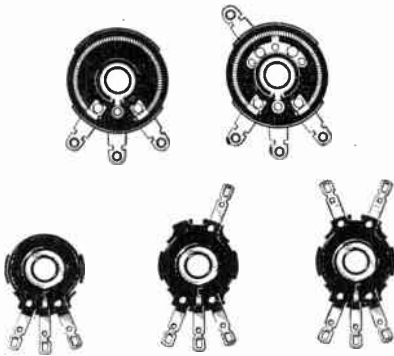
# UNIVERSAL REPLACEMENTS

## for TV Concentric Dual Controls

*Preferred for Performance*



### BASE ELEMENTS FOR CONCENTRIKITS



New Base Elements for CONCENTRIKITS are a revolutionary advance in concentric dual replacement. A relatively small stock at low investment provides wide coverage of electrical requirements in many concentric duals. Each unit is a complete molded control base with element, terminals and collector ring installed. There are no loose parts. Two Base Elements are required for each concentric dual.

Two types of Base Elements are available: Type B for panel or rear carbon sections and Type W for wire-wound panel sections.

### BASE-ELEMENT STOCK VALUES

Resistance in ohms	Stock No.	Taper	Taps	Resistance in ohms	Stock No.	Taper	Taps
750	*B17-105X	Spec	250	.5 meg	B13-133	C	
1K	B11-108	A		.5 meg	B13-133X	H	125K
1.5K	*B11-109	A		.5 meg	*B15-133X	Spec	75K
2K	*B11-110	A		.5 meg	B18-133X	Spec	50K
2K	B17-110	Spec		.5 meg	B19-133X	Spec	250K
2K	*B17-110XX	Spec	{ 250 & 500	1.0 meg	B11-137	A	
2.5K	*B17-111	Spec	500	1.0 meg	B13-137	C	
2.5K	*B17-111X	Spec		1.0 meg	B13-137X	H	250K
3K	B11-112	Spec		1.0 meg	B17-137	Spec	
3K	*B17-112	A		1.0 meg	*B18-137X	Spec	100K
5K	B11-114	A		1.0 meg	B18-137XX	Spec	{ 250K 500K
5K	B17-114	Spec		1.0 meg	B19-137X	Spec	500K
5K	*B17-114X	Spec	1K	1.5 meg	B11-138	A	meg
7.5K	B11-115	A		2.0 meg	B11-139	A	
10K	B11-116	A		2.0 meg	B13-139	C	
10K	B17-116	Spec		2.0 meg	B13-139X	H	500K
11.5K	*B17-117	Spec		2.0 meg	B17-139	Spec	
20K	B11-119	A		2.0 meg	B18-139X	Spec	{ 1.0 meg 250K 500K
25K	B11-120	A		2.0 meg	B18-139XX	Spec	
25K	*B13-120	C		2.5 meg.	*B11-239	A	
30K	B11-121	A		3.0 meg	*B13-140	C	
35K	*B11-122	A		3.0 meg	*B18-140X	Spec	1.5 meg
50K	B11-123	A		5.0 meg	*W11-102	A	
75K	*B11-125	A		300	*W17-105	Spec	250
.1 meg	B11-128	A		750	*W17-105X	Spec	
.1 meg	*B17-128	Spec		750	*W11-108	A	
.125 meg	*B11-228	A		1K	*W17-109X	Spec	500
.25 meg	B11-130	A		1.5K	*W11-110	A	
.25 meg	B13-130	C		2K	*W11-111	A	
.25 meg	B13-130X	Spec	125K	2.5K	*W17-111	Spec	
.25 meg	B18-130X	H	60K	2.5K	*W11-112	A	
.3 meg	*B11-131	A		3K	*W17-112	Spec	
.35 meg	B13-132	C		3K	*W11-114	A	
.35 meg	B17-132X	Spec	35K	5K	*W17-114	Spec	
.35 meg	B18-132X	H	75K	5K	*W11-116	A	
.5 meg	B11-133	A		10K			

\*New Base-Element

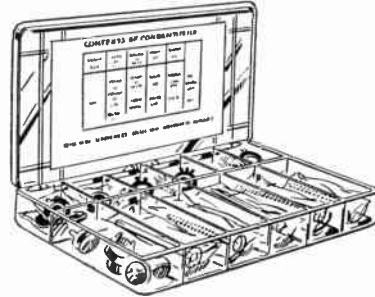
### PRICES:

Plain Base-Element .....	List \$ .50
Tapped Base-Element .....	List \$1.10

### SWITCHES FOR CONCENTRIKIT

Type 76-1 S.P.S.T. ....	List \$ .60
Type 76-2 D.P.S.T. ....	List \$ .60

### NEW CONCENTRIPAKS COVER MAJOR TV SETS



IRC CONCENTRIPAKS are practical assortments of CONCENTRIKITS, Base Elements, Exact Duplicate Replacement Shafts, and Switches selected to meet concentric dual requirements of specific brands of TV sets. CONCENTRIPAKS afford wide coverage of replacement needs at a fraction of the cost of factory-assembled controls for the same coverage.

Contained in an extra heavy plastic stock box with 11 compartments and sturdy hinged top, each CONCENTRIPAK includes complete replacement data, showing manufacturer's part and stock numbers, IRC parts required for control assembly, pricing guide.

### CONCENTRIPAK FOR PHILCO — KC-1

Replaces any one of 13 Philco concentric duals plus specific controls of 11 other widely sold makes. Contains both K-2 and K-3 CONCENTRIKITS, 9 selected Base Elements, 18 Exact Duplicate Shafts and Switch and replacement data. List \$17.00

### CONCENTRIPAK FOR RCA — KC-2

Replaces any one of 14 RCA concentric duals plus 36 part number listings among 15 other makes. Contains K-2 CONCENTRIKIT, 10 selected Base Elements, 8 Exact Duplicate Shafts and Switch and complete replacement data. List \$12.40

### CONCENTRIPAK FOR ADMIRAL — KC-3

Replaces any one of 14 Admiral concentric dual controls plus additional controls for Packard Bell, Sparton and Stromberg Carleon. Contains K-2 CONCENTRIKIT, 10 selected Base Elements, 8 Exact Duplicate Shafts and 2 Switches. Replacement data included. List \$13.00

### NEW DEALER CONCENTRIKIT STOCK CABINET — ASSORTMENT #14

Wide-coverage, low cost dealer stock of CONCENTRIKIT parts. Provides coverage of 240 concentric dual listings — equivalent to 149 different concentric duals. Contained in sturdy four-drawer, all metal stock cabinet with 28 prominently labeled compartments. Full replacement data on stock coverage is included. Contains 30 selected Base Elements, 34 Exact Duplicate Replacement Shafts, 4 K-2 CONCENTRIKITS and 3 Switches. Coverage: Supplies replacement coverage among 59 trade names, including RCA, Emerson, Admiral, Philco, Crosley, G.E. and many others. List \$44.60





# EXACT DUPLICATE CONTROLS

*Preferred for Performance*

## 295 FACTORY-ASSEMBLED EXACT DUPLICATES FOR WIDEST COVERAGE OF TV CONCENTRIC DUALS

Specially engineered for servicemen who want factory-assembled control for replacement work, these new IRC Exact Duplicate Controls provide broad, dependable coverage of TV concentric duals. Sets covered include RCA, Philco, Emerson, Admiral, Dumont and almost all of the other most popular sets.

Accurate Specifications. Made for specific sets, IRC Exact Duplicate Replacement Controls fit without alteration. Shafts are accurately dimensioned to prevent slip or wobble. Specifications are precise—so there's no need to cut, split or spread shaft ends.

### NUMERICAL LISTING AND USAGE IRC SPECIAL REPLACEMENT CONTROLS

Stock No.	List Price	Trade Name and Part Number
QJ-4	\$3.70	Silvertone, Tele Tone TVC-115D
QJ-5	3.70	Meck, Radio & Television, VC-12118; Stromberg-Carlson 145113
QJ-6	3.10	Automatic TRV-76
QJ-7	3.10	Firestone, Silvertone, Tele Tone TVC-101D
QJ-8	3.10	RCA P97011-1 (Stock No. 71971)
QJ-9	3.70	Garod, Majestic C8.230-1
QJ-10	4.30	Airline, Coronado, Truetone, Wells-Gardner 78X4, 78X4A
QJ-11	3.10	Tele King PD-6
QJ-12	3.70	Admiral 75B11-13; 75B11-15 (Table Models & Consoles Only)
QJ-13	3.70	Admiral 75B11-16 (Table Models & Consoles Only)
QJ-14	3.70	Arvin D22464-9; N22464-21
QJ-15	3.10	Bendix (Stock No. RV0D02), Interstate Stores CH-262036-1
QJ-16	4.30	Emerson 390071
QJ-17	3.70	Emerson 390167
QJ-18	3.70	Emerson 390169
QJ-19	3.70	Muntz VC-0033; VC-0033C; VC-0033D
QJ-20	3.70	Muntz VC-0040A
QJ-21	3.70	Tele Tone TVC-528D
QJ-22	3.70	Hallcrafters 25B888
QJ-23	4.30	Mitchell, Sonora N-8158
QJ-24	3.70	Hallcrafters 25B898
QJ-25	3.70	Hallcrafters 25B902
QJ-26	4.30	Coronado, Wells-Gardner 78X6
QJ-27	3.10	Arvin D22464-6
QJ-28	4.30	Airline, Belmont, Coronado, Raytheon, Transvue, A-10A-18441; Belmont, Raytheon, A-10A-18441-1
QJ-29	4.30	Wells-Gardner 78X4D
QJ-30	3.70	Emerson 390074-6
QJ-31	3.70	Emerson 390086
QJ-32	3.70	Emerson 390144
QJ-33	3.70	Emerson 390151
QJ-34	3.70	Olympic PT-3267
QJ-35	3.70	Packard Bell 25834A
QJ-36	3.70	Packard Bell 25835
QJ-37	4.30	Tele Tone TVC-538D
QJ-38	4.30	Coronado, Wells-Gardner 78X7
QJ-39	3.10	Philco 33-5563-2
QJ-40	4.30	Air King, Ansley, RCA (Stock No. 71446), Regal, Starrett, Trad P970111-7; Arvin D22464-1; Crosley W-139170; Fada 52.22; Hoffman T4801
QJ-41	\$4.30	RCA (Stock No. 73910) P970913-9; (Stock No. 73157), P970111-30
QJ-42	4.30	Air King PA-2499; Pathe, Sightmaster Silvertone A2499
QJ-43	4.30	Fada 52.67
QJ-44	3.70	Hoffman 4815
QJ-45	3.10	Airline, Coronado, Truetone, Wells-Gardner 78X3
QJ-46	3.10	Airline, Coronado, Truetone, Wells-Gardner 78X1, 78X1A, 78X1B; Fada 52.44; RCA (Stock No. 73193) P970111-31
QJ-47	3.10	S.M.A. TV PRA120; Wells-Gardner 78X1C, 78X1D, 78X1E
QJ-48	3.70	Brunswick, Emerson 390034
QJ-49	3.70	Air King, Pathe A24109; Air King PA24109A
QJ-50	3.10	Motorola 18A484072
QJ-51	3.70	Admiral 75B11-14 (Table Models and Consoles Only)
QJ-52	4.30	Arvin E22464-17
QJ-53	3.10	Philco 33-5563
QJ-54	3.70	Sentinel 38E64
QJ-55	3.70	Airline, Sentinel 28E64-2

Stock No.	List Price	Trade Name and Part Number
QJ-56	\$3.10	Emerson 390111
QJ-57	3.10	Emerson 390087
QJ-58	3.10	Stromberg-Carlson 145092
QJ-59	3.10	Airline, Hallcrafters, Truetone 25B787
QJ-60	3.10	Airline, Hallcrafters, Truetone 25B788
QJ-61	3.10	Hallcrafters 25B890
QJ-62	3.10	Hallcrafters 25B894
QJ-63	3.10	Philco 33-5563-20
QJ-64	3.10	Philco 33-5563-3
QJ-65	3.10	Hallcrafters, Truetone 25B874; Silvertone M25B874
QJ-66	3.10	Coronado, Hallcrafters, Truetone 25B861; Silvertone M25B861
QJ-67	3.10	Hallcrafters 25B897
QJ-68	3.10	Packard Bell 25822A
QJ-69	3.10	Stromberg-Carlson 145128
QJ-70	3.10	Artone, Coronado, Delco (Stock No. 1219250), Hallcrafters, Skyriider, Truetone 25B786; Capehart-Farnsworth 78160; Sparton PA-4439-1
QJ-71	3.10	Arvin E-22464-20
QJ-72	3.70	Delco (Stock No. 1219410), Hallcrafters 25B832
QJ-73	3.10	Philco 33-5563-6; 33-5563-23
QJ-74	4.30	Emerson 390068
QJ-75	3.10	Capehart-Farnsworth 78161
QJ-76	4.30	Dumont 01028200
QJ-77	4.30	Emerson 390098
QJ-78	3.10	Stromberg-Carlson 145078
QJ-79	3.10	Andrea GRV-831
QJ-80	3.10	Sparton PA-4430-1
QJ-81	3.10	RCA (Stock No. 75216) P970913-27
QJ-82	3.10	Philco 33-5563-26; 33-5563-39
QJ-83	3.10	Sparton PA4439
QJ-84	4.30	Dumont 01028210
QJ-85	3.70	Sonora N-7337
QJ-86	3.70	Mitchell, Sonora N-8053
QJ-87	3.10	Stromberg-Carlson 145110
QJ-88	3.10	Stromberg-Carlson 145086
QJ-89	3.10	Westinghouse V-6466
QJ-90	3.10	Hoffman 4816
QJ-91	3.10	Westinghouse V-9235-2
QJ-92	3.10	Philco 33-5563-24
QJ-93	3.10	RCA (Stock No. 74047) P970913-11
QJ-94	3.10	G.E. (Stock No. RRC-090) K68J87-1
QJ-95	3.10	Philco 33-5563-35
QJ-96	—	Superseded by QJ-82
QJ-97	3.10	G.E. (Stock No. RRC-146) K71J568-1
QJ-98	3.10	G.E. (Stock No. RRC-144) K71J606-1
QJ-99	3.10	G.E. (Stock No. RRC-098) K68J880-1
QJ-100	3.10	G.E. (Stock No. RRC-136) K71J397-1
QJ-101	3.10	G.E. (Stock No. RRC-134) K71J397-2
QJ-102	3.10	G.E. (Stock No. RRC-130) K71J69-1
QJ-103	3.70	G.E. (Stock No. RRC-099) K68J881-1
QJ-104	3.10	Admiral 75B11-3
QJ-105	3.10	Emerson 390075
QJ-106	3.10	Admiral 75B11-10
QJ-107	3.10	G.E. (Stock No. RRC-103) K68J880-2
QJ-108	3.10	G.E. (Stock No. RRC-135) K71J397-3
QJ-109	3.10	Air King PA24100; Sightmaster, Silvertone A-24100
QJ-110	3.70	G.E. (Stock No. RRC-104) K68J881-2
QJ-111	3.70	G.E. (Stock No. RRC-113) K69J146-1
QJ-112	3.10	Crosley 145573
QJ-113	3.10	Dumont 01027000
QJ-114	3.10	Air King PA24100A
QJ-115	3.10	Emerson 390096
QJ-116	3.70	Airline, Garod, Majestic, Truetone C8.226-1
QJ-117	3.10	Crosley C-144343
QJ-118	3.10	G.E. (Stock No. RRC-125) K68J880-3
QJ-119	3.10	Dumont 01027020
QJ-120	3.10	Admiral 75B11-4
QJ-121	3.70	G.E. (Stock No. RRC-126) K68J881-3
QJ-122	3.10	Belmont B-10B-13529
QJ-123	3.10	Belmont B-10B-15356
QJ-124	3.10	Sparton PA 4422
QJ-125	3.10	Sparton PA 4422-1
QJ-126	3.10	Packard Bell 25821
QJ-127	3.10	Packard Bell 25831
QJ-128	3.10	Westinghouse V-6464-2
QJ-129	4.30	Wilcox-Gay 19-2223
QJ-130	4.30	G.E. (Stock No. RRC-122) K69J529-1
QJ-131	3.10	Olympic, Starrett PT-1478; RCA (Stock No. 71784) P970111-18
QJ-132	3.10	Regal, Starrett T-20-11
QJ-133	4.30	Emerson 390166
QJ-134	4.30	Emerson 390175
QJ-135	3.10	Automatic TRV-95
QJ-136	4.30	G.E. (Stock No. RRC-123) K69J529-2
QJ-137	3.10	Westinghouse V-6464-1

# EXACT DUPLICATE CONTROLS

*Preferred for Performance*



Stock No.	List Price	Trade Name and Part Number	Stock No.	List Price	Trade Name and Part Number
QJ-138	\$3.10	Westinghouse V-9233; V-9377-1	QJ-213	\$4.30	G.E. (Stock No. RRC-022) M73J800-1
QJ-139	3.10	G.E. (Stock No. RRC-080) M76J486-1	QJ-214	4.30	G.E. (Stock No. RRC-079) M76J485-1
QJ-140	3.10	G.E. (Stock No. RRC-065) M73J799-2	QJ-215	4.30	Westinghouse V-5914
QJ-141	3.10	G.E. (Stock No. RRC-023) M73J799-1;	QJ-216	4.30	Westinghouse V-6305-1
		Stewart Warner 505563	QJ-217	4.30	Westinghouse V-6305-2
QJ-142	3.10	(G.E. (Stock No. RRC-089) K68J86-1	QJ-218	4.30	Westinghouse V-9055
QJ-143	3.10	Dumont 01028700	QJ-219	4.30	Westinghouse V-9385-1
QJ-144	3.10	G.E. (Stock No. RRC-097) K68J771-1	QJ-220	3.70	Philco 33-5563-37
QJ-145	3.10	G.E. (Stock No. RRC-102) K68J771-2	QJ-221	4.30	RCA (Stock No. 74359) P970913-12
QJ-146	4.30	RCA (Stock No. 74048) P970913-10	QJ-222	4.30	RCA (Stock No. 75513) P970913-30
QJ-147	4.30	Westinghouse V-9686-1	QJ-223	3.10	Stewart Warner 508893
QJ-148	4.30	Westinghouse V-6122	QJ-224	4.30	Capelhart-Farnsworth 78164
QJ-149	4.30	Westinghouse V-9877-1	QJ-225	4.30	Bendix LH 262037-1
QJ-150	3.10	Artone, Interstate Stores, Tele-King PD-5	QJ-226	3.70	Bendix (Stock No. RV4D01) LH 262037-2
QJ-151	4.30	Sparton PA 4450	QJ-227	4.30	Philco 33-5563-21
QJ-152	3.10	Motorola 18A484073	QJ-228	4.30	Philco 33-5563-28
QJ-153	3.10	National L-285-1	QJ-229	3.70	Zenith 63-1667
QJ-154	3.10	Admiral 75B11-1	QJ-230	3.10	Firestone, Silvertone, Tele Tone TVC-516D
QJ-155	3.10	Packard Bell 25820	QJ-231	3.70	Air King, Pathe A24124;
QJ-156	3.10	Tele Tone TVC-512D			Firestone PA24124
QJ-157	3.10	Emerson 390074-3	QJ-232	4.30	Belmont A-10A-18703
QJ-158	3.10	Wilcox-Gay 19-2222	QJ-233	3.10	Capelhart-Farnsworth 450523A
QJ-159	3.70	Sparton PA-4420	QJ-234	3.10	Capelhart-Farnsworth 450524A
QJ-160	3.10	Westinghouse V-5912	QJ-235	4.30	Emerson 390153
QJ-161	3.10	Air King, Ansley, RCA (Stock No. 72758),	QJ-236	3.70	Emerson 390168
		Regal, Starrett, Trad, Video Corp.	QJ-237	4.30	Emerson 390187
		P970111-8; Crosley W-139173; Fada	QJ-238	3.10	G.E. (Stock No. RRC-101) K69J96-1
		52.21; Hoffman T4804; Olympic, Starrett,	QJ-239	3.70	Hoffman 4833-2
		PT-1479; Regal T-20-2	QJ-240	3.10	Meck VC-12112B
QJ-162	3.10	Airline, Garod, Majestic, Truetone C8.217-3;	QJ-241	3.10	Meck VC-12113B
		Brunswick, Emerson 390036	QJ-242	3.10	Meck, Radio & Television VC-12117
QJ-163	4.30	Garod C8.218-2	QJ-243	3.10	Meck VC-12117E
QJ-164	4.30	Emerson 390095	QJ-244	3.70	Emerson 390074-1
QJ-165	3.10	Dewald 3034A-1	QJ-245	3.70	Meck VC-12118D
QJ-166	3.10	Dewald 3034A-2	QJ-246	4.30	Meck VC-12127; VC-12127B
QJ-167	4.30	Sparton PA-4428-1	QJ-247	3.10	Tele King PD-2
QJ-168	3.10	Fada 52.66; RCA (Stock No. 75215)	QJ-248	3.10	Tele King PD-3
		P970913-26	QJ-249	3.70	Video Corp. 88428
QJ-169	3.10	Automatic TRV-77	QJ-250	4.30	Wells-Gardner 78X5, 78X5A
QJ-170	3.10	Admiral 75B11-5	QJ-251	4.30	Wells-Gardner 78X7A
QJ-171	3.10	Mitchell, Sonora N-7338	QJ-252	4.30	Airline, Wells-Gardner 78X4E, 78X8
QJ-172	3.10	Tele Tone TVC-114D; Firestone, Tele Tone	QJ-253	4.30	Wells-Gardner 78X4B, 78X4C
		TVC-118D	QJ-254	3.10	Hoffman 4822
QJ-173	3.10	Tele Tone TVC-102D	QJ-255	3.70	Hoffman 4824
QJ-174	3.70	Sparton PA-4420-1	QJ-256	3.10	Jackson 10B317-1
QJ-175	3.70	Emerson 390074	QJ-257	3.10	Jackson 10B317-2
QJ-176	3.70	Crosley C146856	QJ-258	3.70	Jackson 10B419, A-RVM100S
QJ-177	3.10	Airline, Coronado, Truetone, Wells-Gardner	QJ-259	3.10	Stromberg-Carlson 145101
		78X2, 78X2A; RCA (Stock No. 72734)	QJ-260	4.90	Motorola 18A790166
		P970111-24	QJ-261	4.30	Motorola 18A791705
QJ-178	3.10	Airline, Coronado, Truetone, Wells-Gardner	QJ-262	4.30	Motorola 18A792009
		78X2B, 78X2C; S.M.A. TV PRA 117	QJ-263	3.70	Air King PB-24100-C
QJ-179	4.50	Garod C8.218-1	QJ-264	3.70	Kaye-Halbert M116
QJ-180	3.70	Sparton PA 4450-1	QJ-265	3.70	Kaye-Halbert M124
QJ-181	3.70	Crosley C148098; C148098A	QJ-266	3.10	Emerson 390101
QJ-182	3.70	Radio Craftsman 238718	QJ-267	3.70	Emerson 390165
QJ-183	4.30	Crosley C149220	QJ-268	3.70	Emerson 390074-5
QJ-184	4.50	Motorola 18A484074	QJ-269	4.30	Emerson 390111
QJ-185	4.50	Motorola 18K489005	QJ-270	4.30	Fada 52.64
QJ-186	4.30	Stromberg Carlson 145071	QJ-271	4.30	Emerson 390131
QJ-187	3.70	Sylvania (Stock No. 154-0001) 70729	QJ-272	3.70	Motorola 18B790843
QJ-188	3.10	Silvertone, Tele Tone TVC-114DA	QJ-273	3.10	Philco 33-5563-10
QJ-189	3.10	Silvertone, Tele Tone TVC-5231	QJ-274	3.10	Philco 33-5563-12
QJ-190	3.70	Sylvania (Stock No. 154-0002) R73380	QJ-275	3.70	Philco 33-5563-14
QJ-191	4.20	Sylvania (Stock No. 157-0012) R73426	QJ-276	3.10	Philco 33-5563-19
QJ-192	4.30	Sylvania (Stock No. 157-0014) R73631	QJ-277	3.10	Philco 33-5563-22
QJ-193	4.30	Admiral 75B11-12 (Use on Table and Console Models Only)	QJ-278	3.10	Philco 33-5563-25
QJ-194	4.30	Admiral 75B11-3	QJ-279	3.10	Philco 33-5563-27
QJ-195	4.30	Admiral 75B11-11	QJ-280	3.70	Philco 33-5563-29
QJ-196	3.70	Admiral 75B11-7	QJ-281	3.10	Philco 33-5563-33
QJ-197	3.10	Admiral 75B11-9	QJ-282	4.30	Regal T-20-12
QJ-198	3.10	Westinghouse V-6304	QJ-283	3.10	Stewart-Warner 508201
QJ-199	3.10	Garod C8.217-2	QJ-284	4.30	Firestone, Stewart-Warner 508892
QJ-200	4.30	G.E. (Stock No. RRC-131) K71J70-1	QJ-285	3.10	Firestone, Stewart-Warner 509076
QJ-201	4.30	G.E. (Stock No. RRC-162) K71J70-2	QJ-286	4.30	Stewart-Warner 509314
QJ-202	3.70	G.E. (Stock No. RRC-147) K71J419-1	QJ-287	3.10	Stromberg-Carlson 145111
QJ-203	3.70	G.E. (Stock No. RRC-128) K71J71-2	QJ-288	3.10	Stromberg-Carlson 145129
QJ-204	3.10	Garod C8.217-1	QJ-289	3.10	Stromberg-Carlson 145140
QJ-205	3.40	Sylvania (Stock No. 157-0009) R73153	QJ-290	3.10	Sylvania (Stock No. 155-0003) 70910
QJ-206	4.30	Sylvania (Stock No. 157-0011) R73331-1	QJ-291	3.70	Traveler TVVC36
QJ-207	4.30	Sylvania (Stock No. 157-0016) R73331-2	QJ-292	4.90	Regal T-20-9
QJ-208	3.10	G.E. (Stock No. RRC-105) K69J401-1	QJ-293	3.10	Silvertone, Stewart-Warner 508457
QJ-209	3.10	G.E. (Stock No. RRC-109) K69J604-1	QJ-294	4.30	Starrett PT-1002
QJ-210	3.10	G.E. (Stock No. RRC-110) K69J604-2	QJ-295	3.10	Firestone, Silvertone, Tele Tone TVC-500D
QJ-211	3.10	G.E. (Stock No. RRC-124) K69J604-3	QJ-296	3.10	Firestone, Silvertone, Tele Tone TVC-501D
QJ-212	3.10	G.E. (Stock No. RRC-117) M77J101-1	QJ-297	3.10	Silvertone, Tele Tone TVC-519D
			QJ-298	3.10	Silvertone, Tele Tone TVC-524D



# VOLUME CONTROLS

*Preferred for Performance*

## NEW TYPE Q



### RADIO TECHNICIAN'S VOLUME CONTROL

A new volume control engineered to meet the needs of modern radio and TV replacement. Compact  $\frac{1}{8}$ " design is augmented with shorter bushing, only  $\frac{1}{4}$ " in length. This tiny control will meet all small set requirements, and yet is capable of handling large receiver replacements. "Cushioned turn" rotation and quiet element combine to provide a modern control of the highest quality.

**KNOB MASTER FIXED SHAFT.** This is the standard Q shaft. It is a **FIXED** shaft, and handles most knob requirements. Knurled, flatted and slotted, it fits knurled and spring-type push-on knobs or set-screw knobs. 3" long with ample cross-section to prevent bending.

**INTERCHANGEABLE FIXED SHAFTS.** Quick replacement of standard fixed shaft to fit any of 13 Interchangeable Fixed Shafts provides ready conversion to "specials." This revolutionary feature is made easy by the new IRC Resilient Retainer Ring. These special **FIXED** Shafts offer all of the advantages of Tap-in Shafts with the added security of fixed shafts. Widest replacement coverage is made possible with a minimum stock. These special shafts are illustrated and explained on the following page.

### 5 STANDARD TAPERS

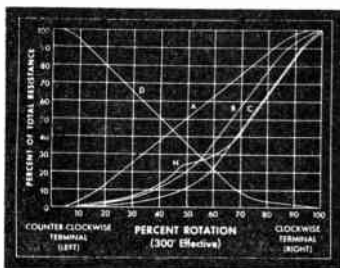
**A**—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

**B**—A semi-logarithmic curve used as tone control or audio circuit control.

**C**—A logarithmic curve. Used as audio circuit control or antenna shunt control.

**D**—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

**H**—A tapped logarithmic curve used as audio level control for automatic bass compensation.



### NEW IRC TV CONTROL MANUAL

IRC's TV Control Manual includes comprehensive listing of both standard and concentric dual replacements for TV Controls. Also lists concentric dual replacements for home and auto radios. Manufacturer's Part Number Listing includes both the new IRC **CONCENTRIKIT** and IRC **EXACT DUPLICATE CONTROL** replacements. Form S086A. Available from your IRC Distributor. Price \$5.00



### 61 VALUES FOR COMPLETE COVERAGE

RESISTANCE OHMS	TAP	IRC STOCK No.	TAPER	USUAL USE
500	—	Q 11-103	A	4, 18—L
1K	—	Q 11-108	A	4—L
2K	—	Q 11-110	A	4, 16—L
2.5K	—	Q 13-111	C	O
3K	—	Q 11-112	A	L
5K	—	Q 11-114	A	1, 4, 8, 13, 16, 17—L
7.5K	—	Q 11-115	A	4—L
10K	—	Q 11-116*	A	4, 16—B, L
10K	—	Q 13-116	C	A
10K	—	Q 14-116*	D	D
20K	—	Q 11-119	A	8, 9—L
20K	—	Q 16-119*	Spec.	B
25K	—	Q 11-120	A	3, 4, 8, 9, 10, 11, 12—L
25K	—	Q 14-120*	D	K
30K	—	Q 11-121	A	4, 9, 10—L
50K	—	Q 11-123	A	3, 9—L
50K	—	Q 13-123	C	N
50K	—	Q 14-123*	D	B
0.1 meg	—	Q 11-128	A	2, 3, 15, 17—L
0.1 meg	—	Q 13-128	C	E, N
0.2 meg	—	Q 11-129	A	1, 15—L
0.25 meg	—	Q 11-130	A	3, 6, 9, 17—L
0.25 meg	—	Q 13-130	C	E, N
0.25 meg	0.125 meg	Q 13-130X	Spec.	F
0.25 meg	60K	Q 18-130X	H	G
0.25 meg	60K-0.12 meg	Q 18-130XX	Spec.	H
0.35 meg	—	Q 13-132	C	E, N
0.35 meg	35K	Q 17-132X	Spec.	G
0.35 meg	75K	Q 18-132X	H	G
0.5 meg	—	Q 11-133	A	3, 4, 9, 12, 15, 17—L
0.5 meg	—	Q 13-133	C	E, N
0.5 meg	0.125 meg	Q 13-133X	H	G
0.5 meg	—	Q 14-133	D	M
0.5 meg	25K	Q 17-133X	Spec.	G
0.5 meg	50K	Q 18-133X	Spec.	G
0.5 meg	0.25 meg	Q 19-133X	Spec.	G
0.5 meg	0.1 meg-0.2 meg	Q 18-133XX	Spec.	H
1.0 meg	—	Q 11-137	A	3, 12, 15, 16—L
1.0 meg	—	Q 13-137	C	E, N
1.0 meg	0.25 meg	Q 13-137X	H	H
1.0 meg	—	Q 14-137	D	N
1.0 meg	35K	Q 17-137X	Spec.	G
1.0 meg	50K-0.1 meg	Q 17-137XX	Spec.	H
1.0 meg	0.1 meg	Q 18-137X	Spec.	H
1.0 meg	0.25 meg-0.5 meg	Q 18-137XX	Spec.	H
1.0 meg	0.5 meg	Q 19-137X	Spec.	G
1.0 meg	0.5 meg	QVC-539X	Spec.	J
1.5 meg	—	Q 11-138	A	15
2.0 meg	—	Q 11-139	A	4, 5, 6, 7, 12, 14, 15, 17—L
2.0 meg	—	Q 13-139	C	E, N
2.0 meg	0.5 meg	Q 13-139X	H	G
2.0 meg	0.5 meg-1.0 meg	Q 13-139XX	Spec.	H
2.0 meg	0.15 meg	Q 17-139X	Spec.	G
2.0 meg	1.0 meg	Q 18-139X	Spec.	G
2.0 meg	0.25 meg-0.5 meg	Q 18-139XX	Spec.	H
2.0 meg	50K	Q 19-139X	Spec.	G
2.5 meg	—	Q 11-239	A	5, 6, 17—L
3.0 meg	—	Q 11-140	A	5, 7, 14—L
3.0 meg	—	Q 13-140	C	E
5.0 meg	—	Q 11-141	A	5, 7, 14, 15, 16, 17, 18—L
10.0 meg	—	Q 11-143	A	6, 16, 18—L

LIST — PLAIN CONTROL \$1.25; TAPPED CONTROL \$1.85

#### TELEVISION USES

- 1—A. G. C. Automatic Gain Control
- 2—A.F.C. Automatic Freq. Control
- 3—Brightners Control
- 4—Contrast Control
- 5—Focus Control
- 6—Height Control
- 7—Horizontal Centering Control
- 8—Horizontal Drive Control
- 9—Horizontal Hold Control (Sync.)
- 10—Horizontal Linearity Control
- 11—Horizontal Peaking Control
- 12—Horizontal Size Control
- 13—Sensitivity Control
- 14—Vertical Centering Control
- 15—Vertical Hold Control (Sync.)
- 16—Vertical Linearity Control
- 17—Vertical Size Control
- 18—Width Control

#### RADIO USES

- A—Antenna Control
- B—Antenna Grid Bias Control
- C—Antenna Grid Bias of 1 tube
- D—Antenna Grid Bias of 2 tubes
- E—Audio Volume Control
- F—Audio Control with AVC Tap
- G—Audio Control with Tone Tap
- H—Audio Control with Two Tone Taps
- J—Fader Control
- K—Grid Bias Control
- L—Potentiometer Voltage Divider
- M—R. F. Plate Control
- N—Tone Control
- O—Panel Section for L & T Pads

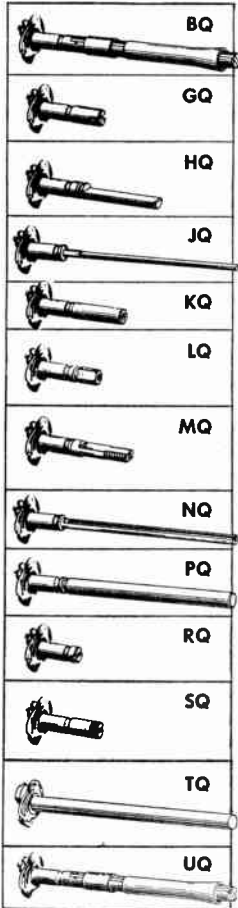
\*—These controls are supplied with 270 ohm BW- $\frac{1}{2}$  ( $\frac{1}{2}$  watt) insulated wire wound resistor.

# VOLUME CONTROLS

*Preferred for Performance*



## 13 INTERCHANGEABLE FIXED SHAFTS



**BQ** Slotted or tongued. For remote control cables. 3 1/2" long. 1/4" dia. LIST 45¢

**GQ** Slotted with hole in bottom. For Philco sets. 1 1/8" long. 1/4" dia. LIST 30¢

**HQ** Flatted, with groove for dial plate. For Delco, RCA, Sears-Roebuck and Westinghouse. 3/2" deep flat. 1/4" deep groove. 1 1/8" long. 1/4" dia. LIST 30¢

**JQ** 1/8" dia. with .105" flat. For certain Zenith models. 4 1/8" long. LIST 45¢

**KQ** 1/4" round with 2 concentric holes in end. For Motorola sets. 1 3/8" long. LIST 30¢

**LQ** For certain Belmont and Montgomery-Ward sets. 3/2" deep flat. 3/2" deep groove. 1" long. 1/4" dia. LIST 35¢

**MQ** Double-flat, threaded for 3/8" on end. For Belmont, Montgomery-Ward and Wells-Gardner sets. 2 concentric holes in end. 1 1/2" long. LIST 45¢

**NQ** 3/8" flatted and slotted. Slot milled length of shaft except for thin web. 4" long. LIST 45¢

**PQ** 1/4" full-round. 3" long. For 1/4" or 3/8" bushings. 3/8" bushing incl. LIST 35¢

**RQ** Very short screw-driver slot shaft. Slot, 2/8" x 1/8". 1/2" long. 1/4" dia. 3/8" bushing included. LIST 35¢

**SQ** Finger knurl and screw-driver slot. Knurled at end for 1/2". Screw-driver slot in end, 2/8" x 1/8" deep. 1/4" dia. 3/4" long. LIST 30¢

**TQ** Insulated shaft for television. 3" long. 1/4" dia. CANNOT BE USED WITH SWITCH. LIST 60¢

**UQ** Identical to BQ with addition of friction-clutch-drive arm. For remote control auto radios. LIST 60¢

IRC Interchangeable Fixed Shafts are individually packaged with instructions and extra Resilient Retainer Ring.

## EXTENSION SHAFTS

These attach to regular shafts, extending length to any needed size. Frequently make possible use of standard controls for "special" job.



TYPE	DIMENSION	LIST
441	4" x 1/4" dia. x 3/8" flat	40¢
442	4" x 1/4" dia. x 3/8" flat	40¢
443	4" x 3/8" dia. x 3/8" flat	40¢
444	8" x 1/4" dia. x 3/8" flat for 4" length	40¢

## SLEEVE BUSHINGS

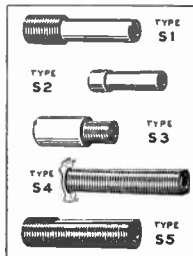
Type S1—For use with standard controls.  
Type S2—To provide bearing for switching mechanism.

Type S3—For use with standard controls to set control back from chassis or mounting bracket. 1 1/2" — 1/2" dia. for 1" unthd. — 3/8" dia. for 1/2", 3/8" — 32 thd. — .344 flat.

Type S4—For use with standard controls to provide 1/8" dia. bushing. 1 5/8" — thd. 1/8" — 28 full length — .375 dbl flat.

Type S5—For use with standard controls to provide 1/8" dia. bushing. 2 1/4" — 1/2" — 28 thread full length — .437 flat.

Type	List	Type	List
S1	45¢	S3, S4, S5	60¢
S2	30¢		



## NEW IRC SWITCHES



Designed and made by IRC, new Type 76 Switch is available in 2 types: 76-1 is Single Pole Single Throw, and 76-2 is Double Pole Single Throw. Quickly attached to Q Control.

TYPE	LIST
76-1 S.P.S.T.	60¢
76-2 D.P.S.T.	60¢

## PLAIN AND INSULATED SHAFT COUPLERS

Type	List
C2—Insulated coupler for use with square type Motorola shaft	30¢
C3—Plain coupler for 1/4" shafts; insert allows coupling of 1/4" shaft to 3/8" shaft	30¢

## TYPES W & WK WIRE WOUND CONTROLS



TYPE W—A dependable wire wound control of uniform resistance change for power requirements up to 2 watts. Tight, uniform windings assure utmost accuracy. Diameter 1 1/4"; depth behind panel 3/8"; shaft length 3" from control face; 1/4" full round shaft. Illustration shows cover removed, although covers are supplied on controls.

TYPE WK—Type WK Control is identical to Type W Control except that it is equipped with IRC Knob Master Shaft for fitting to both knurled and flatted knobs used in Television Sets. Type W Switches may be used on Type WK Controls. Bushing is 1/4" long. Shaft is 3" long from mounting face.

Type W and WK Control—Plain..... List \$1.25

IRC Control No.	Resistance Ohms	Max. Current (Amps.)	IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000	W-400	400	.071
W-3	3	.815	W-500	500	.063
W-5	5	.630	W-750	750	.052
W-6	6	.560	W-1000	1000	.045
W-8	8	.500	WK-1000	1000	.045
W-10	10	.450	WK-1500	1500	.036
W-15	15	.370	W-2000	2000	.032
W-20	20	.320	WK-2000	2000	.032
W-25	25	.285	WK-2500	2500	.028
W-30	30	.260	W-3000	3000	.026
W-40	40	.225	WK-3000	3000	.026
W-50	50	.200	W-4000	4000	.022
W-60	60	.183	W-5000	5000	.020
W-75	75	.164	W-7500	7500	.016
W-100	100	.142	WK-7500	7500	.016
W-200	200	.100	W-10000	10000	.014
WK-250	250	.089	WK-10000	10000	.014
W-300	300	.083			

## TELEVISION CENTERING CONTROLS

Type W Wire Wound controls with Center Tap are widely used as Television Centering Controls.

- W10X5 10 ohms—center tapped at 5 ohms
- W20X10 20 ohms—center tapped at 10 ohms
- W30X15 30 ohms—center tapped at 15 ohms
- W50X25 50 ohms—center tapped at 25 ohms

Type W Control Center Tapped for TV..... List \$1.85

## TYPE W SWITCHES For Type W Controls

No.	TYPE	LIST
51	S.P.S.T.	\$0.60
52	D.P.S.T.	.75
53	S.P.D.T.	.75
54	Three Point	.75
55	Four Point	.75
56	S.P.D.T. at clockwise position	.75
57	S.P.S.T., with dummy lug	.75



# SPECIAL PURPOSE CONTROLS

*Preferred for Performance*

## TYPE PQ AND RQ DISTRIBUTOR CONTROLS FOR INDUSTRY



TYPE PQ



RQ

IRC Distributor Controls for Industry offer commercial users a wide selection of resistance values and two industrial shaft types. Shafts are fixed. This combination of wide selection of values and speedy Distributor delivery holds many advantages for industrial purchasers. These Industrial Controls are adaptations of the new, compact  $\frac{1}{8}$ " Q Control. Power rating is  $\frac{1}{2}$  watt, 500 volts maximum. Electrical rotation is the same with or without switch.  $\frac{3}{8}$ " bushing is brass and held to close tolerance for snug shaft fit.

Terminals are heavily timed for easy soldering, and may be bent without becoming noisy. Two locating lugs are provided, either or both of which may be bent down if not needed. Molded base. Both Types PQ and RQ are supplied in standard tapers.

**TYPE PQ.** Full round  $\frac{1}{4}$ " shaft, approximately 3" from mounting face, with  $\frac{3}{8}$ " long bushing. 19 stock available in 33 stock values as shown. Regular IRC stock numbers are used with prefix PQ.

List \$1.25

**TYPE RQ.** Very short screw-driver slot shaft,  $\frac{1}{4}$ " diameter and approximately  $\frac{1}{2}$ " long from mounting face with  $\frac{3}{8}$ " long bushing. Available in 33 values as shown. Regular IRC stock numbers are used with prefix RQ.

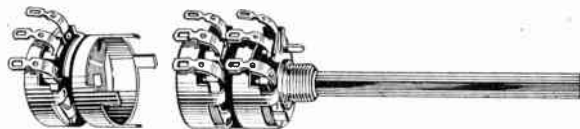
List \$1.25

## STANDARD VALUES

TYPE PQ	TYPE RQ	RESISTANCE IN OHMS	TAPER
PQ11-103	RQ11-103	500	A
PQ11-108	RQ11-108	1K	A
PQ11-110	RQ11-110	2K	A
PQ11-112	RQ11-112	3K	A
PQ11-114	RQ11-114	5K	A
PQ11-115	RQ11-115	7.5K	A
PQ11-116	RQ11-116	10K	A
PQ13-116	RQ13-116	10K	C
PQ14-116	RQ14-116	10K	D
PQ11-119	RQ11-119	20K	A
PQ11-120	RQ11-120	25K	A
PQ14-120	RQ14-120	25K	D
PQ11-121	RQ11-121	30K	A
PQ11-123	RQ11-123	50K	A
PQ13-123	RQ13-123	50K	C
PQ14-123	RQ14-123	50K	D
PQ11-128	RQ11-128	0.1 meg	A
PQ13-128	RQ13-128	0.1 meg	C
PQ11-129	RQ11-129	0.2 meg	A
PQ11-130	RQ11-130	0.25 meg	A
PQ13-130	RQ13-130	0.25 meg	C
PQ11-133	RQ11-133	0.5 meg	A
PQ13-133	RQ13-133	0.5 meg	C
PQ11-137	RQ11-137	1.0 meg	A
PQ13-137	RQ13-137	1.0 meg	C
PQ11-138	RQ11-138	1.5 meg	A
PQ11-139	RQ11-139	2.0 meg	A
PQ13-139	RQ13-139	2.0 meg	C
PQ11-239	RQ11-239	2.5 meg	A
PQ11-140	RQ11-140	3.0 meg	A
PQ13-140	RQ13-140	3.0 meg	C
PQ11-141	RQ11-141	5.0 meg	A
PQ11-143	RQ11-143	10.0 meg	A

Taper A is linear. Taper C is logarithmic. Taper D is reverse curve for control of bias.

## MULTISECTIONS FOR STANDARD DUALS

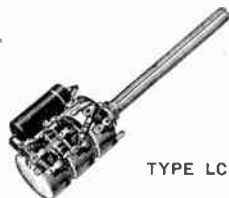


IRC MULTISECTIONS are complete control sections that can be added like a switch to any Q, PQ or RQ Control. With these units, the Radio Technician or Engineer is provided with an endless variety of dual, triple or even quadruple controls. Duals assembled from IRC MULTISECTIONS will accommodate Type 76 switches. Available in a selection of 20 values, as shown in following table. Each MULTISECTION adds  $\frac{1}{2}$ " to basic control.

## STOCK VALUES OF IRC MULTISECTIONS

RESISTANCE IN OHMS	TAPER	IRC STOCK NO.
500	A	M11-103
1K	A	M11-108
2K	A	M11-110
5K	A	M11-114
10K	A	M11-116
25K	A	M11-120
50K	A	M11-123
0.1 meg	A	M11-128
0.1 meg	C	M13-128
0.25 meg	A	M11-130
0.25 meg	C	M13-130
0.5 meg	A	M11-133
0.5 meg	C	M13-133
1.0 meg	A	M11-137
1.0 meg	C	M13-137
2.0 meg	A	M11-139
2.0 meg	C	M13-139
3.0 meg	C	M13-140
5.0 meg	A	M11-141
10.0 meg	A	M11-143

## CONTINUOUSLY VARIABLE LOUDNESS CONTROLS



TYPE LCI

IRC Type LCI Continuously Variable Loudness Controls actually bring high fidelity tone to commercial audio systems — even at whisper level! Only three connections are needed to install the new Type LCI Loudness Control. No special taps or complicated circuits are required. Type LCI's eliminate the need for tapped volume controls, stepped-type loudness controls, bass and treble boost circuits, stepped-type loudness controls, these other devices have failed to do.

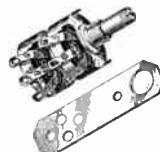
IRC Loudness Control also can be easily assembled with a standard IRC Type Q Volume Control and two Multisections. Simple assembly instructions are included with each Multisection. All parts, etc.

List \$9.95 complete

IRC Parts for Assembling Loudness Control	List Price
Q11-133—Control (Panel section)	\$1.25
M13-137—MULTISECTION (2nd section)	1.25
M13-128—MULTISECTION (Rear section)	1.25
BTS 0.1 megohm $\frac{1}{2}$ watt Resistor	.17
BTS 10K ohm $\frac{1}{2}$ watt Resistor	.17

(Capacitors not supplied separately by IRC)

## NEW IRC TV ATTENUATOR Type QJ-3 — FOR ADJUSTMENT OF SIGNAL INPUT



Where excessive signal strength causes poor reception, IRC's Type QJ-3 TV Attenuator readily permits adjustment of signal input at the set. This new attenuator has been successfully used to reduce or correct such undesirable conditions as: Adjacent channel interference — Background pictures on weaker stations — Horizontal or vertical patterns in picture — Poor picture definition — Annoying hum or buzz — Picture and sound break-over. Type QJ-3 is easily installed in any TV set.

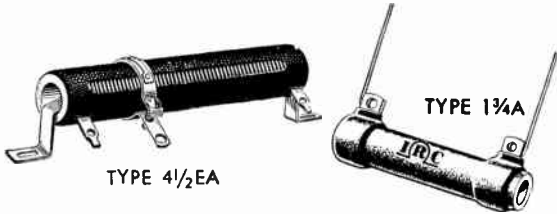
List \$3.30

# POWER RESISTORS

*Preferred for Performance*



## IRC FIXED AND ADJUSTABLE POWER WIRE WOUND RESISTORS



TYPE 4 1/2 EA

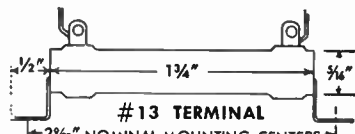
TYPE 1 3/4 A

IRC Power Wire Wounds are rugged resistors specially engineered for dependable heavy duty performance. They are full size, thus continuous operation at full rated power can be maintained. Derating at high resistance values is unnecessary. Special IRC cement coating is noted for its rapid heat dissipation, and protection against humidity. Operating temperatures are lower, thus assuring long life.

All terminals are hot tin dipped for easy soldering. 10 and 20 watt sizes use combination lead and lug terminal from which lugs may be cut for tight space applications. Clear, permanent markings show type, size, watts and resistance. Tolerances: Fixed Types—standard  $\pm 5\%$  for 50 ohms and over,  $\pm 10\%$  below 50 ohms. Adjustable Types—standard  $\pm 10\%$ .

### FIXED TYPES TYPE 1 3/4 A—10 WATTS formerly type AB

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1	3160	100	316	1,000	100	7,500	36
1.5	2580	125	283	1,100	95	8,000	35
2	2235	150	258	1,200	91	8,500	34
3	1825	200	223	1,250	89	9,000	33
4	1580	225	211	1,450	83	10,000	31
5	1410	250	200	1,500	81	11,000	30
7.5	1150	300	182	1,750	75	12,000	28
10	1000	350	169	2,000	70	12,500	28
12	913	400	158	2,250	66	13,500	27
15	816	450	149	2,500	63	14,300	26
20	707	500	141	3,000	57	15,000	25
25	632	600	129	3,500	53	16,000	25
30	577	700	119	4,000	50	17,500	23
35	535	750	115	4,500	47	18,000	23
40	500	800	111	5,000	44	20,000	22
50	447	900	105	6,000	40	22,500	21
75	365			7,000	37	25,000	20



SLOTTED BRACKETS PERMIT  $\pm 1/16$ " VARIATION.

#### PRICES

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1 to 1,000 ohms							
1,100 to 5,000 ohms							
6,000 to 10,000 ohms							
11,000 to 20,000 ohms							
22,500 to 25,000 ohms							
ZO Brackets (not included with resistor)							

#### LIST

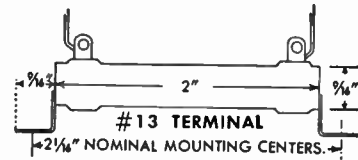
\$0.75
.80
.92
1.03
1.08
.12

### TYPE 2D—20 WATTS formerly type DG

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1	4470	100	447	500	200	1,200	129
5	2000	150	365	650	175	1,250	126
10	1415	200	316	700	169	1,500	115
25	894	250	282	750	163	1,750	107
50	638	300	258	800	158	1,850	104
75	517	350	238	850	153	2,000	100
		400	223	1,000	141		

### TYPE 2D—20 WATTS (Cont'd)

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
2,250	94	4,500	66	9,000	47	20,000	31
2,400	91	5,000	63	10,000	44	25,000	28
2,500	89	6,000	57	11,000	42	30,000	25
2,750	85	7,000	53	12,000	40	35,000	23
3,000	81	7,500	51	12,500	40	40,000	22
3,500	75	8,000	50	15,000	36	45,000	21
4,000	70	8,500	48			50,000	20



SLOTTED BRACKETS PERMIT  $\pm 1/16$ " VARIATION.

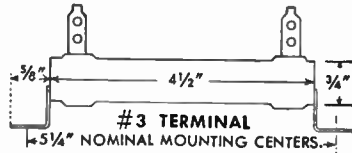
Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1 to 1,000 ohms							
1,200 to 5,000 ohms							
6,000 to 10,000 ohms							
11,000 to 20,000 ohms							
25,000 to 40,000 ohms							
45,000 to 50,000 ohms							
Z1 Brackets (not included with resistor)							

#### LIST

\$0.95
.97
1.12
1.20
1.37
1.58
.12

### TYPE 4 1/2 E—50 WATTS formerly type EP

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1	7070	100	707	3,000	129	12,500	63
2	5000	150	577	4,000	111	15,000	57
3	4080	200	500	5,000	100	20,000	50
4	3535	250	447	6,000	91	25,000	44
5	3160	300	316	7,000	84	30,000	40
10	2235	400	223	8,000	79	40,000	35
25	1415	500	141	9,000	75	50,000	31
50	1000	600	100	10,000	70	60,000	28
75	816	700	81	12,000	64	75,000	25
		800	80			0.1 meg	22
		1,000	100				
		1,500	150				
		2,000	200				
		2,500	250				



SLOTTED BRACKETS PERMIT  $\pm 1/16$ " VARIATION.

#### PRICES

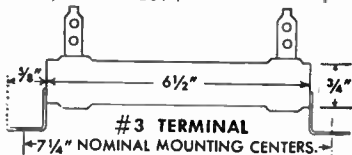
Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
1 to 4 ohms							
5 to 1,000 ohms							
1,500 to 5,000 ohms							
6,000 to 10,000 ohms							
12,000 to 20,000 ohms							
25,000 to 40,000 ohms							
50,000 to 60,000 ohms							
75,000 ohms							
0.1 megohm							
Z2 Brackets included with resistor							

#### LIST

\$2.25
1.63
1.75
1.92
2.08
2.33
2.58
2.90
3.20

### TYPE 6 1/2 E—75 WATTS formerly type ES

Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.	Ohms	Max. m. a.
5	3870	500	387	5,000	122	25,000	54
10	2740	750	316	6,000	111	30,000	50
25	1730	1,000	274	7,500	100	40,000	43
50	1220	1,500	223	8,000	96	50,000	38
100	865	2,000	193	10,000	88	60,000	35
200	612	2,500	173	15,000	70	75,000	31
250	548	3,000	158	20,000	61	0.1 meg	27
		4,000	137				



SLOTTED BRACKETS PERMIT  $\pm 1/16$ " VARIATION.





# POWER RESISTORS

*Preferred for Performance*

## TYPE 6½E—75 WATTS (Cont'd)

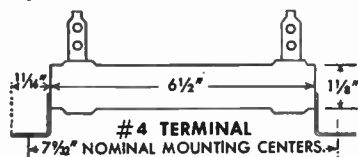
PRICES		LIST
5 to 1,000 ohms.....		\$2.00
1,500 to 5,000 ohms.....		2.08
6,000 to 10,000 ohms.....		2.25
15,000 to 20,000 ohms.....		2.45
25,000 to 40,000 ohms.....		2.78
50,000 to 60,000 ohms.....		2.87
75,000 ohms.....		3.22
0.1 megohm.....		3.58

Z2 Brackets included with resistor.

## TYPE 6½H—100 WATTS

formerly type HA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	10,000	50	1,414	1,250	282	7,500	115
2	7,070	75	1,155	1,500	258	10,000	100
3	5,770	100	1,000	2,000	223	15,000	81
4	5,000	125	895	2,500	200	20,000	70
5	4,470	150	816	3,000	182	25,000	63
10	3,160	250	632	5,000	141	30,000	57
25	2,000	500	447			40,000	50
		750	365			50,000	44
		1,000	316			60,000	40
						75,000	38
						0.1 meg	31



### PRICES

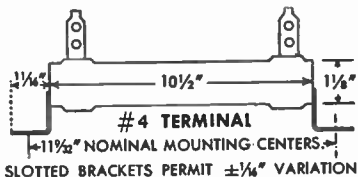
Ohms	Max. m.a.	LIST
1 to 4 ohms.....		\$3.37
5 to 1,000 ohms.....		2.42
1,250 to 5,000 ohms.....		2.53
7,500 to 10,000 ohms.....		2.70
15,000 to 20,000 ohms.....		2.97
25,000 to 40,000 ohms.....		3.20
50,000 to 60,000 ohms.....		3.37
75,000 ohms.....		3.58
0.1 megohm.....		3.80

Z3 Brackets included with resistor.

## TYPE 10½H—200 WATTS

formerly type HO

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	14,140	75	1,630	1,500	365	20,000	100
2	10,000	100	1,414	2,000	316	25,000	89
3	8,160	150	1,150	2,500	283	30,000	81
4	7,070	250	895	3,000	258	40,000	70
5	6,320	500	632	5,000	200	50,000	63
10	4,470	750	516	7,500	163	60,000	57
25	2,830	1,000	447	10,000	141	75,000	51
50	2,000			15,000	115	0.1 meg	44



### PRICES

Ohms	Max. m.a.	LIST
1 to 5 ohms.....		\$4.53
10 to 1,000 ohms.....		3.22
1,500 to 5,000 ohms.....		3.30
7,500 to 10,000 ohms.....		3.53
15,000 to 20,000 ohms.....		3.77
25,000 to 40,000 ohms.....		3.90
50,000 to 60,000 ohms.....		4.03
75,000 ohms.....		4.25
0.1 megohm.....		4.53

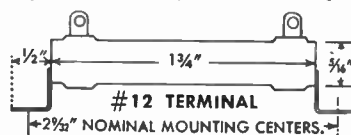
Z3 Brackets included with resistor.

## ADJUSTABLE TYPES

### TYPE 1¾AA—10 WATTS

formerly type ABA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	3160	50	447	750	115	3,000	57
2	2235	75	365	800	111	3,500	58
3	1825	100	316	1,250	89	4,000	50
5	1410	150	258	1,000	100	4,500	47
7.5	1150	200	223	1,450	83	5,000	44
10	1000	250	200	1,500	81	6,000	40
15	816	300	182	2,000	70	7,000	37
20	707	350	169	2,250	66	7,500	36
25	632	400	158	2,500	63	8,000	35
		500	141			8,500	34
		600	129			9,000	33
						10,000	31



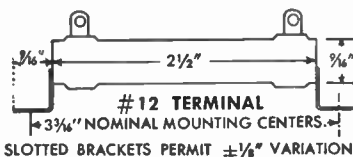
### PRICES

Ohms	LIST
1 to 1,000 ohms.....	\$1.47
1,250 to 5,000 ohms.....	1.53
6,000 to 10,000 ohms.....	1.63
Z0 Brackets (not included with resistor).....	.12

## TYPE 2½DA—25 WATTS

formerly type DHA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	5000	50	707	1,000	158	4,500	74
2	3533	75	577	1,250	141	5,000	70
3	2880	100	500	1,500	129	6,000	64
5	2230	150	408	2,000	111	7,000	59
7.5	1825	200	353	2,250	105	7,500	57
10	1580	250	316	2,500	100	8,000	55
15	1290	300	289	3,000	91	9,000	52
20	1117	400	250	3,500	84	10,000	50
25	1000	500	223	4,000	79	12,000	45
		750	182			15,000	40
		800	176			20,000	35
						25,000	31



### PRICES

Ohms	LIST
1 to 1,000 ohms.....	\$1.87
1,250 to 5,000 ohms.....	1.88
6,000 to 10,000 ohms.....	2.03
12,000 to 20,000 ohms.....	2.08
25,000 ohms.....	2.28
Z1 Brackets included with resistor.	

## TYPE X BANDS

Adjustable Bands designated as Type X feature stainless steel spring with silver contact button. Cannot corrode—constant pressure is assured. Type 1¾AA Resistor because of its small size is furnished with a special adjustable band.

Resistor	Band	List
1¾AA.....	special "A"	20¢
2½DA.....	X2	25¢
4½EA, 6½EA.....	X3	25¢
6½HA, 10½HA.....	X4	42¢



# RESISTORS

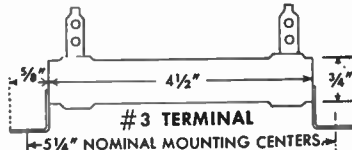
*Preferred for Performance*



## TYPE 4½EA—50 WATTS

formerly type EPA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	7070	150	577	2,500	141	9,000	74
2	5000	200	500	3,000	129	10,000	70
3	4080	250	447	3,500	119	12,000	64
4	3535	300	408	4,000	111	15,000	57
5	3160	400	353	4,500	105	20,000	50
10	2235	500	316	5,000	100	25,000	44
25	1415	750	258	6,000	91	30,000	40
50	1000	800	250	7,000	84	40,000	35
75	816	1,000	223	7,500	81	50,000	31
100	707	1,250	200	8,000	79	60,000	28
		1,500	182			75,000	25
		2,000	168			80,000	25
		2,250	149			0.1 meg	22



SLOTTED BRACKETS PERMIT ±¼" VARIATION.

### PRICES

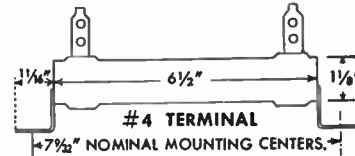
Ohms	Max. m.a.	Price
1 to 4 ohms		\$3.00
5 to 1,000 ohms		2.37
1,250 to 5,000 ohms		2.47
6,000 to 10,000 ohms		2.63
12,000 to 20,000 ohms		2.83
25,000 to 40,000 ohms		3.08
50,000 to 60,000 ohms		3.30
75,000 to 80,000 ohms		3.67
0.1 megohm		3.92

Z2 Brackets included with resistor.

## TYPE 6½HA—100 WATTS

formerly type HAA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	10,000	200	707	3,000	182	25,000	63
2	7,070	250	632	4,000	168	30,000	57
3	5,770	400	500	5,000	141	40,000	50
4	5,000	500	447	6,000	129	50,000	44
5	4,470	750	365	7,500	115	60,000	40
10	3,160	1,000	316	8,000	111	75,000	36
25	2,000	1,500	258	10,000	100	0.1 meg	31
50	1,414	2,000	223	15,000	81		
100	1,000	2,500	200	20,000	70		



SLOTTED BRACKETS PERMIT ±¼" VARIATION.

### PRICES

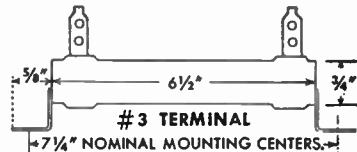
Ohms	Max. m.a.	Price
1 to 4 ohms		\$4.53
5 to 1,000 ohms		3.58
1,500 to 5,000 ohms		3.67
6,000 to 10,000 ohms		3.87
15,000 to 20,000 ohms		4.12
25,000 to 40,000 ohms		4.37
50,000 to 60,000 ohms		4.53
75,000 ohms		4.75
0.1 megohm		4.95

Z3 Brackets included with resistor.

## TYPE 6½EA—75 WATTS

formerly type ESA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	8650	300	500	3,500	146	15,000	70
2	6120	400	432	4,000	137	20,000	61
3	5000	500	387	4,500	129	25,000	54
4	4330	750	316	5,000	122	30,000	50
5	3870	800	306	6,000	111	35,000	46
10	2740	1,000	274	7,000	103	40,000	43
15	2280	1,250	246	7,500	100	45,000	40
25	1730	1,500	223	8,000	96	50,000	38
50	1220	2,000	193	9,000	91	60,000	35
100	865	2,250	182	10,000	86	80,000	30
200	612	2,500	173	12,000	79	0.1 meg	27
250	548	3,000	158				



SLOTTED BRACKETS PERMIT ±¼" VARIATION.

### PRICES

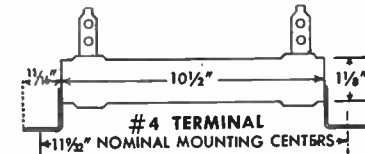
Ohms	Max. m.a.	Price
1 to 4 ohms		\$3.53
5 to 1,000 ohms		2.75
1,250 to 5,000 ohms		2.83
6,000 to 10,000 ohms		3.00
12,000 to 20,000 ohms		3.20
25,000 to 40,000 ohms		3.53
45,000 to 60,000 ohms		3.62
80,000 ohms		3.97
0.1 megohm		4.33

Z2 Brackets included with resistor.

## TYPE 10½HA—200 WATTS

formerly type HOA

Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.	Ohms	Max. m.a.
1	14,140	25	2,830	2,000	316	20,000	100
2	10,000	50	2,000	2,500	283	25,000	89
3	8,160	100	1,414	3,000	258	30,000	81
4	7,070	250	895	5,000	200	40,000	70
5	6,320	500	632	10,000	141	50,000	63
10	4,470	1,000	447	15,000	115	60,000	57
		1,500	365			75,000	51
						0.1 meg	44



SLOTTED BRACKETS PERMIT ±¼" VARIATION.

### PRICES

Ohms	Max. m.a.	Price
1 to 5 ohms		\$5.67
10 to 1,000 ohms		4.37
1,500 to 5,000 ohms		4.45
10,000 ohms		4.70
15,000 to 20,000 ohms		4.92
25,000 to 40,000 ohms		5.03
50,000 to 60,000 ohms		5.17
75,000 ohms		5.42
0.1 megohm		5.67

Z3 Brackets included with resistor.



# KITS AND CABINETS

*Preferred for Performance*

## ALL-METAL RESIST-O-CABINET

In large steel cabinets, 3 new IRC RESIST-O-CABINETS provide the perfect way to buy and stock resistors. Four drawer cabinets have 28 identified compartments. Blue, yellow and silver finish adds attractiveness to shop. Drawers are non-spill and cabinets can be stacked. Measure 5 7/8" x 5 1/8" x 10 3/8". No extra charge for cabinet.



## ASSORTMENT #4—1/2 WATT

100 1/2 watt BW and BTS Resistors including values most widely found in television. List \$17.00

QUAN-TITY	RANGE	QUAN-TITY	RANGE	QUAN-TITY	RANGE
1	47 ohms	5	4,700 ohms*	5	0.22 meg
3	100 ohms	5	10,000 ohms*	6	0.27 meg*
2	220 ohms	3	22,000 ohms*	3	0.33 meg*
2	270 ohms	3	27,000 ohms*	6	0.47 meg*
3	470 ohms*	3	33,000 ohms*	6	1.0 meg*
6	1,000 ohms*	6	47,000 ohms*	5	2.2 meg*
2	1,500 ohms	2	56,000 ohms*	2	3.3 meg*
2	2,200 ohms*	2	68,000 ohms*	3	4.7 meg*
2	2,700 ohms*	6	0.1 meg*	2	10.0 meg
3	3,300 ohms*				

## ASSORTMENT #5—1 WATT

83 1 watt BW and BTA Resistors including values most widely found in television. List \$20.75

QUAN-TITY	RANGE	QUAN-TITY	RANGE	QUAN-TITY	RANGE
2	47 ohms	2	3,300 ohms*	5	0.1 meg*
2	100 ohms	3	4,700 ohms*	2	0.15 meg
2	150 ohms	3	10,000 ohms*	2	0.22 meg
2	220 ohms	2	15,000 ohms*	5	0.27 meg
2	270 ohms	3	22,000 ohms*	5	0.47 meg*
2	470 ohms	2	27,000 ohms*	5	1.0 meg*
2	1,000 ohms*	2	33,000 ohms*	2	2.2 meg
2	1,500 ohms	2	39,000 ohms*	2	4.7 meg
3	2,200 ohms	5	47,000 ohms*		
2	2,700 ohms	2	68,000 ohms*		

## ASSORTMENT #6—COMBINATION

91 Insulated Resistors and Type DCF Close-Tolerance Precistors, including popular television ranges. List \$25.04

RANGE	1/2 WATT	1 WATT	2 WATT	DCF
47 ohms	1	1	1	—
100 ohms	1	1	1	—
150 ohms	1	1	1	—
220 ohms	1	1	1	—
270 ohms	1	1	1	—
470 ohms	1*	1	1	—
1,000 ohms	3*	2*	—	1
1,500 ohms	1	1*	—	—
2,200 ohms	1*	1	—	—
2,700 ohms	1*	1*	—	—
3,300 ohms	1*	1*	—	—
4,700 ohms	2*	1*	1	—
10,000 ohms	2*	2*	1*	1
15,000 ohms	1	1*	—	—
22,000 ohms	1*	1*	1*	—
27,000 ohms	1*	2*	—	—
33,000 ohms	1*	—	—	—
39,000 ohms	1	1*	—	—
47,000 ohms	3*	2*	1*	—
68,000 ohms	1*	1*	—	1
0.1 meg	3*	2*	—	—
0.15 meg	1	1	—	—
0.22 meg	1	2*	—	—
0.27 meg	3*	1	—	—
0.47 meg	3*	2*	—	—
1.0 meg	3*	2*	—	1
2.2 meg	2*	1	—	—
4.7 meg	1*	1	—	—
5.0 meg	—	—	—	1

\*—Popular television ranges.

## IRC CHOKE CABINETS

Handy bench supply of Insulated Chokes in 4 drawer metal cabinet. Each value in an identified compartment. Contains 140 chokes in popular values and 2 sizes. No extra charge for cabinet. List \$49.00



## NEW RESIST-O-KITS

Flat, pocket-size metal kit of 1/2 or 1 watt BT Insulated Composition Resistors is ideal for service calls or small bench stocks. All-steel and attractively lithographed in blue and yellow. Measures 1 1/8" x 3 3/8" x 6 3/8". Ten compartments prevent ranges from mixing, and lid snaps securely shut. Ranges are clearly marked on each resistor in kit. This handy kit is furnished at no extra charge.



## ASSORTMENT #7—1/2 WATT

45 BTS 1/2 watt Resistors including ranges widely found in television. List \$7.65

Quantity	Resistance Range	Quantity	Resistance Range
4	1,000 ohms*	3	0.22 meg*
3	4,700 ohms*	5	0.27 meg*
4	10,000 ohms*	6	0.47 meg*
5	47,000 ohms*	5	1.0 meg*
6	0.1 meg*	4	2.2 meg*

## ASSORTMENT #8—1 WATT

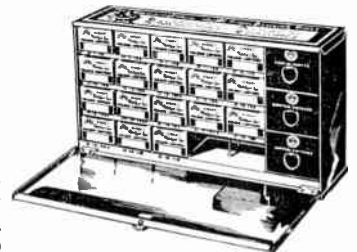
30 BTA 1 watt Resistors including ranges widely found in television. List \$7.50

Quantity	Resistance Range	Quantity	Resistance Range
4	1,000 ohms*	4	47,000 ohms*
2	2,200 ohms*	4	0.1 meg*
2	4,700 ohms*	2	0.27 meg
3	10,000 ohms*	4	0.47 meg
2	27,000 ohms*	3	1.0 meg

\*—Popular television ranges.

## VOLUME CONTROL CABINET

IRC Volume Control Cabinets are stocked with 18 new Type Q Controls, plus switches and special shafts. This stock handles over 90% of all AM, FM and TV control replacements. Beautiful blue, yellow and silver metal cabinet measures 4 1/2" x 7 3/8" x 14 1/2" with identified compartments and 3 drawers for shafts, switches and spare parts. Hinged front cover. No extra charge is made for metal cabinet. List \$30.90



Quantity	Q Control No.	Resistance Value	Quantity	Q Control No.	Resistance Value
1	Q 11-116	10 K	2	Q 13-133	0.5 meg
1	Q 11-123	50 K	1	Q 13-133X	0.5 meg
1	Q 13-123	50 K	1	Q 13-137	1.0 meg
1	Q 11-128	0.1 meg	1	Q 13-137	1.0 meg
1	Q 13-128	0.1 meg	1	Q 13-137X	1.0 meg
1	Q 11-130	0.25 meg	1	Q 13-139	2.0 meg
1	Q 13-130	0.25 meg	1	Q 13-139X	2.0 meg
1	Q 13-130X	0.25 meg	1	Q 18-139X	2.0 meg
1	Q 11-133	0.5 meg			

## SWITCHES

6 76-1 SPST Quickly attached switch.

## SPECIAL SHAFTS

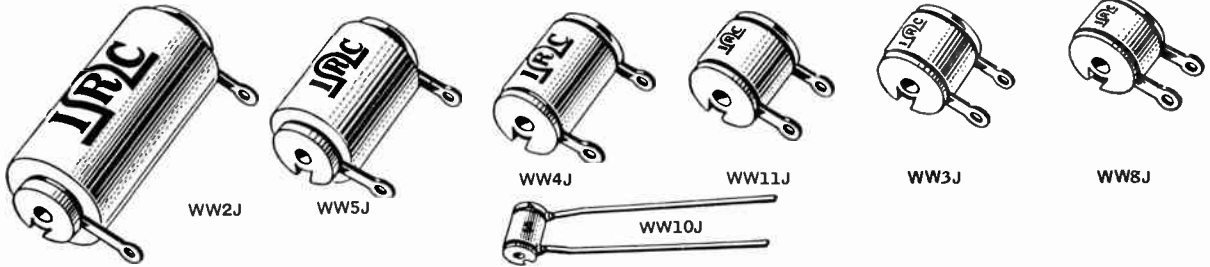
- 1 BQ Shaft—Universal slotted and tongued—3 1/2" long.
- 1 GQ Shaft—Short slotted shaft—1 1/2" long.
- 2 HQ Shaft—Flatted and grooved shaft—1 1/8" long.
- 1 NQ Shaft—Universal flatted and slotted shaft—7/8" diameter.

# PRECISION RESISTORS

*Preferred for Performance*



## NEW PRECISION WIRE WOUND RESISTORS



An all new line of precision wire wound resistors for both old and new applications. Completely interchangeable with the long established and familiar types WW-2, WW-3, WW-4, and WW-5 plus new sizes all surpassing JAN-R-93 characteristic B specification.

New Winding Technique developed by IRC engineers provides winding control that substantially eliminates the effect of the human element thus eliminating possibility of shorted turns or winding strains. All wire used in the construction of precision resistors is subjected to rigid insulation tests of the enamel coating. Particular attention is given to insure transfer of wire to winding form without strain or break in insulation. Many production tests insure high quality in the finished resistor.

New Concept of Insulation — The winding is multiple vacuum impregnated with a new compound developed by IRC chemists, which has the unique characteristic of remaining approximately the same consistency throughout the entire range of temperature to which the resistor may be subjected. It is neither glassy hard nor tacky soft under any condition so that wire strains are minimized. This is conducive to a higher degree of stability and freedom from noise. This impregnant also provides a very excellent humidity protection to insure long life under all environmental conditions.

Tolerance — 1% is standard. For special tolerance on all types except WW-10J, add to prices shown as follows: Add 10% for 1/2% tolerance (2 ohms and over); add 15% for 1/4% tolerance (5 ohms and over); add 25% for 1/10% tolerance (20 ohms and over). On Type WW-10J, add 10% for 1/2% tolerance (65 ohms and over); add 15% for 1/4% tolerance (200 ohms and over); add 25% for 1/10% tolerance (1500 ohms and over).

Temperature Coefficient — Minimum temperature coefficient of .003% per degree C, from 0°C to 100°C, is standard on all IRC Wire Wound Precision Resistors.

### SPECIFICATIONS

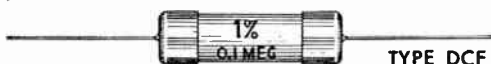
IRC TYPE	WW2J	WW3J	WW4J
JAN TYPE	RB14	RB11	RB12
MIL TYPE	RB19	RB16	RB17
DIMENSIONS	2 1/4" x 2 3/8"	1 1/2" x 1 3/8"	3/4" x 1 1/2"
MIN. VALUE	0.1 ohm	0.1 ohm	0.1 ohm
MAX. VALUE	6.0 meg.	0.225 meg.	0.9 meg.
MAX. MIL OR JAN VALUE	4.0 meg.	0.185 meg.	0.3 meg.
TERMINALS	Lugs	Lugs	Lugs

IRC TYPE	WW5J	WW8J	WW10J	WW11J
JAN TYPE	RB13	RB10	RB15	RB16
MIL TYPE	RB18	RB15	RB16	RB16
DIMENSIONS	1 1/4" x 2 3/8"	1 1/2" x 1 3/8"	1 1/2" x 3/2"	3/4" x 1 1/2"
MIN. VALUE	0.1 ohm	0.1 ohm	10 ohm	0.1 ohm
MAX. VALUE	2.7 meg.	.225 meg.	.15 meg.	0.45 meg.
MAX. MIL OR JAN VALUE	0.75 meg.	0.185 meg.		0.3 meg.
TERMINALS	Lugs	Lugs	Leads	Lugs

## CLOSE TOLERANCE PRECISTORS



TYPE DCH



TYPE DCF

New IRC PRECISTORS are deposited carbon precision resistors offering a unique combination of close tolerance, stability and economy. Pure crystalline carbon is bonded to selected ceramic cores producing a resistor ideally suited to the requirements of instrumentation, advanced electronics and critical television circuits. Guaranteed accuracy  $\pm 1\%$ . DCF is rated at 1 watt. DCH is rated at 2 watts.



IRC PRECISTORS are specially packaged in plastic tubes for protection.

## STANDARD VALUES AND PRICES IRC PRECISION RESISTORS

STANDARD VALUE	WW2J List Price	WW3J WW4J WW5J List Price	WW10J List Price
0.1 ohm		\$2.10	
0.2 ohm		2.10	
1.0 ohm		2.10	
5 ohms		2.03	
10 ohms		2.03	\$1.70
25 ohms		2.03	1.70
50 ohms		2.03	1.70
100 ohms		2.03	1.70
200 ohms		2.03	1.70
250 ohms		2.03	1.70
300 ohms		2.03	1.70
500 ohms		2.03	1.70
1,000 ohms		2.03	1.70
1,500 ohms		2.03	1.70
2,000 ohms		2.03	1.70
2,500 ohms		2.03	1.70
3,000 ohms		2.10	1.78
3,500 ohms		2.10	1.78
4,000 ohms		2.10	1.78
5,000 ohms		2.10	1.78
7,500 ohms		2.10	1.78
10,000 ohms		2.10	1.78
12,500 ohms		2.10	1.78
15,000 ohms		2.10	1.78
20,000 ohms		2.28	1.97
22,500 ohms		2.28	1.97
25,000 ohms		2.28	1.97
30,000 ohms		2.28	1.97
40,000 ohms		2.28	1.97
50,000 ohms		2.28	1.97
60,000 ohms		2.70	2.13
75,000 ohms		2.70	2.13
0.1 megohm		2.94	2.30
0.125 megohm		3.37	2.70
0.15 megohm		3.37	2.70
0.175 megohm		3.83	
0.2 megohm		3.83	
0.225 megohm		4.20*	
0.25 megohm		4.20	
0.3 megohm		4.57	
0.4 megohm		5.63	
0.5 megohm		6.00**	
0.6 megohm	\$ 8.40	7.61†	
0.75 megohm	9.18	9.00	
0.9 megohm	10.80	10.38	
1.0 megohm	11.58	11.22	
1.5 megohm	18.42		
2.0 megohms	24.00		
2.5 megohms	29.03		

\*Max. Stock Value—WW3J. \*\*Max. Stock Value—WW4J. †Min. Stock Value—WW5J.

## STANDARD VALUES

Range Ohms	List	Range Ohms	List	Range Megohms	List	Range Megohms	List
0.10	3,000	0.10	\$1.25	0.10	\$1.25	4.00	\$1.25
0.20	4,000	0.15	1.25	0.15	1.25	5.00	1.50
0.25	5,000	0.20	1.25	0.20	1.25	TYPE DCH	
0.30	10,000	0.25	1.25	0.25	1.25	0.5	\$1.50
0.40	15,000	0.30	1.25	0.30	1.25	1.0	1.50
0.50	20,000	0.40	1.25	0.40	1.25	1.5	1.50
1,000	25,000	0.50	1.25	0.50	1.25	2.0	1.50
1,500	30,000	1.00	1.25	1.00	1.25	3.0	1.50
2,000	40,000	1.50	1.25	1.50	1.25	4.0	1.50
2,500	50,000	2.00	1.25	2.00	1.25	5.0	2.00
		2.50	1.25	2.50	1.25	10.0	2.50
		3.00	1.25	3.00	1.25	15.0	2.50
						20.0	3.00

## CONTROLS

### BLUE SHAFT RADIOHMS

The newest, most widely accepted line of  $\frac{15}{16}$ " modern carbon type controls. Switch types are factory assembled and tested, for smoothest action and instant usefulness. Distinctive blue, anodized aluminum shafts, 3" long with universal fluted full length mill. Rating  $\frac{1}{2}$  watt. Type BSK units have  $2\frac{1}{8}$ " brass split knurl shafts. Switches are universal DPST, easily wired for SPST or 3 wire usage.



Cat. No. Plain	Cat. No. with Switch	Ohms Max. Resist.	Taper	List Price Plain	List Switch Type
B-4	B-4-S	500	C1	\$1.25	\$1.75
B-5	B-5-S	1000	C1	1.25	1.75
B-6	B-6-S	2000	C1	1.25	1.75
B-7	B-7-S	2500	C1	1.25	1.75
B-8	B-8-S	3000	C1	1.25	1.75
B-10	B-10-S	5000	C1	1.25	1.75
B-11	B-11-S	5000	C2	1.25	1.75
B-12	B-12-S	5000	C1	1.25	1.75
B-14	B-14-S	10000	C1	1.25	1.75
B-15	B-15-S	10000	C2	1.25	1.75
B-16	B-16-S	10000	C6	1.25	1.75
B-17	B-17-S	10000	C5	1.25	1.75
B-20	B-20-S	15000	C6	1.25	1.75
B-22	B-22-S	20000	C1	1.25	1.75
B-24	B-24-S	20000	C6	1.25	1.75
B-26	B-26-S	25000	C1	1.25	1.72
B-27	B-27-S	25000	C5	1.25	1.75
B-28	B-28-S	25000	C6	1.25	1.75
B-31	B-31-S	50000	C1	1.25	1.75
B-32	B-32-S	50000	C2	1.25	1.75
B-35	B-35-S	75000	C1	1.25	1.75
B-40	B-40-S	100000	C1	1.25	1.75
B-41	B-41-S	100000	C2	1.25	1.75
B-44	B-44-S	150000	C2	1.25	1.75
B-46	B-46-S	200000	C1	1.25	1.75
B-50	B-50-S	250000	C1	1.25	1.75
B-51	B-51-S	250000	C2	1.25	1.75
B-52	B-52-S	250000	C5	1.25	1.75
BT-53	BT-53-S	250K-T125K	C11	1.85	2.35
BT-55	BT-55-S	250K-T175K	C13	1.85	2.35
BT-57	BT-57-S	350K-T70K	C12	1.85	2.35
B-59	B-59-S	500000	C1	1.25	1.75
B-60	B-60-S	500000	C2	1.00	1.50
B-61	B-61-S	500000	C5	1.25	1.75
BT-65	BT-65-S	500K-7250K	C11	1.85	2.35
BT-66	BT-66-S	500K-T100K	C12	1.85	2.35
BT-67	BT-67-S	500K-T150K	C13	1.85	2.35
B-68	B-68-S	1 Meg.	C5	1.25	1.75
B-69	B-69-S	1 Meg.	C1	1.25	1.75
B-70	B-70-S	1 Meg.	C2	1.00	1.50
BT-71	BT-71-S	1 Meg.-T500K	C11	1.85	2.35
BT-72	BT-72-S	1 Meg.-T200K	C12	1.85	2.35
BT-73	BT-73-S	1 Meg.-T300K	C13	1.85	2.35
BT-74	BT-74-S	1 Meg.-T500K	C16	1.85	2.35
B-75	B-75-S	2 Megs.	C1	1.25	1.75
B-76	B-76-S	2 Megs.	C2	1.25	1.75
B-77	B-77-S	2 Megs.	C5	1.25	1.75
BT-78	BT-78-S	2 Megs.-T1 Meg.	C11	1.85	2.35
BT-79	BT-79-S	2 Megs.-T400K	C12	1.85	2.35
BT-80	BT-80-S	2 Megs.-T600K	C13	1.85	2.35
BT-81	BT-81-S	2 Megs.-T200K	C15	1.85	2.35
BT-82	BT-82-S	2 Megs.-T1 Meg.	C16	1.85	2.35
B-83	B-83-S	2.5 Megs.	C1	1.25	1.75
B-84	B-84-S	3 Megs.	C1	1.25	1.75
B-85	B-85-S	3 Megs.	C2	1.25	1.75
B-86	B-86-S	4 Megs.	C1	1.25	1.75
B-87	B-87-S	5 Megs.	C1	1.25	1.75
B-98	B-98-S	10 Megs.	C1	1.25	1.75

### MODELS BSK—With $2\frac{1}{8}$ " Split Knurl Shafts

BSK-60	BSK-60-S	500000	C2	1.10	1.60
BSK-70	BSK-70-S	1 Meg.	C2	1.10	1.60
BTSK-66	BTSK-66-S	500K-T100K	C12	1.85	2.35
BTSK-72	BTSK-72-S	1 Meg.-T200K	C12	1.85	2.35

### MODEL BB TWIN RADIOHMS



Two B Radiohms mounted in tandem on a single shaft which operates both units. No switch types available. Rating:  $\frac{1}{2}$  watt. 3" fluted shaft.

BB-100	10000	C4	C3	\$2.50
BB-101	10000	C2	C1	2.50
BB-102	10000	C2	C2	2.50
BB-103	25000	C2	C2	2.50
BB-104	50000	C2	C2	2.50
BB-105*	50000	C3	C3	2.50

\* Special Unit for the Gallagher audio oscillator—See June, 1951 "Radio & Television News" pg. 62.

### HANDY PLASTI-PAKS 12 UNITS—MODELS B AND BSK IN PLASTIC BOXES

The widely used half megohm and one megohm "audio" taper controls made available in hinged lid plastic boxes. There is no additional charge for this convenient container, handy for many uses.

BP-1 PAK—Contains 12 Cat. No. B-60 Plain Controls, $\frac{1}{2}$ meg., C2 or audio taper.	List Price.....	\$12.00
BP-2 PAK—Contains 12 Cat. No. B-70 Plain Controls, 1 meg., C2 or audio taper.	List Price.....	12.00
BP-3 PAK—Contains 12 Cat. No. B-80-S Switch type Controls, $\frac{1}{2}$ meg., C2 or audio taper.	List Price.....	18.00
BP-4 PAK—Contains 12 Cat. No. B-70-S Switch type Controls, 1 meg., C2 or audio taper.	List Price.....	18.00
BP-5 PAK—Contains 12 Cat. No. BSK-60 Controls, $\frac{1}{2}$ meg., C2 or audio taper, Split Knurl Shafts.	List Price.....	13.20
BP-6 PAK—Contains 12 Cat. No. BSK-70 Controls, 1 Meg., C2 or audio taper, Split Knurl Shafts.	List Price.....	13.20
BP-7 PAK—Contains 12 Cat. No. BSK-60S Switch type Controls, $\frac{1}{2}$ meg., C2 taper, Split Knurl Shafts.	List Price.....	19.20
BP-8 PAK—Contains 12 Cat. No. BSK-70-S Switch type Controls, 1 meg., C2 taper, Split Knurl Shafts.	List Price.....	19.20

### B-A AND B-B BLUE SHAFT RADIOHM KITS



Two kit assortments of 22 controls each, packaged in a neat sturdy metal cabinet. Designed primarily for the user who wants to have controls "on hand" when he needs them.

#### B-A KIT—22 Half and One Meg. Controls

An assortment of plain and switch type half and one meg. controls, as follows: 3 B-60  $\frac{1}{2}$  meg., 5 B-60-S  $\frac{1}{2}$  meg. switch type; 2 B-70 1 meg. plain; 3 BSK-60-S  $\frac{1}{2}$  meg. switch type; Split Knurl Shaft; 2 BSK-70, 1 meg., plain-Shaft Knurl Shaft; 2 BSK-70-S, 1 meg. switch type—Split Knurl Shaft; Metal Cabinet.

Cat. No. B-A. List Price..... \$29.40

#### B-B KIT 22 Assorted Controls

Ten different types, the fastest moving controls. 1 B-31; 1 B-31S; 1 B-40; 1 B-40-S; 1 B-51; 1 B-51-S; 1 B-59; 1 B-59-S; 1 B-60; 2 B-60-S; 1 BT-67; 1 BT-67-S; 1 B-70; 2 B-70-S; 1 BT-73; 1 BT-73-S; 1 B-76; 1 B-76-S; 1 BT-80; 1 BT-80-S; Metal Cabinet.

Cat. No. B-B. List Price..... \$35.60

### CUSTOM CONTROLS FOR TV-RADIO REPLACEMENT

Centralab listing of "Ready to Use" Customs now contain 250 units, plus 28 Custom Wire Wound Controls. There is NO assembly, NO time wasted building a unit. They are factory tested and inspected to original manufacturers specifications. Ask for your copies of CRL Special Control Bulletin and TV Control Guide (price 25 cents).

### ADASHAFT RADIOHMS

#### BUY CONTROLS WITHOUT SHAFTS—ADD-A-SHAFT



The basic control unit is furnished without a shaft. Select the required shaft from the wide assortment available, offering both flexibility and economy. Shafts can be almost instantly locked into the control. Switches are listed on facing page.

#### BE SURE TO ORDER SHAFTS.

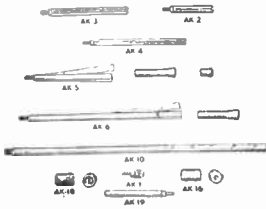
Cat. No.	Ohms Resist.	Taper	List Price	Cat. No.	Ohms Resist.	Taper	List Price
AN-5	1000	C1	\$1.10	AN-59	500000	C1	\$1.10
AN-6	2000	C1	1.10	AN-60	500000	C2	.95
AN-7	2500	C1	1.10	AN-61	500000	C5	1.10
AN-10	5000	C1	1.10	ANT-66	500K-T100K	C12	1.70
AN-11	5000	C2	1.10	AN-68	1 Meg.	C5*	1.10
AN-12	5000	C5	1.10	AN-69	1 Meg.	C1	1.10
AN-13	6500	C1	1.10	AN-70	1 Meg.	C2	.95
AN-14	10000	C1	1.10	ANT-73	1 Meg-T300K	C13	1.70
AN-22	20000	C1	1.10	AN-75	2 Megs.	C1	1.10
AN-23	20000	C5	1.10	AN-76	2 Megs.	C2	1.10
AN-26	25000	C1	1.10	AN-77	2 Megs.	C5	1.10
AN-27	25000	C5	1.10	ANT-78	2 Meg-T1 Meg	C11	1.70
AN-31	50000	C1	1.10	ANT-80	2 Meg-T600K	C13	1.70
AN-32	50000	C2	1.10	AN-83	2.5 Megs.	C1	1.10
AN-40	100000	C1	1.10	AN-84	3 Megs.	C1	1.10
AN-41	100000	C2	1.10	AN-86	4 Megs.	C1	1.10
AN-50	250000	C1	1.10	AN-87	5 Megs.	C1	1.10
AN-51	250000	C2	1.10	AN-98	10 Megs.	C1	1.10
AN-52	250000	C5	1.10				



## CONTROLS

### ADASHAFT SHAFTS AND COUPLERS

Order separately as required—fit easily, are solid and true.



- AK-1 Fingertip Knurl with Screw-driver Slot,  $\frac{3}{8}$ " F.E.O.B. .... \$0.15
- AK-2  $1\frac{1}{2}$ " with .078" slot ..... .20
- AK-3 3" Universal Fluted Mill. .... .15
- AK-4  $3\frac{3}{4}$ " Split Knurl. .... .25
- AK-5 3" Auto Type with Funnel. .... .55
- AK-6 6" Auto Type with Funnel. .... .65
- AK-10 10" with Flat Mill. .... .30
- AK-16 Coupler— $\frac{1}{4}$ " to  $\frac{1}{2}$ " or  $\frac{1}{2}$ " to  $\frac{3}{4}$ " ..... .40
- AK-18 Insulated Coupler—slotted auto type. .... .30
- SK-19 Insulating Nylon— $2\frac{1}{2}$ " F.E.O.B. with slot. .... .55

### MODEL "N" RADIOHMS

Standard  $1\frac{1}{2}$ " Diameter Single Controls

Popular, medium size control, carbon type. Plain, no switch construction. Attachable switches listed beneath control listings. Rating:  $\frac{1}{2}$  watt. 3" Shaft. Fluted Universal mill.



Cat. No.	Ohms Resis.	Taper	List Price	Cat. No.	Ohms Resis.	Taper	List Price
N-158	1000	C1	\$1.25	NT-120	500K-T150K	C13	\$1.85
N-106	5000	C1	1.25	NT-149	500K-T250K	C11	1.85
N-107	10000	C1	1.25	N-104	1 Meg.	C2	1.00
N-112	20000	C6	1.25	NT-150	1 Meg-T200K	C12	1.85
N-113	25000	C1	1.25	NT-121	1 Meg-T300K	C13	1.85
N-114	50000	C1	1.25	N-155	2 Megs	C2	1.25
N-115	50000	C2	1.25	NT-151	2 Megs-T200K	C15	1.85
N-116	100000	C1	1.25	NT-152	2 Megs-T400K	C12	1.85
N-117	100000	C2	1.25	NT-122	2 Megs-T600K	C13	1.85
N-102	250000	C2	1.25	NT-153	2 Megs-T 1 Meg	C11	1.85
N-118	500000	C1	1.25	N-177	5 Megs	C1	1.25
N-103	500000	C2	1.00	N-178	10 Megs	C1	1.25

### MODEL "NK" SINGLE CONTROLS—SPLIT KNURL SHAFTS

NK-140	500000	C2	1.10	NK-141	1 Meg.	C2	\$1.10
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### SWITCHES FOR MODELS "N", "NK", AND "AN" CONTROLS

These switch units replace the back covers on controls, fit firmly and are positive in action. Rating: 3 amps., 125 V.A.C.; 1 amp., 250 V.A.C. Approved by Underwriters Laboratories.

Cat. No.	Switching	List Price	Cat. No.	Switching	List Price
K-155	SPST	\$0.50	K-159	Four Point	\$0.65
K-156	SPST	.65	K-169	SPST & Lug	.65
K-157	DPST	.65			

### MODEL "A" 1 WATT PATENTED NON-RUBBING CONTACT CONTROLS



Wall type resistor element provides one third longer effective resistor length assuring low noise level, closer taper tolerance, double load carrying ability. Patented non-rubbing contact eliminates all friction

between resistance element and contacting member assuring accuracy... the resistance strip CAN'T wear out.

Cat. No.	Ohms Resis.	Taper	List Price	Cat. No.	Ohms Resis.	Taper	List Price
A-100	500	1	\$1.75	A-123	100000	6	\$1.75
A-101	10000	1	1.75	A-127	250000	6	1.75
A-102	2000	1	1.75	A-128	500000	6	1.75
A-105	5000	1	1.75	A-130	500000	6	1.75
A-108	10000	1	1.75	A-132	1 Meg.	6	1.75
A-115	25000	1	1.75	A-133	2 Meg.	6	1.75
A-118	50000	1	1.75	A-134	3 Meg.	6	1.75
A-119	50000	6	1.75	A-149	5 Meg.	6	1.75
A-122	100000	1	1.75	A-150	10 Meg.	6	1.75

### SWITCHES FOR MODEL "A" AND "V" CONTROLS

Attachable switch "covers" are rated 8 amps. at 12 V.D.C., 3 amps. 125 V.A.C., 1 amp. 250 V.A.C.

Cat. No.	Type	List Price
K-10	SPST	\$0.60
K-11	SPDT	.75
K-12	DPST	.75



### MODEL "V" AND "VK" WIREWOUND RADIOHMS 3 WATT LINEAR TAPER

Model "V" smooth action wirewound controls, are regularly furnished without switches. Attachable switches are available, as listed in Column 1.  $1\frac{1}{2}$ " diameter,  $\frac{3}{8}$ " depth behind mounting surface. Shafts: "V"; 3" fluted mill; "VK";  $\frac{3}{8}$ " fingertip knurl and slot. "VK" series not adaptable to switch type.

Cat. No. "V"	Ohms Resis.	List Price	Cat. No. "VK"	Ohms Resis.	List Price
V-100	2	\$1.85	VK-123	200	\$1.85
V-102	4	1.85	VK-125	300	1.85
V-104	6	1.85	VK-126	400	1.85
V-106	8	1.85	VK-127	500	1.85
V-108	10	1.85	V-128	750	1.85
V-109	15	1.85	VK-129	1000	1.85
V-110	20	1.85	V-130	1500	1.85
V-111	25	1.85	VK-131	2000	1.85
V-112	30	1.85	VK-132	2500	1.85
V-114	40	1.85	VK-133	3000	1.85
V-116	50	1.85	VK-134	4000	1.85
V-117	60	1.85	VK-135	5000	1.85
V-118	75	1.85	V-136	7500	1.85
V-121	100	1.85	VK-137	10000	1.85

### MODEL "SVT" CENTER TAPPED WIREWOUND RADIOHMS

Tapped at 50% rotation—otherwise similar electrically to Model "V" Wirewounds. Linear Taper. Furnished with  $\frac{3}{8}$ " fingertip knurl and screw-driver slot shaft. Units are not adaptable to switches.

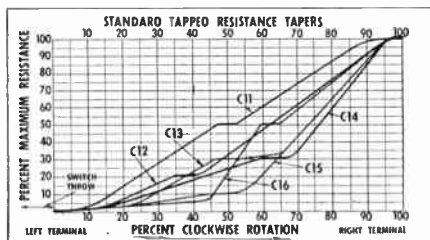
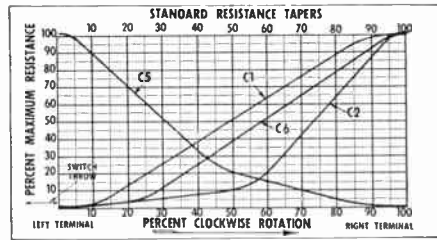
Cat. No.	Ohms Resis.	Tap Resis.	List Price
SVT-901	20	10	\$2.45
SVT-902	30	15	2.45
SVT-903	40	20	2.45
SVT-904	50	25	2.45

### MODEL "SVP" FOUR WATT WIREWOUNDS LINEAR TAPER

Model "SVP" controls are rated at four watts max., and will handle the higher wattages called for in various focus and contrast TV applications.  $1\frac{1}{2}$ " dia.,  $\frac{3}{8}$ " deep. Furnished in 3 shaft styles in various resistances. Not available in switch types.

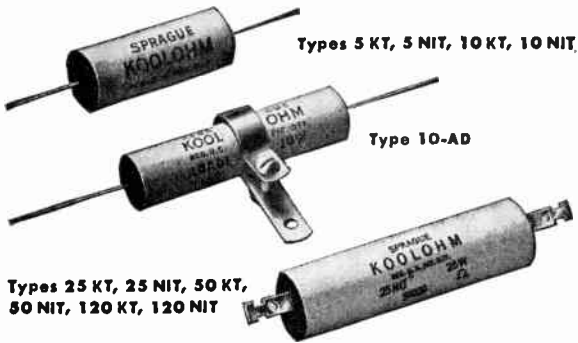
Column 1—SVP-982 to SVP-990— $\frac{3}{8}$ " Fingertip knurl and slot shaft  
Column 2—SVP-991 to SVP-996— $2\frac{1}{4}$ " full length split knurl shaft  
Column 3—SVP-997 to SVP-999—3" full length mill shaft

Ohms Resis.	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
25	SVP-982	\$2.25	SVP-997	2.25		
100	SVP-983	2.25	SVP-991	2.35		
200	SVP-984	2.25	SVP-992	2.35		
400	SVP-985	2.25	SVP-993	2.35		
500			SVP-994	2.35		
600					SVP-998	2.25
750	SVP-986	2.25				
1000					SVP-999	2.25
1500						
2000						
2200	SVP-987	2.25				
2500	SVP-988	2.25				
5000	SVP-989	2.25				
7500	SVP-990	2.25				
10000			SVP-995	2.35		
20000			SVP-996	2.35		



# SPRAGUE RESISTORS

## KOOLOHM<sup>®</sup> WIRE-WOUND RESISTORS



- Wound with wire which is insulated before winding with a flexible ceramic coating. This coating is impervious to heat as high as 1000°C.
- Each resistor is "tropicalized" by a glazed ceramic outer coating and new type end seals which offer complete protection against moisture or any other climatic conditions
- May be mounted anywhere—even flat against chassis or grounded parts
- Extremely high insulation resistance—10,000 volts from surface of ceramic jacket to inner resistance elements
- Insulated wire permits winding higher values in layers, which means much smaller physical sizes for each wattage rating
- Insulated wire permits true "non-inductive" wound designs

NOTE: ALL NIT TYPES ARE NON-INDUCTIVE

5 WATTS TYPES 5 KT & 5 NIT 1 1/2" dia. x 1 1/2" long					10 KT List	Ohms	Max. Ma.	Max. Volts	10 NIT List	Ohms	Max. Ma.	Max. Volts	List	50 KT List	Ohms	Max. Amps.	Max. Volts	50 NIT List	
5 KT List	Ohms	Max. Ma.	Max. Volts	5 NIT List	\$1.45	500	141	70.7	\$1.45	1000	115	86.9	1.45	\$1.95	50	1.000	50	\$3.10	
.65	5	1000	5.00	\$1.00	.75	30	575	17.4	1.00	750	30	575	17.4	1.95	75	.816	61	3.10	
.65	10	707	7.07	1.00	.75	40	500	20	1.00	1500	81	123	1.55	1.95	100	.707	70	3.10	
.65	15	587	8.67	1.00	.75	50	447	22.4	1.00	2000	70	143	1.55	1.95	150	.577	86	3.10	
.65	20	500	10	1.00	.75	75	365	27.4	1.00	2500	63	158	1.55	1.95	200	.500	100	3.10	
.65	25	446	11	1.00	.75	100	316	31.6	1.00	3000	57	174	1.55	1.95	250	.477	111	3.10	
.65	30	406	12	1.00	.75	150	259	38.7	1.00	4000	50	200	1.55	1.95	300	.316	158	3.10	
.65	40	354	14	1.00	.75	200	223	44.6	1.00	5000	44	227	1.55	1.95	400	.289	173	3.10	
.65	50	316	15	1.00	.75	250	200	50	1.00	7500	36	275	1.65	1.95	500	.258	193	3.10	
.65	75	258	19	1.00	.75	300	182	54.7	1.00	10000	32	316	1.65	1.95	750	.223	223	3.10	
.65	100	224	22	1.00	.75	400	158	63.3	1.00	Extra Bands, \$ .10									
.65	150	183	27	1.00	.75	500	141	70.7	1.00	<b>25 WATTS</b>									
.65	200	158	31	1.00	.75	600	129	77.6	1.00	TYPES 25 KT & 25 NIT									
.65	250	141	35	1.00	.75	700	119	84	1.00	2 3/4" dia. x 2 3/4" long									
.65	300	129	38	1.00	.80	750	115	86.9	1.00	25 KT List	Ohms	Max. Amps.	Max. Volts	25 NIT List	Ohms	Max. Amps.	Max. Volts	25 NIT List	
.65	400	112	44	1.00	.80	800	112	89.5	1.00	\$1.45	5	2.23	11	\$ 1.85	2.90	25000	.044	1120	3.30
.65	500	100	50	1.00	.80	900	105	95	1.00	1.30	10	1.58	15	1.85	3.00	50000	.032	1580	5.75
.65	600	91	54	1.00	.80	1000	100	100	1.00	1.30	25	1.0	25	1.85	3.10	75000	.026	1936	*
.65	700	84	59	1.00	.80	1250	89	112	1.15	1.30	50	.707	35	1.85	3.50	100000	.022	2238	*
.65	800	79	63	1.00	.80	1500	81	123	1.15	1.30	75	.577	43	1.85	<b>120 WATTS</b>				
.65	900	74	67	1.00	.80	1750	75	133	1.15	1.30	100	.500	50	1.85	TYPES 120 KT & 120 NIT				
.65	1000	70	70	1.00	.80	2000	70	143	1.15	1.30	150	.408	61	1.85	1 1/2" Dia. x 8 1/2" long				
.70	1250	63	79	1.15	.90	2500	63	158	1.25	1.30	200	.353	70	1.85	120 KT List	Ohms	Max. Amps.	Max. Volts	120 NIT List
.70	1500	57	86	1.15	.90	3000	57	174	1.25	1.30	250	.316	79	1.85	\$7.75	5	4.9	24.5	\$9.40
.70	1750	53	93	1.15	.90	4000	50	200	1.25	1.30	300	.275	86	1.85	7.75	10	3.46	34.6	9.40
.70	2000	50	100	1.15	.90	5000	44	227	1.30	1.30	350	.25	93	1.85	7.75	25	2.18	54.6	9.40
.70	2500	44	112	1.25	.90	6000	41	245	1.30	1.30	400	.223	111	1.85	7.75	50	1.54	77.4	9.40
.70	3000	40	123	1.25	1.00	7500	36	275	1.45	1.30	450	.204	122	1.85	7.75	75	1.26	94.8	9.40
.70	4000	35	141	1.25	1.00	8000	35	283	1.45	1.30	500	.200	122	1.85	7.75	100	1.09	109.5	9.40
.70	5000	31	158	1.30	1.00	9000	33	300	1.45	1.30	600	.204	122	1.85	7.75	150	.884	134	9.40
.80	6000	28	173	*	1.00	10000	32	316	1.90	1.35	750	.182	137	1.85	7.75	200	.775	155	9.40
.80	7000	26	187	*	1.00	12000	29	346	*	1.35	1000	.158	158	1.85	7.75	250	.692	173	9.40
.80	7500	25	194	*	1.00	14000	26	384	*	1.35	1500	.129	193	2.00	7.75	300	.600	200	9.40
.80	8000	25	200	*	1.00	15000	25	400	*	1.35	2000	.111	223	2.00	7.75	400	.490	245	9.40
.80	9000	23	212	*	1.10	20000	21	475	*	1.35	2500	.100	250	2.00	7.75	500	.446	268	9.40
.80	10000	22	224	*	1.20	25000	20	500	*	1.45	3000	.091	273	2.40	7.75	600	.446	268	9.40
.90	12500	20	250	*	1.30	30000	18	555	*	1.45	4000	.079	316	2.40	7.75	750	.400	300	9.40
.90	14000	18	265	*	1.50	35000	17	591	*	1.45	5000	.070	353	2.40	7.75	1000	.346	346	9.40
.95	15000	18	274	*	1.65	40000	16	632	*	1.45	6000	.067	432	2.40	7.75	1500	.282	424	9.40
.95	20000	15	333	*	1.80	50000	14	700	*	1.50	7500	.057	500	2.75	7.75	2000	.245	490	9.40
1.10	25000	14	354	*	2.00	60000	13	780	*	1.55	10000	.050	500	2.75	7.75	2500	.219	548	9.40
1.20	30000	13	387	*	2.20	70000	12	840	*	1.55	15000	.041	612	2.75	7.75	3000	.200	600	9.40
1.40	35000	12	418	*						1.65	20000	.035	707	3.10	7.75	4000	.154	774	9.40
1.50	40000	11	447	*						1.80	25000	.032	790	3.40	7.75	5000	.126	948	10.00
										2.00	40000	.025	1000	*	8.00	10000	.109	1095	10.00
										2.20	50000	.022	1118	*	8.00	15000	.089	1340	10.00
										2.85	75000	.018	1370	*	8.00	20000	.077	1550	10.00
										3.55	100000	.016	1580	*	8.00	25000	.069	1733	10.00
															8.00	50000	.049	2450	10.00
															8.00	75000	.040	3000	*
															8.00	100000	.034	3460	*

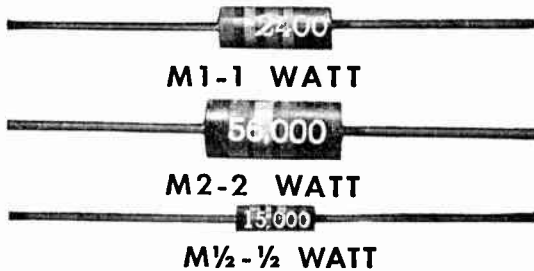
\*KT Types only

†Adjustable Resistors are not tropicalized



## "CARBOMITE" M-TYPE Composition Resistors

(Actual size as illustrated)



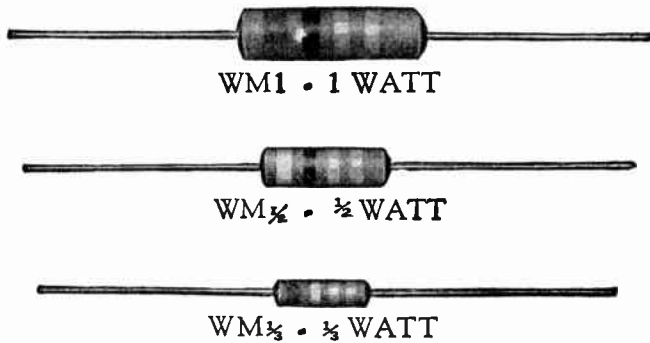
- Meet JAN-R-11 Specifications
- Low Noise Level
- Small Size
- Insulated

Continental's "Carbomite" type M resistors meet all the requirements for a fixed, stable and rugged resistor. The insulated bakelite shell has a 1000 volt breakdown test and will not short out when stacked together. Instant solderability with a touch of a soldering iron is another of the features of this resistor.

They are packaged in boxes of 10 and 50 in the 1/2 watt and 1 watt sizes and 10 and 25 in the 2 watt size. Standard RTMA Color Coding is marked on each unit. Both 5% and 10% tolerance resistance values are carried in stock.

Type	Wattage	Size		Resistance Range	List Prices	
		L	D		5%	10%
M 1/2	1/2 Watt	3/8	x 9/64	10 Ohms to 22 Megohms	\$0.33	\$0.17
M1	1 Watt	9/16	x 7/32	2.7 Ohms to 22 Megohms	.50	.25
M2	2 Watt	15/16	x 5/16	10 Ohms to 22 Megohms	.66	.33

## "WM" TYPE Wire Wound Resistors



- Resistance Wire Molded in Bakelite
- Axial Leads
- Soldered Connections
- RTMA Standard Color Coded

Continental's type WM resistors are wound evenly to prevent shorting of turns. A minimum of .0015 inch wire is used for the winding. The terminals are securely and permanently connected to the winding.

They are resistance to moisture. The WM resistor is recommended for circuits requiring very low resistance which is not ordinarily available in the carbon style. Packaged in boxes of 10 or 50 each.

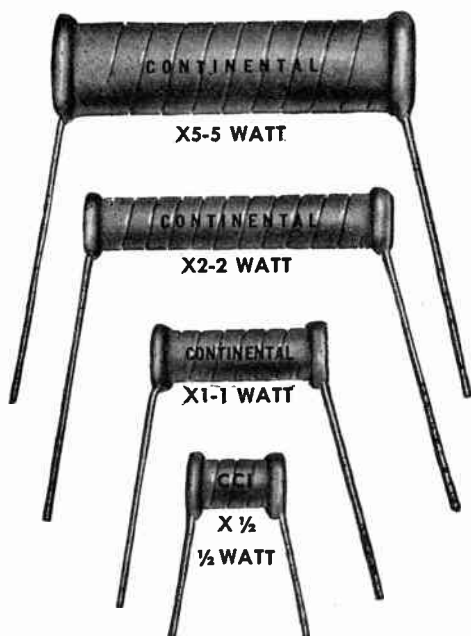
Type	Wattage	Size		Resistance Range	List Prices	
		L	D		5%	10%
WM 1/3	1/3 Watt	7/16	x 1/8	.47 Ohm to 12 Ohms	\$0.33	\$0.17
WM 1/2	1/2 Watt	5/8	x 7/32	.47 Ohm to 12 Ohms	.33	.17
WM1	1 Watt	1	x 9/32	.47 Ohm to 12 Ohms	.50	.25





## "Nobleloy" X-Type Resistors

Trade Mark Reg.



- Not Wire Wound
- Not carbon!
- Stability of Wire Wound and Equivalent

After several years of research work CONTINENTAL engineers have developed a new resistor involving the metal film principle, having the accuracy of a wire wound unit. Absolutely no carbon whatever is used in the fabrication of these resistors. The metallic resistance film is formed on the surface of a low loss ceramic tube using a patented pyro-chemic process.

The metal film thus formed is hermetically sealed by a layer of vitreous enamel specially developed and patented by CONTINENTAL. The ceramic tube with its associated film is then spiralled to give a long resistance path and to accurately calibrate the unit to value.

Since the ceramic tubes are hollow they allow a larger surface for heat radiation, thus permitting the resistor to withstand overloads of 200% or better.

The copper-tinned lead terminals are soldered to extremely low resistance metal contact films which in turn are integral with the resistance film, thereby reducing contact resistance to a minimum. This type of construction produces a resistor unit having not only excellent resistance stability but also a negligible noise characteristic.

## "NOBLELOY" TYPE NF METAL FILM RESISTORS

Trade Mark



Small Size

- Accurate Fixed Non-Wire Wound
- Axial Leads
- Metal Film (Not Carbon)
- Stability of Wire Wound

A miniature type precision resistor for use in applications calling for initial accuracy and good stability has been developed for the Components and Material branch of the Signal Corps Labs., Fort Monmouth, New Jersey, under contract. This resistor, designated as Continental type NF, employs a Nobleloy film resistance element deposited on a low loss ceramic carrier. The film is protected by a layer of vitreous enamel thus insuring protection against unusual atmospheric conditions. The axial type leads are securely fastened to the ends of the resistor thus assuring positive contact. The resistor is calibrated to value by means of spiralled grooves cut into the film to increase the resistance path. The NF resistor, having good stable characteristics, is particularly adaptable to circuits requiring close tolerance, and is recommended for uses where paired composition resistors are now used.

Type	Wattage	Size	Values	Recommended Voltage	Max. Voltage	List Prices	
						1%	5%
X-1/2	1/2 Watt	3/8" x 5/8"	1/2 ohm to 5 megohm	500	700	\$1.00	\$.85
X-1	1 Watt	3/8" x 1"	1 ohm to 10 megohm	700	1000	1.00	.85
X-2	2 Watt	3/2" x 1 1/4"	2 ohm to 20 megohm	1000	1500	1.20	1.05
X-5	5 Watt	1/2" x 2"	3 ohm to 30 megohm	1250	2000	1.40	1.25

No. 18 tinned copper leads 1 1/2" long.

Type	Wattage	Dimensions			Resistance Range		Voltage		List Price	
		A	B	C	Min.	Max.	Rec.	Max.	1%	5%
NF 1/2	1/2 Watt	3/8"	.155"	.130"	1 Ohm	1 Megohm	200V	350V	\$1.00	\$.85

No. 20 tinned copper leads 1 1/2" long.

# SUPPRESSORS



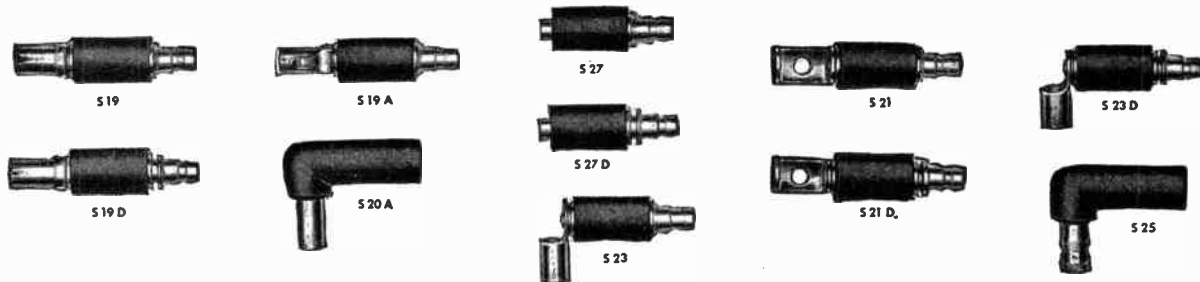
# SUPPRESSORS

**ALL SPARK PLUG SUPPRESSORS AND DISTRIBUTOR SUPPRESSORS EACH LIST PRICE \$0.30**

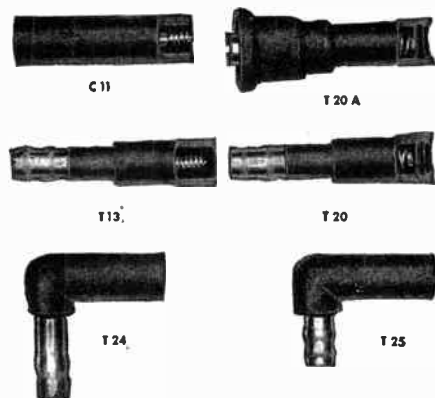
CONTINENTAL SUPPRESSORS have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value of 10,000 ohms has been scientifically determined. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

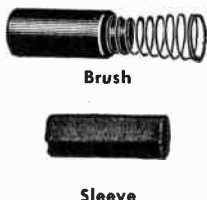
## SPARK PLUG SUPPRESSORS



## DISTRIBUTOR SUPPRESSORS



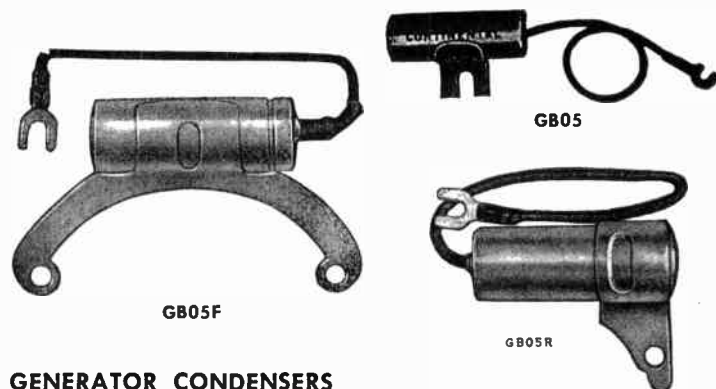
## FORD DISTRIBUTOR SUPPRESSOR



T-17: Brush and Sleeve Supplied Together  
 Distributor Type Brush Suppressor of the right resistance to suppress interference from the spark at the rotor.  
 Universal Type: the brush can be inserted in the bakelite sleeve to fit models using the larger size brush.

## SUPPRESSORS

Type No.	List Price Each
S-19, S-19D,	\$0.30
S-21, S-21D,	.30
S-23, S-23D,	.30
S-27, S-27D,	.30
S-25, S-19A,	.30
C-11, T-24,	.30
T-20, T-13,	.30
T-17, T-20A,	.30

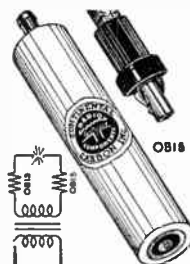


## GENERATOR CONDENSERS

Type	Application	Capacity	Size	List Price
GB05	Generator and coil	.5 mfd.	2 1/8" x 3/4"	\$0.75
GB05F	Ford V-8 coil 1936 Models	.5 mfd.	2 1/8" x 3/4"	1.00
GB05R	{ Ford Generator and coil Latest Models	.5 mfd.	2 1/8" x 3/4"	1.00

## OIL BURNER SUPPRESSOR

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3 1/2" x 3/4" diameter. Universal connections at both ends for solderless contact.



OB15.....List Price \$1.80

# VITROHM RESISTORS

Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

## 5 WATTS Size—1" x 5/16" TYPE 5F

Ohms	M.A.	List Price	Ohms	M.A.	List Price	Ohms	M.A.	List Price
1	2230	\$0.67	100	223	\$0.67	1250	63	\$0.72
1.5	1820	.67	125	200	.67	1500	57	.72
2	1580	.67	150	182	.67	1750	53	.72
3	1290	.67	200	158	.67	2000	50	.72
4	1117	.67	250	141	.67	2250	47	.72
5	1000	.67	300	129	.67	2500	45	.72
7.5	811	.67	350	119	.67	3000	40	.72
10	707	.67	400	112	.67	3500	37	.72
12	644	.67	450	105	.67	4000	35	.72
15	577	.67	500	100	.67	4500	33	.72
20	500	.67	600	91	.67	5000	31	.72
25	450	.67	700	84	.67	6000	28	.78
30	408	.67	750	81	.67	7000	26	.78
35	378	.67	800	79	.67	7500	25	.78
40	353	.67	900	74	.67	8000	25	.78
50	316	.67	1000	70	.67	9000	23	.78
75	257	.67	1100	67	.72	10000	22	.78
			1200	64	.72			

## 10 WATTS Type 10F—Fixed Type 10A—Adj.

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Fixed	Adj.			Fixed	Adj.
1	3160	\$0.75	\$1.47	1200	91	\$0.80	*
1.5	2580	.75	*	1250	89	.80	\$1.53
2	2235	.75	1.47	1500	81	.80	1.53
3	1825	.75	1.47	1750	75	.80	*
4	1580	.75	*	2000	70	.80	1.53
5	1415	.75	1.47	2250	66	.80	*
7.5	1155	.75	1.47	2500	63	.80	1.53
10	1000	.75	1.47	3000	58	.80	1.53
12	913	.75	*	3500	53	.80	1.53
15	815	.75	1.47	4000	50	.80	1.53
20	707	.75	1.47	4500	47	.80	1.53
25	630	.75	1.47	5000	45	.80	1.53
30	577	.75	*	6000	41	.92	1.63
35	534	.75	*	7000	38	.92	1.63
40	500	.75	*	7500	36	.92	1.63
50	450	.75	1.47	8000	35	.92	1.63
75	365	.75	1.47	8500	34	.92	1.63
100	316	.75	1.47	9000	33	.92	1.63
125	283	.75	*	10000	32	.92	1.63
150	258	.75	1.47	11000	30	1.03	*
200	224	.75	1.47	12000	29	1.03	*
225	211	.75	*	12500	28	1.03	*
250	200	.75	1.47	13500	27	1.03	*
300	182	.75	1.47	15000	25.5	1.03	*
350	169	.75	1.47	16000	25	1.03	*
400	158	.75	1.47	17500	24	1.03	*
450	149	.75	*	18000	23	1.03	*
500	142	.75	1.47	20000	22	1.03	*
600	129	.75	1.47	22500	21	1.08	*
700	120	.75	*	25000	20	1.08	*
750	115	.75	1.47	30000	18	1.22	*
800	112	.75	1.47	35000	17	1.22	*
900	105	.75	*	40000	16	1.22	*
1000	100	.75	1.47	45000	15	1.22	*
1100	95	.80	*	50000	14	1.22	*

## 20 WATTS TYPE 20F

Ohms	M.A.	List Price	Ohms	M.A.	List Price	Ohms	M.A.	List Price
3	2580	.95	1000	141	.95	10000	45	1.12
5	2000	.95	1200	130	.97	12500	40	1.20
10	1410	.95	1250	125	.97	15000	36	1.20
15	1150	.95	1500	115	.97	20000	32	1.20
25	900	.95	1750	107	.97	25000	28	1.37
50	630	.95	1850	104	.97	30000	26	1.37
75	517	.95	2000	100	.97	35000	24	1.37
100	450	.95	2250	94	.97	40000	22	1.37
150	365	.95	2400	91	.97	45000	21	1.58
175	340	.95	2500	90	.97	50000	20	1.58
200	320	.95	2750	85	.97	55000	18	1.58
250	285	.95	3000	81	.97	60000	16	1.58
300	258	.95	3500	76	.97	65000	15	1.83
350	240	.95	4000	70	.97	70000	14	1.83
400	224	.95	4500	67	.97	75000	13	1.83
500	200	.95	5000	63	.97	80000	12	1.83
650	175	.95	6000	57	1.12	85000	11.5	2.11
700	169	.95	7000	53	1.12	90000	11	2.11
750	163	.95	7500	51	1.12	95000	10.5	2.11
800	155	.95				100000	10	2.11



# WARD LEONARD



Types 5F, 10F, and 20F. Furnished with wire terminal leads. Brackets supplied on request.



Type 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Order by Type Number and Resistance Value.

Asterisks (\*) in Tables Indicate that Resistors are not Stock Items.

## ADJUSTABLE BANDS

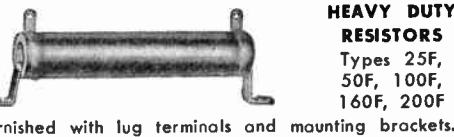
Screw Driver Type		
Size of Resistor	Cat. No.	Price
10 Watts	507-685	\$0.25
25 Watts	507-686	.25
50 Watts	507-688	.25
80 Watts	507-688	.25
100 Watts	507-690	.42
160 Watts	507-690	.42
200 Watts	507-690	.42

Bakelite Knob Type		
Size of Resistor	Cat. No.	Price
25 Watts	507-691	\$0.36
50 Watts	507-693	.36
80 Watts	507-693	.36
100 Watts	507-695	.47
160 Watts	507-695	.47
200 Watts	507-695	.47

## 80 WATTS TYPE 80A

Ohms	M.A.	List Price	Ohms	M.A.	List Price
2	6120	3.53	3500	146	2.83
3	5000	2.72	4000	137	2.83
4	4330	2.72	4500	129	2.83
5	3870	2.72	5000	122	2.83
10	2740	2.72	6000	111	3.00
15	2235	2.72	7000	103	3.00
25	1730	2.72	7500	100	3.00
50	1220	2.72	8000	97	3.00
75	1000	2.72	9000	91	3.00
100	866	2.72	10000	87	3.00
200	612	2.72	15000	71	3.17
250	550	2.72	20000	61	3.17
300	500	2.72	25000	55	3.50
400	433	2.72	30000	50	3.50
500	387	2.72	35000	43	3.50
750	315	2.72	40000	37	3.50
800	305	2.72	45000	33	3.61
1000	274	2.72	50000	30	3.61
1250	245	2.72	60000	25	3.61
1500	224	2.83	70000	21	3.94
2000	195	2.83	80000	19	3.94
2250	183	2.83	100000	15	4.33
2500	173	2.83			



## 25 WATTS Type 25F—Fixed Type 25A—Adj.

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Fixed	Adj.			Fixed	Adj.
1	5000	\$0.97	\$1.86	2500	100	\$1.03	\$1.89
2	3535	.97	1.86	3000	90	1.03	1.89
3	2890	.97	1.86	3500	85	1.03	1.89
4	2500	.97	*	4000	80	1.03	1.89
5	2235	.97	1.86	4500	74	1.14	1.89
7.5	1825	*.	1.86	5000	70	1.03	1.89
10	1580	.97	1.86	6000	65	1.14	2.03
15	1290	.97	1.86	7000	60	1.14	2.03
25	1000	.97	1.86	7500	58	1.14	2.03
50	710	.97	1.86	8000	56	*	2.03
75	580	.97	1.86	8500	54	*	2.03
100	500	.97	1.86	9000	52	*	2.03
150	410	.97	1.86	10000	50	1.14	2.03
200	354	.97	1.86	12000	46	1.19	2.11
250	315	.97	1.86	15000	41	1.19	2.11
300	289	.97	1.86	20000	34	1.19	2.11
400	250	.97	1.86	25000	32	1.36	2.28
500	224	.97	1.86	30000	29	1.36	*
750	182	.97	1.86	35000	27	1.36	*
800	177	.97	1.86	40000	25	1.36	*
850	170	.97	1.86	50000	20	1.56	*
1000	158	.97	1.86	60000	17	1.56	*
1250	140	1.03	1.89	70000	14	1.83	*
1500	129	1.03	1.89	75000	13	1.83	*
2000	112	1.03	1.89	80000	12	1.83	*
2250	105	*	1.89	100000	10	2.11	*

## 50 WATTS Type 50F—Fixed Type 50A—Adj.

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Fixed	Adj.			Fixed	Adj.
1	7070	\$2.25	\$3.00	4500	105	*	\$2.47
2	5000	1.63	2.37	5000	100	\$1.75	2.47
3	4080	1.63	2.37	6000	91	1.82	2.63
4	3535	1.63	2.37	7500	82	1.82	2.63
5	3160	1.63	2.37	8000	79	1.92	2.63
10	2235	1.63	2.37	9000	75	*	2.63
25	1415	1.63	2.37	10000	71	1.92	2.63
50	1000	1.63	2.37	12000	65	2.08	2.83
75	815	1.63	2.37	12500	63	2.08	*
100	707	1.63	2.37	15000	58	2.08	2.83
150	575	1.63	2.37	20000	50	2.08	2.83
200	500	1.63	2.37	25000	45	2.33	3.08
250	445	1.63	2.37	30000	41	2.33	3.08
300	408	1.63	2.37	35000	38	2.33	*
400	353	1.63	2.37	40000	35	2.33	3.08
500	316	1.63	2.37	45000	33	2.58	*
750	258	1.63	2.37	50000	32	2.58	3.30
800	250	1.63	2.37	60000	29	*	3.30
1000	224	1.63	2.37	75000	23	2.92	3.67
1250	200	*	2.47	80000	21	*	3.67
1500	180	1.75	2.47	100000	17	3.20	3.92
2000	160	1.75	2.47	125000	14	3.36	*
2							

# VITROHM RESISTORS

Order by Type Number and Resistance Value

Asterisks (\*) in Tables Indicate that Resistors are not Stock Items.

## 160 WATTS Type 160F—Fixed Type 160A—Adj.

Size—8 1/2" x 1 1/8" Mtg. Centers—9 1/4"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Fixed	Adj.			Fixed	Adj.
1	12650	\$4.16	\$5.33	2500	252	\$3.04	\$4.19
2	8940	4.16	5.33	3000	230	3.04	4.19
3	7300	4.16	5.33	3500	215	3.04	4.19
4	6320	4.16	5.33	4000	200	3.04	4.19
5	5650	4.16	5.33	4500	185	3.04	4.19
10	4000	2.98	4.14	5000	178	3.04	4.19
15	3265	2.98	4.14	7500	146	3.30	4.44
25	2525	2.98	4.14	10000	126	3.30	4.44
50	1785	2.98	4.14	15000	105	3.54	4.69
75	1460	2.98	*	20000	90	3.54	4.69
100	1265	2.98	4.14	25000	80	3.64	4.81
150	1035	2.98	*	30000	73	3.64	4.81
200	894	2.98	4.14	35000	68	3.64	*
250	800	2.98	4.14	40000	64	3.64	4.81
500	565	2.98	4.14	50000	57	3.76	4.94
750	460	2.98	*	60000	52	3.76	4.94
1000	400	2.98	4.14	75000	46	4.03	5.17
1500	326	3.04	4.19	80000	45	4.28	5.17
2000	280	3.04	4.19	100000	40	4.26	5.44

## 200 WATTS Type 200F—Fixed Type 200A—Adj.

Size—10 1/2" x 1 1/8" Mtg. Centers—11 1/4"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Fixed	Adj.			Fixed	Adj.
1	14140	\$4.53	\$5.67	3500	240	\$3.30	\$4.45
2	10000	4.53	5.67	4000	225	3.30	4.45
3	8162	4.53	5.67	4500	210	3.30	4.45
4	7070	4.53	5.67	5000	200	3.30	4.45
5	6320	4.53	5.67	7500	163	3.53	4.70
10	4470	3.22	4.37	10000	141	3.53	4.70
25	2825	3.22	4.37	15000	115	3.77	4.92
50	2000	3.22	4.37	20000	100	3.77	4.92
75	1630	3.22	*	25000	90	3.90	5.03
100	1414	3.22	4.37	30000	82	3.90	5.03
150	1150	3.22	*	35000	76	3.90	*
250	900	3.22	4.37	40000	71	3.90	5.03
500	632	3.22	4.37	50000	63	4.03	5.17
750	515	3.22	*	60000	58	4.03	5.17
1000	447	3.22	4.37	75000	52	4.25	5.42
1500	365	3.30	4.45	100000	45	4.53	5.67
2000	315	3.30	4.45	125000	40	*	5.67
2500	282	3.30	4.45	150000	35	*	5.67
3000	260	3.30	4.45				

# STRIPOHM RESISTORS —

## 30 WATTS • TYPE 30S

1 1/4" long—Mtg. Centers 2"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Price	Price			Price	Price
1	5480	\$1.84		500	244	\$1.84	
3	3160	1.84		750	200	1.84	
5	2450	1.84		1000	173	1.84	
10	1730	1.84		1250	154	1.84	
15	1420	1.84		1500	142	1.84	
25	1095	1.84		2000	122	1.84	
50	774	1.84		2500	109	1.84	
100	547	1.84		3000	100	1.98	
150	447	1.84		3500	92	1.98	
200	387	1.84		4000	86	1.98	
250	346	1.84		5000	77	1.98	
400	273	1.84					

## 40 WATTS • TYPE 40S

2" long—Mtg. Centers 2 3/4"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Price	Price			Price	Price
1	6320	\$1.93		750	230	\$1.93	
3	3650	1.93		1000	200	1.93	
5	2830	1.93		1250	180	1.93	
10	2000	1.93		1500	163	1.93	
15	1630	1.93		2000	141	1.93	
25	1270	1.93		2500	126	1.93	
50	894	1.93		3000	114	2.06	
100	632	1.93		3500	106	2.06	
150	510	1.93		4000	100	2.06	
200	447	1.93		5000	88	2.06	
250	400	1.93		7500	73	2.32	
400	315	1.93		10000	63	2.32	
600	283	1.93		15000	51	2.42	

- 30 WATTS • TYPE 30S
- 40 WATTS • TYPE 40S
- 55 WATTS • TYPE 55S
- 65 WATTS • TYPE 65S
- 75 WATTS • TYPE 75S

Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mounting brackets. Particularly suited for applications where space is limited. Specially adapted to stacking for networks.



Order by Type Number and Resistance Value

## 55 WATTS • TYPE 55S

3 1/2" long—Mtg. Centers 4 1/4"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Price	Price			Price	Price
1	7420	\$2.22		1250	209	\$2.22	
3	4280	2.22		1500	191	2.22	
5	3320	2.22		2000	165	2.22	
10	2350	2.22		2500	148	2.22	
15	1910	2.22		3000	135	2.35	
25	1480	2.22		3500	129	2.35	
50	1050	2.22		4000	117	2.35	
100	741	2.22		5000	104	2.35	
150	604	2.22		7500	84	2.60	
200	522	2.22		10000	74	2.60	
250	469	2.22		15000	60	2.71	
400	370	2.22		20000	52	2.82	
500	331	2.22		25000	47	2.98	
750	270	2.22		30000	42	3.11	
1000	234	2.22					

## 65 WATTS • TYPE 65S

4 1/2" long—Mtg. Centers 5 1/2"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Price	Price			Price	Price
1	8060	\$2.53		1500	208	\$2.53	
3	4650	2.53		2000	180	2.53	
5	3610	2.53		2500	161	2.53	
10	2550	2.53		3000	146	2.66	
15	2080	2.53		3500	136	2.66	
25	1610	2.53		4000	127	2.66	
50	1140	2.53		5000	114	2.66	
100	806	2.53		7500	92	2.90	
150	658	2.53		10000	82	2.90	
200	570	2.53		15000	65	3.02	
250	509	2.53		20000	57	3.13	
400	403	2.53		25000	51	3.29	
500	360	2.53		30000	46	3.43	
750	294	2.53		35000	43	3.43	
1000	254	2.53		40000	40	3.58	
1250	228	2.53		50000	36	3.58	

## 75 WATTS • TYPE 75S

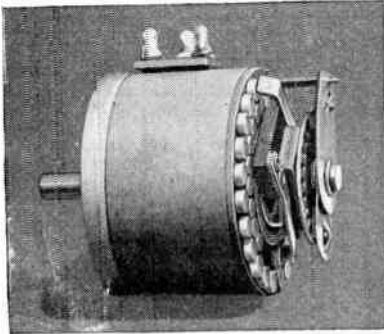
6" long—Mtg. Centers 6 3/4"

Ohms	M.A.	List Price		Ohms	M.A.	List Price	
		Price	Price			Price	Price
1	8660	\$2.76		2000	193	\$2.76	
3	5000	2.76		2500	173	2.76	
5	3870	2.76		3000	158	2.89	
10	2740	2.76		3500	146	2.89	
15	2235	2.76		4000	137	2.89	
25	1730	2.76		5000	122	2.89	
50	1220	2.76		7500	100	3.13	
100	866	2.76		10000	87	3.13	
150	707	2.76		15000	71	3.24	
200	612	2.76		20000	61	3.36	
250	550	2.76		25000	55	3.52	
400	433	2.76		30000	50	3.65	
500	387	2.76		35000	46	3.65	
750	315	2.76		40000	43	3.78	
1000	274	2.76		50000	37	3.96	
1250	245	2.76		60000	35	3.96	
1500	224	2.76		65000	33	3.96	

**ELECTRICAL  
INSTRUMENTS**  
RESISTORS  
VARIABLE  
ATTENUATORS  
SWITCHES

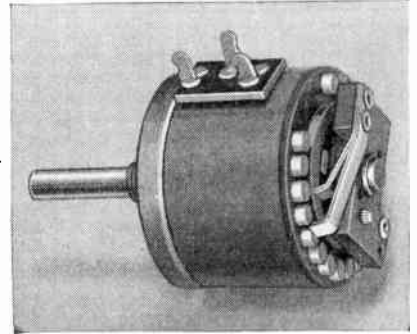
**SHALLCROSS MANUFACTURING CO.**  
COLLINGDALE, PENNSYLVANIA

**SHALLCROSS AUDIO ATTENUATORS**



**SHALLCROSS  
ATTENUATOR  
NO.  
420-2B2**

**SHALLCROSS  
ATTENUATOR  
NO.  
C720-2A3**



**These Shallcross Features Mean**

- ✓ **BETTER PERFORMANCE**
- ✓ **BIGGER VALUE**

- ✓ Off position attenuation well in excess of 100 db.
- ✓ 25% to 50% fewer soldered joints.
- ✓ Noise level ratings that are factual. (130 db or more below zero level).
- ✓ Non-inductive Shallcross precision resistors used throughout assure flat attenuation to and beyond 30 kc.
- ✓ Types and sizes engineered for all needs. Attenuation accuracies of 1%, resistor accuracies of 0.1%, on special order.

Shallcross Audio Attenuators are available in either variable or fixed units, the former often being referred to as a "control" and the latter, as a "pad".

Controls are available with as few as 5 steps or as many as 52 steps with an attenuation as small as 0.1 db per step. The total attenuation for a single control does not exceed about 125 db since such high attenuation approaches the noise level of the switching mechanism.

The complete story of Shallcross attenuators may be found in Shallcross Engineering Bulletin #4, copies of which are available on request. Specifications and prices are given below for a few of the most popular variable attenuators.

**IMPEDANCE:** 150, 500, 250/500, 600 ohms, except potentiometers, which are 100,000 and 250,000 ohms.

**RESISTORS:** All non-inductively wirewound,  $\pm 5\%$  tolerance, except types preceded with "C", which are composition selected to  $\pm 5\%$ .

**ATTENUATION:** Increases for counter-clockwise rotation of knob end of shaft.

**FREQUENCY RESPONSE:** Flat over entire audio range.

**SWITCH MECHANISM:** Multi-leaf wiper arms, collector rings and contacts available in tarnish resistant silver alloy or brass. Noise level -130 db.

**DETENT:** Indexing mechanism available on any unit for \$0.75 list. Back of panel depth is then increased  $\frac{3}{8}$ ".

**DIALS:** \$1.50 list each additional.

**KNOBS (VA-16906):** \$0.60 list each additional.

**120-2A3**  
\$ 9.50 silver  
10.50 brass

Ladder attenuator, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole,  $\frac{3}{8}$ "-32 threaded bushing or two hole, 6-32 screws,  $\frac{1}{4}$ " centers. DIMENSIONS:  $1\frac{3}{4}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 15".

**C720-2A3**  
\$ 9.50 silver  
10.50 brass

Potentiometer, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole,  $\frac{3}{8}$ "-32 threaded bushing or two hole, 6-32 screws,  $\frac{1}{4}$ " centers. DIMENSIONS:  $1\frac{3}{4}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 15".

**132-1.5B3**  
\$16.50 silver  
18.00 brass

Ladder attenuator, 32 steps, 1.5 db per step, tapered on last 3 steps to off. MOUNTING: two hole, 6-32 or 8-32 screws,  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 10".

**430-1C1**  
\$29.00 silver  
27.00 brass

Bridged T attenuator, 30 steps, 1 db. per step, 30 db total. MOUNTING: two hole, 6-32 or 8-32 screws,  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 11 $\frac{1}{4}$ ".

**430-1.5C3**  
\$29.00 silver  
27.00 brass

Bridged T attenuator. 30 steps, 1.5 db per step, tapered on last 5 steps to off. MOUNTING: two hole, 6-32 or 8-32 screws,  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 11 $\frac{1}{4}$ ".

**420-2B2**  
\$21.50 silver

Bridged T attenuator, 20 steps, 2 db per step, attenuation linear with off on last step. MOUNTING: two hole, 8-32 or 6-32 screws,  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 15".

**C820-2B2**  
\$21.50 silver

Dual potentiometer, each section 20 steps, 2 db per step, attenuation linear with off on last step. MOUNTING: two hole, 6-32 or 8-32 screws,  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter,  $1\frac{3}{4}$ " back of panel depth. CONTACT SPACING: 15".

**SHALLCROSS V.U. METER RANGE  
EXTENDING ATTENUATORS**

**IMPEDANCE:** Available with input impedances of 3900-7100-7500 ohms. Output impedance is 3900 ohms to match Weston Type 30B or General Electric Type DO 61 V.U. meters.

**TOLERANCE:**  $\pm 1\%$  except "C" types which are  $\pm 5\%$ .

**INSERTION LOSS:** Zero.

**DETENT:** All units supplied with indexing mechanism; back of panel depth includes detent.

**C35-4A4**  
\$16.00 silver  
15.00 brass

T attenuator, 0, +4 to +20 V.U., 5 steps, 4 V.U. per step. MOUNTING: single hole,  $\frac{3}{8}$ "-32 threaded bushing. DIMENSIONS:  $1\frac{3}{4}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 30".

**C35-4A5**  
\$16.00 silver  
15.00 brass

T attenuator, 0, +4 to +16 V.U., and OFF, 5 steps, 4 V.U. per step. MOUNTING: single hole,  $\frac{3}{8}$ "-32 threaded bushing. DIMENSIONS:  $1\frac{3}{4}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 30".

**320-2C4**  
\$31.50 silver

T attenuator, +4 to +44 V.U., 20 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws,  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 15".

**320-2C5**  
\$31.50 silver

T attenuator, +4 to +42 V.U. and OFF, 20 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws,  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 15".

**412-2B4**  
\$22.50 silver

Bridged T attenuator, +4 to +28 V.U., 12 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws,  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 12".

**412-2B5**  
\$22.50 silver

Bridged T attenuator, +4 to +26 V.U. and OFF, 12 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws,  $1\frac{1}{2}$ " centers. DIMENSIONS:  $2\frac{1}{2}$ " diameter, 2-1/16" back of panel depth. CONTACT SPACING: 12".

# SHALLCROSS MANUFACTURING CO.

COLLINGDALE, PENNSYLVANIA

**ELECTRICAL INSTRUMENTS**

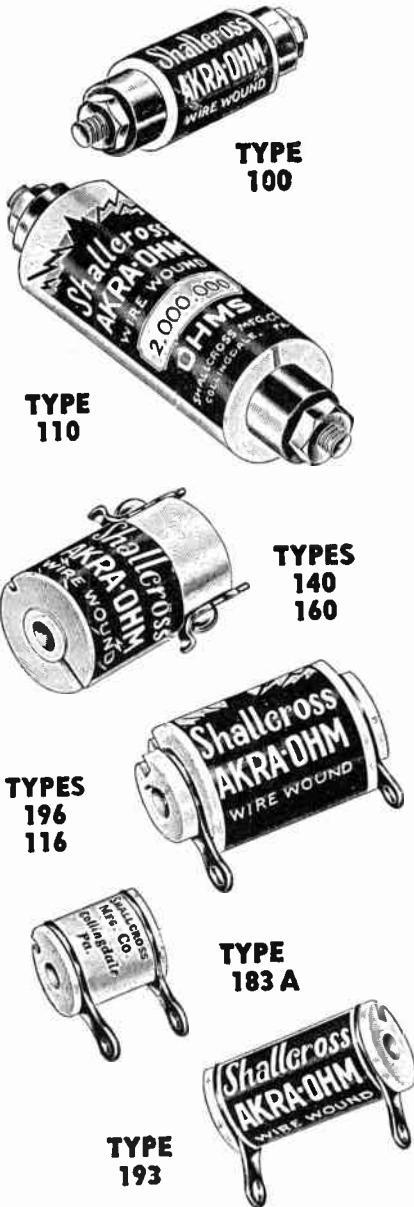
**RESISTORS**

**VARIABLE ATTENUATORS**

**SWITCHES**

## SHALLCROSS AKRA-OHM RESISTORS

### LIST PRICES—Standard BX Types, ±1% Tolerance



November 23, 1950		RESISTOR PRICE SCHEDULE						PS-22		
TOL. ± 1% Resistance to and Including OHMS	BX110, BX112, BX116, BX160 Wire Spec.			BX196, BX100 Wire Spec.			BX120, BX140, BX173, BX183A, BX193 Wire Spec.			
	N	J-E	L	N	J-E	L	N	J-E	L	
.099			4.55			3.90			3.30	
.499			3.60			3.00			2.45	
1,000			3.00			2.40			2.00	
5,000	3.30	3.45	4.35	2.50	2.70	3.40	2.10	2.20	3.05	
10,000	3.45	3.65	4.90	2.60	2.85	3.80	2.15	2.25	3.45	
15,000	3.60	3.70	5.50	2.75	3.05	4.30	2.20	2.30	3.95	
30,000	3.70	4.00	6.90	2.85	3.20	5.40	2.25	2.55	4.95	
50,000	3.90	4.35	8.70	3.00	3.40	6.80	2.40	2.60	6.10	
75,000	4.20	4.90	10.50	3.30	3.75	8.25	2.70	3.10	6.80	
100,000	4.60	5.15	12.30	3.60	4.30	9.70	3.00	3.45	7.55	
125,000	4.80	5.60	13.20	3.95	4.65	10.40	3.30	3.95	8.10	
150,000	5.10	6.10	14.10	4.30	5.15	11.15	3.45	4.35	8.60	
200,000	5.50	6.60	15.00	4.90	5.70	11.85	3.95	4.80	9.70	
250,000	6.00	7.05	16.80	5.40	6.40	13.30	4.30	5.30	10.80	
300,000	6.15	7.15	16.95	6.00	7.00	13.45	4.45	5.55	11.35	
400,000	7.00	8.15	19.55	6.60	7.70	15.50	5.05	6.15	13.45	
500,000	7.85	9.00	22.10	7.45	8.50	17.55	5.85	6.90	14.80	
600,000	8.50	9.65	24.70	8.05	9.20	19.65	6.30	7.55	16.20	
700,000	8.95	10.05	27.30	8.60	9.85	21.70	6.75	8.25	17.55	
750,000	9.45	10.35	28.55	9.20	10.35	22.75	7.35	8.70	18.25	
900,000	10.10	11.20	30.75	9.75	10.90	24.45	8.05	9.30	21.70	
1 megohm	11.20	12.35	31.60	10.35	11.50	25.15	8.60	9.75	22.40	
1.5 "	13.50	16.95	45.40	12.35	13.50	36.20	10.90	12.65	.....	
2 "	19.55	21.25	59.20	15.80	17.25	47.25	13.20	15.50	.....	
Deduct if not BX		\$0.50			\$0.40			\$0.40		

#### SPECIAL TOLERANCE

Resistors to closer tolerances can be supplied at higher prices. Add to list prices as follows:

- ± 1/2%, add 5%
- ± 1/10%, add 15%
- ± 1/4%, add 10%
- ± 2/10%, add 15%
- ± 1/10%, add 25%

#### NOTES

1. BX impregnated resistors will be furnished unless order specifies "without BX".
2. Letters in separate price columns above indicate resistance wire alloy, as follows:
  - a. "L"—manganin.
  - b. "J"—iron-free nichrome.
  - c. "N"—iron-bearing nichrome.
  - d. "E"—high resistivity nichrome.

#### TYPES BX183A AND BX193—±1% IN COMMON VALUES—IN STOCK

In addition to the popular standard types listed here, Shallcross Akra-Ohm Resistors are made in a complete line of standard and special designs for precise electronic equipment demanding great stability and long life even under difficult conditions of temperature and humidity. Shallcross achievements include the development of really practical hermetically-sealed

units; BX processed resistors "tropicalized" against moisture and fungus; the use of spun glass insulated wire for applications where considerable power must be dissipated; bifilar wound resistors, 1000 ohms or less, for exacting instrument use; heavy-duty surge resistors; accurate heavy-duty power resistors, and various others. Write for Shallcross resistor bulletin R3-B for complete information.

### ACCURATE FIXED WIRE-WOUND TYPES (JAN R93) PRICES ON REQUEST.

Shallcross Type	** JAN Style	Wattage	* Maximum Ohms	Std. Terminal	Mounting	Dimensions Length—Diam.
100	RB21B	1	750,000	#8 screw	5 amp. fuse clip	2 1/16" x 9/16"
110	RB22B	2	2 Meg.	#8 screw	5 amp. fuse clip	2 3/8" x 3/4"
116	RB14B	1	2 Meg.	Solder lugs	#6 screw	2 5/8" x 3/4"
140	RB41B	0.5	350,000	Solder lugs	#6 screw	1 3/4" x 11/16"
160	RB42B	1	500,000	Solder lugs	#6 screw	1 1/2" x 11/16"
183A	RB11B	0.5	300,000	Solder lugs	#6 screw	3/8" x 1/2"
193	RB12B	1	400,000	Solder lugs	#6 screw	1" x 3/8"
196	RB13B	1	1 Meg.	Solder lugs	#6 screw	1 1/4" x 3/8"
1101*	RB12A	0.5	300,000	Solder lugs	#6 screw	2" x 3/8"
1105*	RB14A	1.5	400,000	Solder lugs	#6 screw	2" x 1/2"
1180*	RB11A	0.25	300,000	Solder lugs	#2 screw	19/32" x 1/8"
1196*	RB13A	1	1 Meg.	Solder lugs	#6 screw	1 1/4" x 3/8"

\* Based on use of .0014" diameter nickel chromium wire.  
 \*\* JAN style refers to Joint Army-Navy Specification R93.  
 Δ Hermetically sealed. Other sizes available.

Smaller wire sizes will greatly increase maximum allowable resistance on any form. Price depends on wire size and specification.

### SEND FOR RESISTOR ENGINEERING CHART FOR COMPLETE DATA

# SHALLCROSS MANUFACTURING CO.

## COLLINGDALE, PENNSYLVANIA

**ELECTRICAL INSTRUMENTS**  
**RESISTORS**  
**VARIABLE ATTENUATORS**  
**SWITCHES**

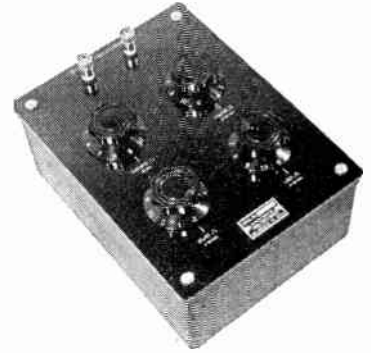
### SHALLCROSS DECADE RESISTANCE BOXES

The large assortment and wide range of resistance available makes the Shallcross line of Resistance Boxes unique in the instrument

field. They are used extensively as laboratory standards, AC and DC Bridge and ratio arms, voltage dividers, etc.

Accuracy adjustment of Resistors as follows:  
 0.1 ohm..... 1% I, ohm..... 0.25% all others..... 0.1%

No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price	No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price
543	1	0.1	1	\$22.00	821	3	10	11,100	\$60.00
544	1	1.0	10	22.00	822	3	100	111,000	63.00
545	1	10	100	22.00	823	3	1,000	1,110,000	77.00
546	1	100	1,000	22.00	824	3	10,000	11,100,000	120.00
547	1	1,000	10,000	24.00	825	4	1	11,110	77.00
548	1	10,000	100,000	26.00	826	4	10	111,100	79.00
549	1	100,000	1,000,000	36.00	827	4	100	1,111,000	92.00
550	1	1,000,000	10,000,000	66.00	828	4	1,000	11,110,000	139.00
817	3	.01	11.1	60.00	8285	5	0.1	11,111	94.00
817A	4	.01	111.1	75.00	829	5	1	111,110	101.00
817B	5	.01	1,111.1	94.00	830	5	10	1,111,100	113.00
818	3	0.1	111	51.00	831	5	100	11,111,000	155.00
819	4	0.1	1,111	71.00	832	6	1	1,111,110	121.00
820	3	1	1,110	56.00	833	6	10	11,111,100	169.00



### UNMOUNTED DECADE RESISTANCES



In response to a demand from engineers, manufacturers and physicists who design and construct their own electrical measuring instruments, we have made the Shallcross Unmounted Decade Resistances available. They are of the same construction as those used in the popular Shallcross Resistance Decades described above and consist of ten Shallcross Resistors mounted on a ceramic instrument switch.

#### SPECIFICATIONS

Type No.	Total Resistance Ohms	Unit Resistance Ohms	Switch No.	Accuracy	*Price
435	1.0	.1	4485-S	1.0%	\$12.00
436	10	1.0	4485-B	0.25%	13.25
437	100	10	4485-B	0.1	13.25
438	1,000	100	4485-B	0.1	15.00
439	10,000	1,000	4485-B	0.1	16.00
440	100,000	10,000	4485-B	0.1	18.50
441	1 Meg.	100,000	4485-B	0.1	32.50
442	10 Meg.	1 Meg.	4485-B	0.1	60.00

\* Does not include knob or dial.

MOUNTING: Single  $\frac{3}{8}$ " Hole Mounting—Panels up to  $\frac{3}{16}$ " Thick. All of the above are available with aluminum dust cover, shield, and isolated shaft at \$3.00 additional.

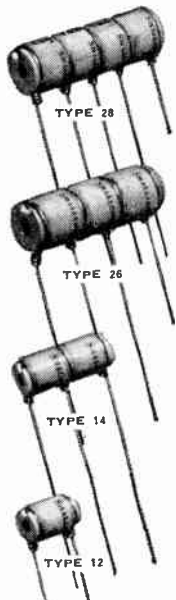
Knob #1916-1 (illustrated): \$0.25 additional and aluminum dial 0-10 #1522-1 \$0.70 additional.

### SHALLCROSS AKRA-OHM PRECISION RESISTORS

for "Miniaturization" applications  
 UNUSUAL ACCURACY IN SMALL SPACE

These new Shallcross Akra-Ohm Wire-Wound Precision Resistors have been designed to meet the needs of modern, miniature equipment. Standard tolerance is 1%. Closer tolerances can be furnished on special order.

The units offer unusually high and accurate resistance values in small space and are light enough to be suspended by their own tinned copper leads, or may be secured with mounting screw.

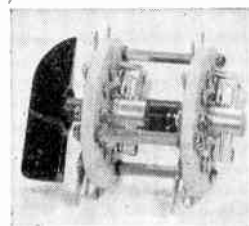


Type	Sections	Size	Watts Each Section	Maximum Resistance per Section Ohms	Minimum Resistance per Section Ohms
10	1	$\frac{1}{8}$ " x $\frac{1}{4}$ "	0.1	70,000	1.
12	1	$\frac{15}{64}$ " x $\frac{1}{4}$ "	0.15	150,000	1.
14	2	$\frac{15}{64}$ " x $\frac{1}{4}$ "	0.15	150,000	1.
26	3	$\frac{11}{64}$ " x $\frac{3}{8}$ "	0.25	550,000	1.
28	4	$1\frac{1}{2}$ " x $\frac{3}{8}$ "	0.25	375,000	1.

Prices on application.

### SHALLCROSS ROTARY SELECTOR SWITCHES

Like other Shallcross instrument components, these Rotary Selector Switches are designed to cover a very wide field of application in both shorting and non-shorting types, and can be modified to control a variety of circuits. Details on any type for practically any application on request. Suffixes B and S denote Brass and Silver contacts and contact asms. Write for Specification Sheet SS-6.



#### SPECIFICATIONS

Poles	Positions	Contact Spacing	Contact Plate Material	Type Number		*List Price
				Shorting	Non-Shorting	
1	11	32.7°	Steatite	4605-B	4610-B	\$ 4.25
2	11	32.7°	Steatite	4620-B	4615-B	9.50
1	11	32.7°	Steatite	4605-S	4610-S	4.50
2	11	32.7°	Steatite	4620-S	4615-S	10.00
1	12	30°	Bakelite	5550-B	5620-B	4.95
1	12	30°	Bakelite	5550-S	5620-S	5.25
1	15	24°	Steatite	5610-B	4225-B	5.55
2	15	24°	Steatite	5615-B	4980-B	12.50
1	15	24°	Steatite	5610-S	4225-S	6.00
2	15	24°	Steatite	5615-S	4980-S	13.50
1	18	20°	Steatite	5155-B	5625-B	6.50
1	18	20°	Steatite	5155-S	5625-S	7.00
1	24	15°	Bakelite	5630-B	5570-B	9.50
1	24	15°	Bakelite	5630-S	5570-S	10.00
1	36	10°	Bakelite	.....	10054-S	28.00
1	40	8.8°	Melamine	8140-S	.....	35.00
1	60	6°	Bakelite	.....	10061-S	30.00

\* Does not include knob or dial.

**ELECTRICAL INSTRUMENTS**

**RESISTORS  
VARIABLE ATTENUATORS  
SWITCHES**

**SHALLCROSS MANUFACTURING CO.  
COLLINGDALE, PENNSYLVANIA**

**SHALLCROSS D-C BRIDGES**



**No. 638-R  
KELVIN  
WHEATSTONE  
BRIDGE**

Resistance range 0.0001 ohm to 11.11 megohms

**SPECIFICATIONS**

**ACCURACY**—0.3% between 1.0 ohm and .1111 megohms. Below and above this range—2%.

**GALVANOMETER**—Built-in—sensitivity 1 micro-ampere per millimeter division.

**RHEOSTAT ARM**—Four decades—1.0 ohm steps in Wheatstone and 1.0 micro-ohm steps in Kelvin ranges.

**RESISTANCE BOX**—Binding posts allow using rheostat as Resistance Box.

**PUSH BUTTONS**—Provided for battery and galvanometer circuits.

**CASE**—Carrying type with removable cover (not illustrated) and compartment for 4½ volt battery (not supplied) for Wheatstone range measurements.

**DIMENSIONS**—Length 12½", width 10¼", height 6¾".

**WEIGHT**—Approx. 9 lbs. Price \$260.00.



**No. 630  
WHEATSTONE  
BRIDGE**

Resistance range from 0.1 ohm to 11.1 megohms

**SPECIFICATIONS**

**ACCURACY**—1.0% between 10 ohms and 1.0 megohm—2% over 1 megohm.

**COMPONENT RESISTORS**—0.1% accurate except 1 ohm, which are 0.25%.

**RHEOSTAT ARM**—Three decades—variable in 10.0 ohm steps.

**RESISTANCE BOX**—Binding posts allow using rheostat as Resistance Box.

**CAM SWITCHES**—Provided for battery and galvanometer circuits.

**CASE**—Carrying type with removable cover and compartment for batteries and leads (not supplied).

**DIMENSIONS**—Length 10", width 9¾", height 6".

**WEIGHT**—Approx. 6 lbs. Price \$145.00.



**No. 637  
KELVIN  
WHEATSTONE  
BRIDGE**

Resistance range 0.001 ohm to 11.1 megohms

**SPECIFICATIONS**—Same as No. 638-R except:

**ACCURACY**—1.0% between 1.0 ohm and 1.0 megohm; 2.0% above 1.0 megohm; and 3.0% below 0.1 ohm.

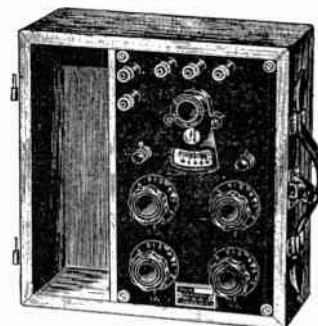
**GALVANOMETER**—Sensitivity 1.0 micro-ampere per millimeter division. Built-in.

**RHEOSTAT ARM**—Three decades—10 ohm steps in Wheatstone and 10 micro-ohm steps in Kelvin ranges.

**CANNOT** be used as Resistance Box.

**DIMENSIONS**—Length 10", width 9¾", height 5¼".

**WEIGHT**—Approx. 7 lbs. Price \$185.00.



**No. 627  
FAULT  
LOCATION  
BRIDGE**

Resistance range 0.1 ohm to 11.1 megohms

**SPECIFICATIONS**

**COMPONENT RESISTORS**—0.1% accurate except 1.0 ohm, which are 0.25%.

**GALVANOMETER**—Built-in—sensitivity 1.0 micro-ampere per mm. division.

**RHEOSTAT ARM**—Four decades—1.111 ohms—variable in 0.1 ohm steps.

**RATIO**—Unity ratio makes rheostat setting indicate resistance directly. Operator then uses charts in lid to convert readings into fault distance.

**CAM SWITCHES**—Provided for battery and galvanometer circuits.

**CASE**—Carrying type with removable cover, concealed compartment for battery (not supplied).

**ACCURACY**—0.3% for 1 to 1.111 ohms—2% for 0.1 to 1 ohm.

**DIMENSIONS**—Length 10", width 9¾", height 5¼".

**WEIGHT**—Approx. 6 lbs. Price \$145.00.

**VOLTAGE DIVIDERS (DECADE POTENTIOMETERS)**

No.	Dials	Total Resistance	Price	No.	Dials	Total Resistance	Price
835	4	10,000 ohms	\$132.00	845	3	1,000 ohms	\$ 98.00
836	4	100,000 ohms	146.00	846	3	10,000 ohms	105.00
837	4	1,000 ohms	126.00	850	3	100,000 ohms	123.00



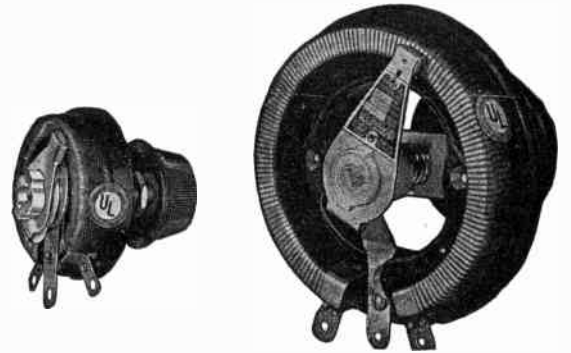
# BE RIGHT WITH OHMITE

RHEOSTATS  
RESISTORS  
SWITCHES  
CHOKES

## OHMITE RHEOSTATS

All-Porcelain — Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.



**MODEL "H" 25 Watt**  
Diameter 1 1/8". Depth behind panel 1 1/8".

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0140	1	5,000	\$7.03	0152	125	445	\$6.22
0141	2	3,540	6.22	0153	175	375	6.22
0142	3	2,880	6.22	0154	250	316	6.22
0143	6	2,040	6.22	0155	350	267	6.22
0144	8	1,770	6.22	0156	500	222	6.22
0145	10	1,580	6.22	0157	750	182	6.22
0146	15	1,290	6.22	0158	1,000	155	7.03
0147	25	1,000	6.22	0159	1,500	129	7.03
0148	35	845	6.22	0160	2,500	100	7.03
0149	50	707	6.22	0161	3,500	84	7.39
0150	75	575	6.22	0162	5,000	70	7.39
0151	100	500	6.22				

**MODEL "J" 50 Watt**  
Diameter 2 1/8". Depth behind panel 1 1/8".

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0308	0.5	10,000	\$7.81	0321	150	575	\$7.03
0309	1	7,070	7.81	0322	225	470	7.03
0310	2	5,000	7.81	0323	300	408	7.03
0311	4	3,530	7.03	0324	500	316	7.03
0312	6	2,880	7.03	0325	800	250	7.39
0313	8	2,500	7.03	0326	1,000	224	7.39
0314	12	2,040	7.03	0327	1,600	176	7.39
0315	16	1,760	7.03	0328	2,500	141	7.39
0316	22	1,500	7.03	0329	3,500	119	7.81
0317	35	1,190	7.03	0330	5,000	100	7.81
0318	50	1,000	7.03	0331	8,000	79	7.81
0319	80	790	7.03	0332	10,000	70	7.81
0320	125	630	7.03				

## NON-SHORTING TYPE ROTARY POWER TAP SWITCH



Single-pole, multi-position switch with all-ceramic insulation, silver-to-silver contacts and "slow-break" action designed especially for alternating current. Switch shaft is electrically "dead". A.C. rating 10 amps., 150 volts. Diameter 1 3/4" — Depth behind panel 1 1/8" — Shaft diameter 1/4" — Recommended knob, stock number 4500 (round type) or 4516 (bar type).

Number of Taps	Total Rotation	Stock Number	List Price Less Knob
11	300°	111-11	\$4.67
10	270°	111-10	4.53
9	240°	111-9	4.53
8	210°	111-8	4.36
7	180°	111-7	4.36
6	150°	111-6	4.19
5	120°	111-5	4.19
4	90°	111-4	4.06
3	60°	111-3	4.06
2	30°	111-2	4.06

**MODEL "K" 100 Watt**  
Diameter 3 1/4". Depth behind panel 1 1/8".

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0440	0.5	14,100	\$11.70	0452	200	707	\$10.95
0441	1	10,000	11.70	0453	300	575	10.95
0442	2	7,070	11.70	0454	400	500	10.95
0443	3	5,750	11.70	0455	500	447	10.95
0444	5	4,470	11.70	0456	750	365	10.95
0445	7.5	3,650	10.95	0457	1,000	316	11.70
0446	10	3,160	10.95	0458	1,500	258	11.70
0447	16	2,500	10.95	0459	2,000	224	11.70
0448	25	2,000	10.95	0460	2,500	200	11.70
0449	50	1,410	10.95	0461	5,000	141	12.47
0450	75	1,150	10.95	0462	7,500	115	13.28
0451	100	1,000	10.95	0463	10,000	100	14.03

**MODEL "L" 150 Watt**  
Diameter 4". Depth behind panel 2".

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0524	0.5	17,300	\$14.83	0537	150	1,000	\$14.03
0525	1	12,300	14.83	0538	200	865	14.03
0526	2	8,650	14.83	0539	250	775	14.03
0527	3	7,070	14.83	0540	350	655	14.03
0528	5	5,480	14.83	0541	500	548	14.03
0529	7.5	4,470	14.83	0542	750	447	14.83
0530	10	3,880	14.03	0543	1,250	346	14.83
0531	15	3,163	14.03	0544	1,800	288	15.61
0532	25	2,450	14.03	0545	2,250	259	15.61
0533	35	2,070	14.03	0546	3,000	224	15.61
0534	50	1,735	14.03	0547	4,500	182	16.36
0535	75	1,415	14.03	0548	7,500	141	17.17
0536	100	1,225	14.03	0549	10,000	122	18.72

**MODEL "N" 300 Watt**  
Diameter 6". Depth behind panel 2 1/2".

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0650	1	17,320	\$21.06	0661	100	1,730	\$21.06
0651	2	12,240	21.06	0662	150	1,410	21.06
0652	3	10,000	21.06	0663	200	1,220	21.06
0653	4	8,660	21.06	0664	300	1,000	21.06
0654	5	7,750	21.06	0665	400	866	21.06
0655	7.5	6,320	21.06	0666	700	655	21.06
0656	10	5,480	21.06	0667	900	578	21.06
0657	15	4,470	21.06	0668	1,200	500	21.06
0658	25	3,460	21.06	0669	1,500	447	21.06
0659	50	2,450	21.06	0670	1,750	414	21.06
0660	75	2,000	21.06	0671	2,500	346	21.06

## OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; Model T, 750 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

**OHMITE DIVIDOHM RESISTORS**

**OHMITE FIXED RESISTORS**



All-Porcelain

Vitreous-Enamelled



You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

Extra-sturdy, wire-wound, all-porcelain resistors with the permanent protection of Ohmite Vitreous Enamel. Widely used for heavy duty applications to assure continuous trouble-free service. With mounting brackets.

10 WATTS			Mounting Centers 2 1/4"		
Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
1	3,150	1001	750	115	1021
2	2,235	1002	800	111	1022
3	1,825	1003	1,000	100	1023
5	1,415	1004	1,250	89	1024
7.5	1,155	1005	1,500	79	1025
10	1,000	1006	2,000	69	1026
15	816	1007	2,250	64	1027
20	707	1008	2,500	63	1028
25	632	1009	3,000	56	1029
50	447	1010	3,500	51	1030
75	365	1011	4,000	47	1031
100	316	1012	4,500	45	1032
150	258	1013	5,000	43	1033
200	223	1014	6,000	38	1034
250	200	1015	7,000	34	1035
300	182	1016	7,500	33	1036
350	169	1017	8,000	31	1037
400	158	1018	8,500	29	1038
500	141	1019	9,000	28	1039
600	129	1020	10,000	26	1040

List Price, 1 thru 1000 ohms.....\$1.47  
 List Price, 1,250 thru 5,000 ohms..... 1.53  
 List Price, 6,000 thru 10,000 ohms..... 1.63

25 WATTS			Mounting Centers 2 1/4"		
Adjustable Res.			Fixed Resist.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
1	5,000	0200J	\$0.97	0360	\$1.87
2	3,535	0200K	.97	0360B	1.87
3	2,885	0200L	.97	0361	1.87
5	2,235	0200A	.97	0362	1.87
7.5	1,825		.97	0362B	1.87
10	1,580	0200B	.97	0363	1.87
15	1,290	0200R	.97	0364	1.87
20	1,117		.97	0364B	1.87
25	1,000	0200C	.97	0365	1.87
50	707	0200D	.97	0366	1.87
75	577	0200E	.97	0367	1.87
100	500	0200F	.97	0368	1.87
150	408	0200G	.97	0369	1.87
200	353	0200H	.97	0370	1.87
250	316	0201	.97	0371	1.87
300	288		.97	0371B	1.87
400	250		.97	0371C	1.87
500	223	0202	.97	0372	1.87
750	182	0203	.97	0373	1.87
800	176	0204	.97	0374	1.87

1,000	158	0205	.97	0375	1.87
1,250	141		1.03	0375B	1.88
1,500	129	0206	1.03	0376	1.88
2,000	111	0207	1.03	0377	1.88
2,250	105		1.03	0377B	1.88
2,500	100	0208	1.03	0378	1.88
3,000	91	0209	1.03	0379	1.88
3,500	84	0210	1.03	0380	1.88
4,000	79	0211	1.03	0381	1.88
4,500	74		1.03	0381B	1.88
5,000	70	0212	1.03	0382	1.88
6,000	64	0213	1.14	0383	2.03
7,000	60		1.14	0383B	2.03
7,200	59		1.14	0383C	2.03
7,500	57	0214	1.14	0384	2.03
8,000	55		1.14	0384B	2.03
9,000	52		1.14	0384C	2.03
10,000	50	0215	1.14	0385	2.03
12,000	42	0216	1.19	0386	2.08
15,000	34	0217	1.19	0387	2.08
20,000	28	0218	1.19	0388	2.08
25,000	21	0219	1.36	0389	2.28
40,000	14	0222	1.36		
50,000	12	0224	1.56		
100,000	7	0229	2.11		

50 WATTS			Mounting Centers 4 1/4"		
Adjustable Res.			Fixed Resist.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
5	3,160	0400A	\$1.63	0560	\$2.37
10	2,235	0400B	1.63	0561	2.37
25	1,414	0400C	1.63	0562	2.37
50	1,000	0400D	1.63	0563	2.37
75	816	0400E	1.63	0564	2.37
100	707	0400F	1.63	0565	2.37
150	577	0400G	1.63	0566	2.37
200	500	0400H	1.63	0567	2.37
250	447	0401	1.63	0568	2.37
300	408			0568B	2.37
400	353			0568C	2.37
500	316	0402	1.63	0569	2.37
750	258	0403	1.63	0570	2.37
1,000	223	0405	1.63	0572	2.37
1,250	200			0572B	2.47
1,500	182	0406	1.75	0573	2.47
2,000	158	0407	1.75	0574	2.47
2,500	141	0408	1.75	0575	2.47
3,000	129	0409	1.75	0576	2.47
3,500	119			0576B	2.47
4,000	111	0410	1.75	0577	2.47
4,500	105			0577B	2.47
5,000	100	0411	1.75	0578	2.47
6,000	91			0578B	2.63
7,000	84			0578C	2.63
7,500	81	0412	1.92	0579	2.63
8,000	79	0413	1.92	0580	2.63
9,000	74			0580B	2.63
10,000	70	0414	1.92	0581	2.63
12,000	64	0415	2.08	0582	2.83
15,000	57	0416	2.08	0583	2.83
20,000	48	0417	2.08	0584	2.83
25,000	41	0418	2.33	0585	3.08
30,000	36			0586	3.08
35,000	32	0419	2.33		
40,000	28			0587	3.08
50,000	23	0420	2.58	0588	3.30
60,000	19			0589	3.30
75,000	16	0421	2.92		
80,000	15			0590	3.67
100,000	12	0422	3.20	0591	3.92

75 WATTS			Mounting Centers 6 1/4"		
Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
5	3,870	0769	5,000	122	0783
10	2,735	0770	6,000	111	0783B
15	2,236	0771	7,000	103	0783C
25	1,732	0772	7,500	100	0784
50	1,224	0773	8,000	96	0784B
100	866	0774	9,000	91	0784C
200	612	0774B	10,000	86	0785
250	547	0775	12,000	79	0785B
300	500	0775B	15,000	70	0786
400	433	0775C	20,000	61	0787
500	387	0776	25,000	49	0788
750	316	0777	30,000	42	0789
1,000	273	0778	35,000	36	0790
1,250	245	0778B	40,000	32	0791
1,500	223	0779	45,000	29	0792
2,000	193	0780	50,000	26	0793
2,500	173	0781	60,000	22	0794
3,000	158	0781B	80,000	17	0795
3,500	146	0782	100,000	13	0796
4,000	136	0782B			

List Price, 5 thru 1,000 ohms.....\$2.75  
 List Price, 1,250 thru 5,000 ohms..... 2.88  
 List Price, 6,000 thru 10,000 ohms..... 3.00  
 List Price, 12,000 thru 20,000 ohms..... 3.20  
 List Price, 25,000 thru 40,000 ohms..... 3.53  
 List Price, 45,000 thru 80,000 ohms..... 3.62  
 List Price, 80,000 ohms..... 3.97  
 List Price, 100,000 ohms..... 4.33

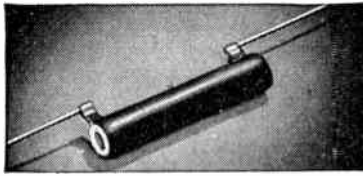
100 WATTS			Mounting Centers 7 1/4"		
Adjustable Res.			Fixed Resist.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
5	4,470	0600A	\$2.42	0956	\$3.58
10	3,160	0600B	2.42	0957	3.58
25	2,000	0601	2.42	0958	3.58
50	1,414	0602	2.42	0959	3.58
75	1,153	0603	2.42		
100	1,000	0604	2.42	0960	3.58
150	816	0605	2.42		
250	632	0606	2.42	0960B	3.58
500	447	0607	2.42	0961	3.58
750	365	0608	2.42		
1,000	316	0609	2.42	0962	3.58
1,500	258	0610	2.53	0962B	3.67
2,000	223	0611	2.53		
2,500	200	0612	2.53	0963	3.67
3,000	182	0613	2.53		
5,000	141	0614	2.53	0964	3.67
7,500	115	0615	2.70		
10,000	100	0616	2.70	0965	3.87
15,000	81	0617	2.97	0966	4.12
20,000	70	0618	2.97	0967	4.12
25,000	53	0619	3.20	0968	4.37
30,000	47	0620	3.20	0969	4.37
40,000	36	0621	3.20	0970	4.37
50,000	29	0622	3.37	0971	4.53
60,000	24	0623	3.37		
75,000	19	0624	3.58	0972	4.75
100,000	15	0625	3.80	0973	4.95

160 Watt Resistors—Core Size 8 1/4" x 1 1/4"  
 Mounting Centers 9 1/4" available in same resistances as the 200 Watt Resistors.

Ohms	Fixed Res. List Price	Adj. Res. List Price
5	\$4.16	\$5.33
10 thru 1,000	2.98	4.14
1,500 thru 5,000	3.04	4.19
7,500 & 10,000	3.50	4.44
15,000 & 20,000	3.54	4.69
25,000 thru 40,000	3.64	4.81
50,000 & 60,000	3.76	4.94
75,000	4.03	5.17
100,000	4.26	5.44

200 WATTS			Mounting Centers 1 1/2"		
Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
5	6,320	0900A	\$4.53	1356	\$5.67
10	4,470	0900B	3.22	1357	4.37
25	2,828	0901	3.22	1358	4.37
50	2,000	0902	3.22	1359	4.37
75	1,635	0903	3.22		
100	1,414	0904	3.22	1360	4.37
150	1,153	0905	3.22		
250	894	0906	3.22	1360B	4.37
500	632	0907	3.22	1361	4.37
750	516	0908	3.22		
1,000	447	0909	3.22	1362	4.37
1,500	365	0910	3.30	1362B	4.45
2,000	316	0911	3.30		
2,500	283	0912	3.30	1363	4.45
3,000	258	0913	3.30		
5,000	200	0914	3.30	1364	4.45
7,500	163	0915	3.53		
10,000	141	0916	3.53	1365	4.70
15,000	115	0917	3.77	1366	4.92
20,000	100	0918	3.77	1367	4.92
25,000	80	0919	3.90	1368	5.03
30,000	81	0920	3.90	1369	5.03
40,000	61	0921	3.90	1370	5.03
50,000	49	0922	4.03	1371	5.17
60,000					

Popular OHMITE "BROWN DEVIL" RESISTORS



5 Watt—1" x 5/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	2,236	125	200	1,250	63
1.5	1,820	150	182	1,500	57
2	1,580	200	158	1,750	53
3	1,290	225	149	2,000	49
4	1,120	250	141	2,250	46
5	1,000	300	129	2,500	44
7.5	818	350	120	3,000	39
10	707	400	112	3,500	36
12	645	450	105	4,000	33
15	575	500	100	4,500	31
20	500	600	91	5,000	29
25	447	700	84	6,000	26
30	408	750	81	7,000	24
35	378	800	79	7,500	22
40	353	900	74	8,000	21
50	316	1,000	70	9,000	19
75	258	1,100	67	10,000	18
100	224	1,200	64		

List Price, 1 thru 1,000 ohms.....\$0.67  
 List Price, 1,100 thru 5,000 ohms..... .72  
 List Price, 6,000 thru 10,000 ohms..... .78

10 Watt—1 3/4" x 5/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	3,160	350	169	6,000	38
2	2,235	400	158	7,000	34
3	1,825	450	149	7,500	32
4	1,580	500	141	8,000	31
5	1,414	600	129	8,500	29
7.5	1,155	700	119	10,000	26
10	1,000	750	115	11,000	24
12	910	800	111	12,000	23
15	816	900	105	12,500	22
20	707	1,000	100	13,500	21
25	632	1,100	95	14,300	20
30	575	1,200	91	15,000	19
35	535	1,250	89	16,000	18
40	500	1,500	79	17,500	17
50	447	1,750	74	18,000	17
75	365	2,000	69	20,000	16
100	316	2,250	64	22,500	15
125	283	2,500	63	25,000	14
150	258	3,000	56	30,000	12
200	223	3,500	51	35,000	10
225	217	4,000	47	40,000	9
250	200	4,500	45	45,000	8
300	182	5,000	43	50,000	7

List Price, 1 thru 1,000 ohms.....\$0.75  
 List Price, 1,100 thru 5,000 ohms..... .80  
 List Price, 6,000 thru 10,000 ohms..... .92  
 List Price, 11,000 thru 20,000 ohms..... 1.03  
 List Price, 22,500 & 25,000 ohms..... 1.08  
 List Price, 30,000 thru 50,000 ohms..... 1.22

RITEOHM SERIES "84" PRECISION RESISTORS

Ohms	Max. Voltage	Ohms	Max. Voltage	Ohms	Max. Voltage
*0.1	.316	4,000	44.70	.125 Meg.	200
0.5	.500	5,000	50.00	.150 Meg.	200
1	.707	7,500	61.20	.175 Meg.	200
10	2.24	10,000	70.70	.200 Meg.	200
25	3.54	12,500	79.00	*.225 Meg.	400
50	5.00	15,000	86.60	*.250 Meg.	400
100	7.07	20,000	100	*.300 Meg.	400
200	10.00	22,500	106	*.400 Meg.	400
250	11.20	25,000	112	†.500 Meg.	400
300	12.20	30,000	122	†.600 Meg.	400
500	15.80	40,000	141	†.750 Meg.	400
1000	22.40	50,000	158	†.900 Meg.	400
1500	27.40	60,000	173	†1.0 Meg.	400
2000	31.60	75,000	194	†1.5 Meg.	400
2500	35.40	.1 Meg.	200		

\*Type 844-A 4 Pie—1 Watt Size 3/16" x 3/8"  
 †Type 844-B 4 Pie—1 Watt Size 3/8" x 1 1/8"  
 All others Type 842-A 2 Pie—1/2 Watt Size 3/16" x 3/8"

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units can be conveniently mounted by means of their 1 1/2" tinned wire leads.

The all-welded construction of the 5 watt unit makes it possible to extend the resistance range to 10,000 ohms, an unusually high value for a vitreous enameled stock unit.

20 Watt—2" x 7/16" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
5	2,000	1,250	126	15,000	30
10	1,414	1,500	115	20,000	24
25	894	1,750	107	25,000	20
50	632	1,850	104	30,000	17
75	516	2,000	100	35,000	15
100	447	2,250	94	40,000	14
150	365	2,400	91	45,000	13
200	316	2,500	89	50,000	12
250	283	2,750	85	55,000	10
300	258	3,000	81	60,000	9.0
350	239	3,500	75	65,000	8.0
400	223	4,000	70	70,000	7.0
500	200	4,500	66	75,000	7.0
650	175	5,000	63	80,000	7.0
700	169	6,000	57	85,000	6.0
750	163	7,000	53	90,000	6.0
800	158	7,500	51	95,000	6.0
850	153	8,000	50	100,000	6.0
1,000	141	10,000	43		
1,200	129	12,500	35		

List Price, 5 thru 1,000 ohms.....\$0.95  
 List Price, 1,200 thru 5,000 ohms..... .97  
 List Price, 6,000 thru 10,000 ohms..... 1.12  
 List Price, 12,500 thru 20,000 ohms.... 1.20  
 List Price, 25,000 thru 40,000 ohms.... 1.37  
 List Price, 45,000 thru 60,000 ohms.... 1.58  
 List Price, 65,000 thru 80,000 ohms.... 1.83  
 List Price, 85,000 thru 100,000 ohms... 2.11



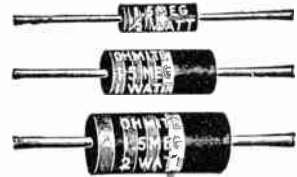
High quality, 1% tolerance, non-inductive, pie-wound units for meter multipliers, lab. equipment, etc. Prices are for stock values shown in table.

Ohms	List Price	Ohms	List Price
0.1 thru 500	\$1.33	.225 & .25 Meg.	\$4.06
1,000 thru 2,500	1.39	.3 megohm	4.44
4,000 thru 10,000	1.56	.4 megohm	4.67
12,500 & 15,000	1.69	.5 megohm	5.31
20,000 thru 50,000	2.11	.6 megohm	6.64
60,000 & 75,000	2.50	.75 megohm	7.03
.1 megohm	2.89	.9 megohm	7.39
.125 megohm	3.28	1.0 megohm	8.20
.15 thru .2 megohm	3.67	1.5 megohm	11.70

Complete Listings in Bulletin 126

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

OHMITE "LITTLE DEVIL" RESISTORS Individually Marked



Ohmite "Little Devils" are full 1/2 Watt, 1 Watt and 2 Watt Insulated Composition Resistors and can be used at their full wattage ratings at 70° C. (158° F.) ambient temperature. They meet requirements of specification JAN-R-11. All units are color coded. Each resistor is marked with the resistance value, wattage rating and the Ohmite trademark. "LITTLE DEVILS" are available from stock in 1/2, 1 and 2 watt sizes with ±5% or ±10% tolerance. The standard RMA values, 10 ohms to 22 megohms can be furnished. In the 1 watt size, ±10% tolerance values as low as 2.7 ohms are available from stock.

Stocked in RMA Values ±5% or ±10% Tolerance

(Figures in bold type are ±10% RMA values. All values except (\*) available in ±5% tolerance.)

Ohms	Ohms	Ohms	Ohms	Megs.
*2.7	110	2,400	51,000	1.1
*3.3	120	2,700	56,000	1.2
*3.9	130	3,000	62,000	1.3
*4.7	150	3,300	68,000	1.5
*5.6	160	3,600	75,000	1.6
*6.8	180	3,900	82,000	1.8
*8.2	200	4,300	91,000	2.0
10	220	4,700	MEGS	2.2
11	240	5,100	0.1	2.4
12	270	5,600	0.11	2.7
13	300	6,200	0.12	3.0
15	330	6,800	0.13	3.3
16	360	7,500	0.15	3.6
18	390	8,200	0.16	3.9
20	430	9,100	0.18	4.3
22	470	10,000	0.20	4.7
24	510	11,000	0.22	5.1
27	560	12,000	0.24	5.6
30	620	13,000	0.27	6.2
33	680	15,000	0.30	6.8
36	750	16,000	0.33	7.5
39	820	18,000	0.36	8.2
43	910	20,000	0.39	9.1
47	1,000	22,000	0.43	10.0
51	1,100	24,000	0.47	11.0
56	1,200	27,000	0.51	12.0
62	1,300	30,000	0.56	13.0
68	1,500	33,000	0.62	15.0
75	1,600	36,000	0.68	16.0
82	1,800	39,000	0.75	18.0
91	2,000	43,000	0.82	20.0
100	2,200	47,000	0.91	22.0
			1.0	

\*1 Watt Size Only. ±10% tolerance.

Type	Size Length	Diam.	Max. Volts	List Price ±10%	List Price ±5%
1/2 Watt	3/8"	3/16"	350	17c	33c
1 Watt	3/8"	1/2"	500	25c	50c 10 Ohms and up
2 Watt	1/2"	3/8"	1,000	33c	66c

# BE RIGHT WITH OHMITE

RHEOSTATS  
RESISTORS  
SWITCHES  
CHOKES

## 2 WATT MOLDED COMPOSITION POTENTIOMETER—TYPE AB



The Type AB Potentiometer is an exceptionally high quality unit designed especially for industrial, laboratory,

radio service and other uses where reliability is particularly important. Because the resistor element is molded, the unit has an exceptionally large safety factor. The power rating of 2 watts is unusual for a unit of such small size. The unit has a very low noise level and low voltage coefficient. It will pass the Army-Navy 200 hour salt spray test, specification AN-QO-S-91. The unit is 1-1/16" diameter and extends 9/16" behind the panel. The 2" long round shaft (including the 3/8" long mounting bushing) is available from stock on potentiometers with all three resistance tapers. The screwdriver shaft with locking-nut is available from stock on the linear taper units only. A SPST switch, to be attached to the back of the control, can be supplied extra.

Total Resistance— ±10% Except as Noted	Resistance Rotation Characteristics (Taper)			
	LINEAR		Type A Clockwise Log. Stock No.	Type B Counterclock. Log. Stock No.
	Type U 2" Shaft Stock No.	Type LU Locking Shaft Stock No.		
50 Ohms	CU 5001	CLU 5001		
100 Ohms	CU 1011	CLU 1011		
250 Ohms	CU 2511	CLU 2511		
500 Ohms	CU 5011	CLU 5011		
1,000 Ohms	CU 1021	CLU 1021		
2,500 Ohms	CU 2521	CLU 2521		
5,000 Ohms	CU 5021	CLU 5021		
10,000 Ohms	CU 1031	CLU 1031		CB 1031
25,000 Ohms	CU 2531	CLU 2531		CB 2531
50,000 Ohms	CU 5031	CLU 5031		CB 5031
.10 Meg.	CU 1041	CLU 1041	CA 1441	
.25 Meg.	CU 2541	CLU 2541	CA 2541	
.5 Meg.	CU 5041	CLU 5041	CA 5041	
1.0 Meg. ±20%	CU 1052	CLU 1052	CA 1052	
2.5 Meg. ±20%	CU 2552	CLU 2552	CA 2552	
5.0 Meg. ±20%	CU 5052	CLU 5052		

Type AB Potentiometer with 2" long shaft.....List Price \$3.00

Type AB Potentiometer with locking shaft illustrated above.....List Price 3.75

Stock No. CS-1, Switch only for above unit (supplied unmounted).....List Price .90

## LITTLE DEVIL RESISTOR ASSORTMENTS FOR SERVICE USE

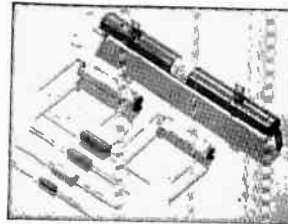


Serviceman's assortments of 125 Ohmite "Little Devil," 1/2-watt, 1-watt or 2-watt insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors

alone—the cabinet is furnished without extra cost! Cabinet is only 9" long, 4 3/4" high, and 5 1/4" deep.

Assortment	Stock No.	Quantity of Resistors	Wattages	Net Price
SERVICE				
±10% tolerance	CAB-1	125	1/2 watt	12.50
(40 resistance values)	CAB-2	125	1 watt	18.75
	CAB-3	125	2 watt	25.00

## OHMITE R.F. PLATE CHOKES



This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while the other three units

are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

Stock Number	Operating Range Megacycles	Micro-henries	Core Dimensions	List Price
Z-7	3 to 20 Mc.	84.0	6" x 3/8"	\$1.86
Z-14	7 to 35 Mc.	44.0	2" x 3/8"	.81
Z-28	20 to 60 Mc.	21.0	1 3/4" x 3/8"	.53
Z-50	35 to 110 Mc.	7.0	7/8" x 3/8"	.39
Z-144	80 to 200 Mc.	1.8	3/4" x 3/8"	.39
Z-235	160 to 350 Mc.	0.84	3/4" x 3/8"	.39
Z-460	320 to 520 Mc.	0.20	1/2" x 3/8"	.39

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma. All others 1000 ma.

## OHMITE POWER LINE CHOKES



Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core—insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

Stock No.	Micro-henries	Current Rating	Total D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-20	14	5 Amperes	0.15	4"	5/8"	\$2.56
Z-21	15	10 Amperes	0.07	6 1/2"	3/4"	4.31
Z-22	18	20 Amperes	0.045	8 1/2"	1 1/8"	6.22

## NEW OHM'S LAW CALCULATOR

Redesigned! This new, improved version of the famous Ohm's Law Calculator—popular the world over with servicemen, engineers and students—now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With one setting of the



slide the calculator gives the answer to any Ohm's Law problem—reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.

Ohm's Law Calculator (Cardboard).....NET Price \$0.25  
Ohm's Law Calculator (Plastic).....NET Price 1.50

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

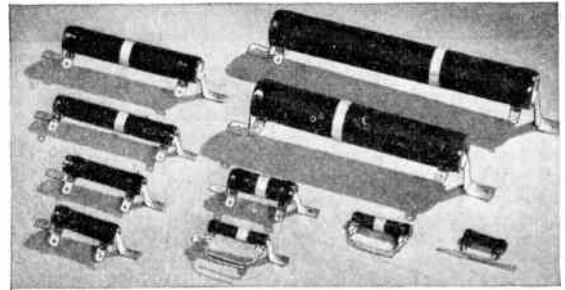
# LECTROHM

INCORPORATED • CHICAGO 30, ILLINOIS

## VITREOUS ENAMELED RESISTORS

### Fixed Wire-Wound Types

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to RTMA standards. They are rugged, dependable, accurate—quality components that will give long, trouble-free service. Mounting brackets available for 10, 20, 50, 80, 100, 160 and 200 watt units.



#### TYPE 1¼L—5-WATT

**DIMENSIONS**.....1/4" x 3/8" x 1 1/4"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....10,000 ohms  
**MOUNTING BRACKET**.....Centers 7/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	2240	\$0.52	300	129	\$0.52
2	1580	.52	350	119	.52
3	1290	.52	400	111	.52
4	1110	.52	500	100	.52
5	1000	.52	600	91	.52
10	707	.52	700	81	.52
15	575	.52	750	81	.52
20	500	.52	800	79	.52
25	447	.52	900	74	.52
30	408	.52	1000	70	.52
35	374	.52	1100	61	.52
40	346	.52	1200	60	.52
50	316	.52	1250	59	.52
75	258	.52	1500	54	.52
100	222	.52	1750	50	.52
125	200	.52	2000	44	.52
150	182	.52	2500	40	.52
200	158	.52	3000	36	.52
225	149	.52	4000	31	.52
250	141	.52	5000	28	.52

#### TYPE 1¾—10-WATT

**DIMENSIONS**.....1/8" x 3/8" x 1 3/4"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....40,000 ohms  
**MOUNTING BRACKET**.....Centers 9 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	\$0.59	1500	79	\$0.59
2	2230	.59	1750	74	.59
3	1825	.59	2000	69	.59
5	1415	.59	2250	64	.59
7.5	1155	.59	2500	61	.59
10	1000	.59	3000	56	.59
15	815	.59	3500	51	.59
20	707	.59	4000	47	.59
25	630	.59	4500	44	.59
50	447	.59	5000	40	.59
75	365	.59	6000	36	.59
100	315	.59	7000	33	.59
150	258	.59	7500	32	.59
200	223	.59	8000	31	.59
250	200	.59	8500	30	.59
300	182	.59	10000	24	.59
350	169	.59	12000	20	.65
400	158	.59	12500	20	.65
500	141	.59	15000	18	.65
600	129	.59	17500	17	.65
700	119	.59	18000	16	.65
750	115	.59	20000	15	.65
800	111	.59	22500	15	.65
900	105	.59	25000	14	.65
1000	100	.59	30000	8	.65
1200	91	.59	40000	7	.65
1250	89	.59			

### LECTROHM R. F. PLATE CHOKES

(1000 Milliamps.)



Type	RFC-1	RFC-2	RFC-3	RFC-4
Amateur				20, 40
Band Meters	5	10 & 20	20 & 40	80 & 160
Microhenries	5.4	3.5	2.5	2.0
D. C. Ohms	0.85	3	5	9
Lgth. Overall	1 3/4"	3"	6"	6 1/2"
Diameter	1/4"	5/16"	3/8"	3/4"
List Price	\$0.33	\$1.04	\$1.56	\$2.15

#### TYPE 2R—20-WATT

**DIMENSIONS**.....1/2" x 3/8" x 2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 2 7/8"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	2000	\$0.91	1100	134	\$0.91
10	1414	.91	1250	126	.91
15	1153	.91	1500	115	.91
20	1000	.91	2000	100	.91
25	894	.91	2500	89	.91
40	707	.91	3000	81	.91
50	633	.91	4000	70	.91
60	574	.91	5000	63	.91
75	517	.91	6000	57	.91
100	448	.91	7000	53	.91
125	400	.91	7500	51	.91
150	365	.91	8000	50	.91
200	316	.91	10000	43	.91
250	283	.91	12500	39	.91
300	258	.91	15000	30	.91
350	238	.91	20000	24	1.11
400	223	.91	25000	21	1.11
500	200	.91	30000	21	1.11
600	182	.91	35000	18	1.11
700	169	.91	40000	17	1.11
750	163	.91	45000	13	1.11
800	158	.91	50000	11	1.11
1000	141	.91			

#### TYPE 4½M—50-WATT

**DIMENSIONS**.....3/4" x 1/2" x 4 1/2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 5 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3165	\$1.56	6000	85	\$1.82
10	2230	1.56	7000	78	1.82
25	1390	1.56	7500	77	1.82
50	1000	1.56	8000	75	1.82
100	700	1.56	10000	66	1.82
200	500	1.56	12000	63	1.82
250	440	1.56	12500	60	1.82
500	300	1.56	15000	56	1.82
750	250	1.56	20000	48	1.82
1000	215	1.56	25000	43	1.82
1500	175	1.56	30000	39	2.08
2000	155	1.56	40000	34	2.08
2500	135	1.56	50000	30	2.08
3000	120	1.56	60000	28	2.08
4000	105	1.56	75000	25	2.08
5000	95	1.56	100000	21	2.08

#### TYPE 6½M—80-WATT

**DIMENSIONS**.....3/4" x 1/2" x 6 1/2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 7 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	4000	\$2.04	5000	122	\$2.04
10	2730	2.04	6000	112	2.41
25	1730	2.04	7500	100	2.41
50	1220	2.04	8000	98	2.41
100	865	2.04	10000	86	2.41
200	612	2.04	15000	70	2.41
250	545	2.04	20000	61	2.41
500	387	2.04	25000	55	2.41
750	316	2.04	30000	50	2.72
1000	274	2.04	50000	43	2.72
1500	223	2.04	50000	39	2.72
2000	193	2.04	60000	35	3.09
2500	173	2.04	75000	31	3.09
3000	158	2.04	100000	27	3.40
4000	137	2.04			

#### TYPE 6½K—100-WATT

**DIMENSIONS**.....1 1/8" x 3/4" x 6 1/2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 7 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
25	2000	\$2.15	3000	180	\$2.15
50	1414	2.15	5000	140	2.15
75	1153	2.15	7500	115	2.54
100	1100	2.15	10000	100	2.54
150	815	2.15	15000	80	2.54
250	632	2.15	20000	70	2.54
500	447	2.15	25000	63	2.54
750	365	2.15	30000	58	2.86
1000	315	2.15	40000	50	2.86
1250	280	2.15	50000	44	2.86
1500	250	2.15	60000	41	3.25
2000	220	2.15	75000	36	3.25
2500	200	2.15	100,000	31	3.58

#### TYPE 8½K—160-WATT

**DIMENSIONS**.....1 1/8" x 3/4" x 8 1/2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 9 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	\$2.86	4500	185	\$2.86
10	4000	2.86	5000	180	2.86
25	2530	2.86	7500	145	2.86
50	1788	2.86	10000	125	2.86
75	1460	2.86	15000	105	3.45
100	1260	2.86	20000	90	3.45
200	900	2.86	25000	80	3.45
500	570	2.86	30000	67	3.45
1000	400	2.86	35000	57	3.45
1500	330	2.86	40000	50	3.45
2000	280	2.86	50000	40	3.45
2500	250	2.86	60000	33	3.90
3000	230	2.86	70000	28	3.90
3500	215	2.86	80000	25	3.90
4000	200	2.86	100000	20	3.90

#### TYPE 10½K—200-WATT

**DIMENSIONS**.....1 1/8" x 3/4" x 10 1/2"  
**TERMINALS**.....Solder Lugs  
**MAXIMUM RESISTANCE**.....100,000 ohms  
**MOUNTING BRACKET**.....Centers 11 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	6310	\$3.58	4500	210	\$3.58
10	4470	3.58	5000	200	3.58
25	2830	3.58	7500	165	3.58
50	2000	3.58	10000	140	3.58
75	1635	3.58	15000	115	4.29
100	1400	3.58	20000	100	4.29
250	900	3.58	25000	90	4.29
500	630	3.58	30000	82	4.29
1000	450	3.58	35000	71	4.29
1500	365	3.58	40000	62	4.29
2000	315	3.58	50000	50	4.29
2500	280	3.58	60000	42	4.29
3000	260	3.58	75000	33	4.29
3500	240	3.58	100000	25	4.29
4000	225	3.58			

### INSULATED WIRE-WOUND RESISTORS—1 WATT

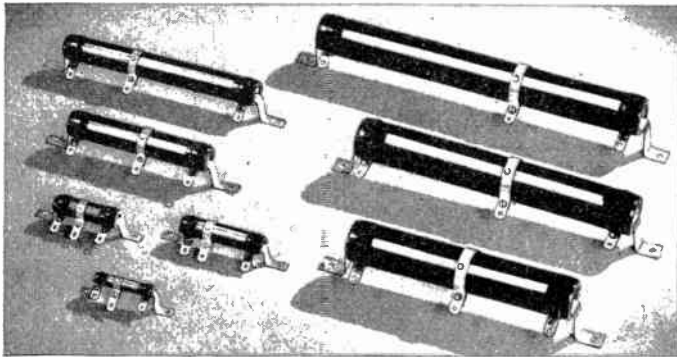


Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.
750	36	2,500	20	9,000	10	10,000	10
800	35	3,000	18	10,000	10	12,500	9
900	33	3,500	16	15,000	8	16,000	7
1,000	31	4,000	15	17,500	7	20,000	7
1,100	30	4,500	14	20,000	6	22,500	6
1,250	28	5,000	14	25,000	5	30,000	4
1,500	26	6,000	12	18,000	7	20,000	7
1,750	23	7,000	11	25,000	6	30,000	5
2,000	22	8,000	11	25,000	6		
2,250	21						

# LECTROHM

INCORPORATED      CHICAGO 30, ILLINOIS

## VITREOUS ENAMELED RESISTORS



### Adjustable Wire-Wound Types

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

#### TYPE 1 1/4 EV—10-WATT

DIMENSIONS ..... 1 1/8" x 1 1/8" x 1 3/4"  
 TERMINALS ..... Lug Type  
 MAXIMUM RESISTANCE.....10,000 ohms  
 MOUNTING BRACKET .....Centers 2 1/4"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	\$0.98	750	115	\$0.98
2	2230	.98	800	111	.98
3	1825	.98	1000	100	.98
5	1415	.98	1250	89	.98
7.5	1155	.98	1500	79	.98
10	1000	.98	2000	69	.98
15	815	.98	2250	64	.98
20	707	.98	2500	61	.98
25	630	.98	3000	56	.98
50	447	.98	3500	51	.98
75	365	.98	4000	47	.98
100	315	.98	4500	44	.98
150	258	.98	5000	40	.98
200	223	.98	6000	36	.98
250	200	.98	7000	33	.98
300	182	.98	7500	32	.98
350	169	.98	8000	31	.98
400	158	.98	8500	30	.98
500	141	.98	10000	24	.98
600	129	.98			

#### TYPE 2SV—25-WATT

DIMENSIONS ..... 1 1/8" x 1 1/8" x 2"  
 TERMINALS ..... Solder Lug  
 MAXIMUM RESISTANCE.....25,000 ohms  
 MOUNTING BRACKET .....Centers 2 7/8"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	\$1.24	1000	158	\$1.24
3	2890	1.24	1250	141	1.24
5	2240	1.24	1500	129	1.24
10	1580	1.24	2000	112	1.24
15	1290	1.24	2500	100	1.24
25	1000	1.24	3000	91	1.24
50	707	1.24	3500	84	1.24
75	575	1.24	4000	79	1.24
100	500	1.24	5000	71	1.24
150	400	1.24	6000	64	1.43
200	353	1.24	7500	57	1.43
250	316	1.24	10000	50	1.43
300	288	1.24	12000	44	1.43
400	250	1.24	15000	26	1.43
500	224	1.24	20000	22	1.56
750	182	1.24	25000	20	1.56

#### TYPE 4 1/2 MV—50-WATT

DIMENSIONS ..... 3/4" x 1/2" x 4 1/2"  
 TERMINALS ..... Solder Lugs  
 MAXIMUM RESISTANCE.....100,000 ohms  
 MOUNTING BRACKET .....Centers 5 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3160	\$1.95	3000	129	\$1.95
10	2230	1.95	4000	112	1.95
25	1410	1.95	5000	100	1.95
50	1000	1.95	7500	81	2.15
75	816	1.95	10000	70	2.15
100	707	1.95	12000	64	2.15
150	577	1.95	15000	57	2.15
200	500	1.95	20000	50	2.15
250	447	1.95	25000	44	2.15
300	408	1.95	30000	41	2.47
400	354	1.95	40000	35	2.47
500	316	1.95	50000	20	2.47
750	258	1.95	60000	18	2.86
1000	224	1.95	75000	17	2.86
1500	182	1.95	80000	16	2.86
2000	158	1.95	100000	14	2.86
2500	141	1.95			

#### TYPE 6 1/2 MV—80-WATT

DIMENSIONS ..... 3/4" x 1/2" x 6 1/2"  
 TERMINALS ..... Solder Lugs  
 MAXIMUM RESISTANCE.....100,000 ohms  
 MOUNTING BRACKET .....Centers 7 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	\$2.54	3500	152	\$2.54
15	2310	2.54	5000	126	2.54
25	1790	2.54	7500	103	2.86
50	1265	2.54	10000	89	2.86
100	894	2.54	15000	73	2.86
250	566	2.54	20000	63	2.86
300	517	2.54	25000	57	2.86
400	495	2.54	30000	51	3.25
500	400	2.54	40000	44	3.25
750	327	2.54	50000	25	3.25
1000	283	2.54	60000	23	3.58
1500	231	2.54	75000	21	3.58
2000	200	2.54	80000	20	3.58
2500	179	2.54	100000	18	3.58

#### TYPE 6 1/2 KV—100-WATT

DIMENSIONS ..... 1 1/8" x 3/4" x 6 1/2"  
 TERMINALS ..... Solder Lugs  
 MAXIMUM RESISTANCE.....100,000 ohms  
 MOUNTING BRACKET .....Centers 7 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	\$2.86	15000	81	\$3.25
100	1000	2.86	20000	70	3.25
500	447	2.86	25000	63	3.25
1000	316	2.86	30000	57	3.58
2000	223	2.86	35000	53	3.58
3000	182	2.86	40000	50	3.58
4000	158	2.86	50000	44	3.58
5000	141	2.86	75000	23	3.90
7500	115	3.25	100000	20	3.90
10000	100	3.25			

#### TYPE 8 1/2 KV—160-WATT

DIMENSIONS ..... 1 1/8" x 3/4" x 8 1/2"  
 TERMINALS ..... Solder Lugs  
 MAXIMUM RESISTANCE.....100,000 ohms  
 MOUNTING BRACKET .....Centers 9 1/2"


Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	\$3.58	10000	126	\$3.58
10	4000	3.58	15000	103	4.16
25	2530	3.58	20000	89	4.16
50	1788	3.58	25000	80	4.16
100	1266	3.58	30000	73	4.16
500	566	3.58	40000	55	4.16
1000	400	3.58	50000	43	4.16
2500	253	3.58	75000	27	4.55
5000	179	3.58	100000	18	4.55

#### TYPE 10 1/2 KV—200-WATT

DIMENSIONS ..... 1 1/8" x 3/4" x 10 1/2"  
 TERMINALS ..... Solder Lugs  
 MAXIMUM RESISTANCE.....100,000 ohms  
 MOUNTING BRACKET .....Centers 11 1/2"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	\$4.29	10000	141	\$4.29
100	1414	4.29	20000	100	5.00
500	632	4.29	25000	89	5.00
1000	447	4.29	30000	81	5.00
1500	361	4.29	50000	63	5.00
2000	316	4.29	75000	51	5.00
2500	283	4.29	100000	28	5.00
5000	200	4.29			

#### ADJUSTABLE LUGS



Diameter of Resistor	List Price
3/8"	\$0.13
5/8"	.13
7/8"	.20
1 1/4"	.20

Screw-Driver Type

Mounting brackets and one band are furnished with all adjustable types.

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## SLIDEOHM WIRE-WOUND VITREOUS-ENAMELED ADJUSTABLE RESISTORS

Slideohm Resistors are for use in any application where it is necessary or desirable to have one or more intermediate resistance values; or in circuits that need to be changed from time to time to meet varying electrical conditions. Slideohm Resistors are built of the highest grade low temperature coefficient materials, and are coated with tough crazeless Vitreous Enamel.

Adjustable resistors combining adjustment to any resistance value within unit's range, with positive, permanent, non-fluctuating qualities of wire-wound resistor. Each Slideohm Resistor is provided with horizontal mounting brackets and one adjustable contact slider.

### 25 WATTS

Ohms	Current m. a.	List Price
1	5000	\$1.85
2	3535	1.85
3	2890	1.85
5	2250	1.85
7	1825	1.85
10	1580	1.85
15	1290	1.85
20	1115	1.85
25	1000	1.85
50	710	1.85
75	580	1.85
100	500	1.85
150	410	1.85
200	354	1.85
250	315	1.85
300	289	1.85
400	250	1.85
500	224	1.85
750	182	1.85
800	177	1.85
850	170	1.85
1000	158	1.85

### Type 952

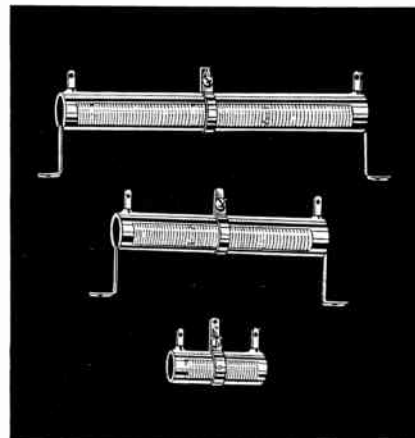
Ohms	Current m. a.	List Price
1250	140	\$1.90
1500	129	1.90
2000	112	1.90
2250	105	1.90
2500	100	1.90
3000	90	1.90
3500	85	1.90
4000	80	1.90
4500	74	1.90
5000	70	1.90
6000	65	2.05
7000	57	2.05
7200	56	2.05
7500	53	2.05
8000	50	2.05
8500	47	2.05
9000	44	2.05
10000	40	2.05
12000	33	2.10
15000	27	2.10
20000	20	2.10
25000	16	2.30

### 50 WATTS

Ohms	Current m. a.	List Price
1	7070	\$3.00
2	5000	3.00
3	4080	3.00
4	3535	3.00
5	3160	3.00
10	2235	3.00
25	1415	3.00
50	1000	3.00
75	815	3.00
100	707	3.00
150	575	3.00
200	500	3.00
250	445	3.00
300	408	3.00
400	353	3.00
500	316	3.00
750	258	3.00
800	250	3.00
1000	224	3.00
1250	200	2.45
1500	180	2.45
2000	160	2.45
2250	150	2.45
2500	141	2.45

### Type 954

Ohms	Current m. a.	List Price
3000	130	\$2.45
3500	120	2.45
4000	110	2.45
4500	105	2.45
5000	100	2.45
6000	91	2.65
7000	85	2.65
7200	83	2.65
7500	82	2.65
8000	79	2.65
9000	75	2.65
10000	71	2.65
12000	64	2.85
15000	58	2.85
20000	48	2.85
25000	40	3.10
30000	33	3.10
40000	25	3.10
50000	20	3.30
60000	17	3.30
75000	13	3.60
80000	12	3.60
100000	10	3.90



### WATT RATINGS

Nominal Watt ratings for Slideohm Resistors apply when the entire resistor is in the circuit. For most practical purposes the watt rating for each part of the resistor is approximately proportional to the amount of the resistance that is in the circuit.

Mounting brackets are furnished with all Slideohm Resistors.

Price of resistor includes brackets and one adjustable band.

### 80 WATTS

Ohms	Current m. a.	List Price
1	8660	\$3.55
2	6120	3.55
3	5000	3.55
4	4330	3.55
5	3870	3.55
10	2740	3.55
15	2235	3.55
25	1730	3.55
50	1220	3.55
75	1000	3.55
100	866	3.55
200	612	3.55
250	550	3.55
300	500	3.55
400	433	3.55
500	387	3.55
750	315	3.55
800	305	3.55
1000	274	3.55
1250	245	2.85
1500	224	2.85
2000	195	2.85
2250	183	2.85
2500	173	2.85

### Type 956

Ohms	Current m. a.	List Price
3000	158	\$2.85
3500	146	2.85
4000	137	2.85
4500	129	2.85
5000	122	2.85
6000	111	3.00
7000	103	3.00
7200	102	3.00
7500	100	3.00
8000	97	3.00
9000	91	3.00
10000	87	3.00
15000	71	3.15
20000	61	3.15
25000	55	3.50
30000	50	3.50
35000	43	3.50
40000	37	3.50
45000	33	3.60
50000	30	3.60
60000	25	3.60
70000	21	3.95
80000	19	3.95
100000	15	4.35

### 100 WATTS

Ohms	Current m. a.	List Price
1	10000	\$4.55
2	7070	4.55
3	5770	4.55
4	5000	3.60
5	4470	3.60
10	3160	3.60
25	2000	3.60
50	1410	3.60
100	1000	3.60
200	707	3.60
250	630	3.60
400	500	3.60
500	447	3.60
750	365	3.60
1000	316	3.60
1500	260	3.65
2000	225	3.65

### Type 957

Ohms	Current m. a.	List Price
2500	200	\$3.65
3000	180	3.65
4000	160	3.65
4500	150	3.65
5000	141	3.65
6000	130	3.85
7500	115	3.85
10000	100	3.85
15000	80	4.10
20000	70	4.10
25000	60	4.35
30000	50	4.35
40000	37	4.35
50000	30	4.55
60000	25	4.55
75000	20	4.75
100000	15	4.95

### 200 WATTS

Ohms	Current m. a.	List Price
7	6320	\$5.65
10	4470	4.35
25	2825	4.35
75	2000	4.35
100	1414	4.35
250	900	4.35
500	632	4.35
1000	447	4.35
1500	365	4.45
2000	315	4.45
2500	282	4.45
3000	260	4.45
3500	240	4.45
4000	225	4.45

### Type 958

Current List		
4500	210	\$4.45
5000	200	4.45
7500	163	4.45
10000	141	4.70
15000	115	4.90
20000	100	4.90
25000	90	5.05
30000	82	5.05
40000	62	5.05
50000	50	5.15
60000	42	5.15
75000	33	5.40
100000	25	5.65



### ADJUSTABLE BANDS

One screw-driver type adjustable band terminal is supplied with each "Slideohm" resistor. Order additional bands, screw-driver or knob type as illustrated by resistor type number for which band is to be used.

Resistor Rating	Size of Resistor	SCREW DRIVER TYPE Cat. No.	List	BAKELITE KNOB TYPE Cat. No.	List
25 Watt	2" x 5/8"	RB 25	\$.25	BB 25	\$.35
50 Watt	4 1/2" x 3/4"	RB 50	.25	BB 50	.35
80 Watt	6 1/2" x 3/4"	RB 80	.25	BB 80	.35
100 Watt	6 1/2" x 1 1/8"	RB 100	.42	BB 100	.47
200 Watt	10 1/2" x 1 1/8"	RB 200	.42	BB 200	.47

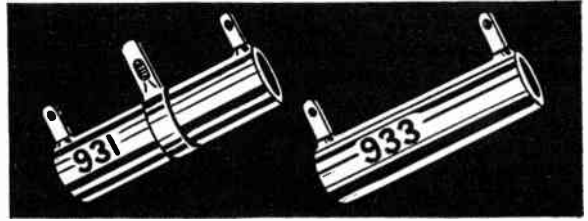


## WIRE-WOUND VITREOUS ENAMELED FIXED RESISTORS

## TYPES 931-933

Compact genuine wire-wound, vitreous-enamel. Correctly designed, highest quality materials used throughout. Note these features:

1. Crack-proof refractory tubing for the support. Adequate heat dissipation.
2. Quality resistance wire precisely spaced, tension wound.
3. Copper terminal band clamped to tubing. Wire ends wrapped and brazed around raised ear.
4. Heavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.
5. Pig-tail of stiff wire 2 in. long soldered to terminal band for positive, non-breakable connection.



### 10 Watts Type 931

Ohms	Current m. a.	List Price
1	3160	\$.75
1.5	2580	.75
2	2285	.75
3	1825	.75
4	1580	.75
5	1415	.75
7.5	1155	.75
10	1000	.75
12	918	.75
15	815	.75
20	707	.75
25	680	.75
30	577	.75
35	534	.75
40	500	.75
50	450	.75
75	365	.75
100	316	.75
125	283	.75
150	258	.75
200	224	.75
225	211	.75
250	200	.75
300	182	.75
350	169	.75
400	158	.75
450	149	.75
500	142	.75
600	129	.75
700	120	.75
750	115	.75
800	110	.75
900	105	.75
1000	100	.80
1100	95	.80
1200	91	.80

### 10 Watts Type 931

Ohms	Current m. a.	List Price
1250	89	\$.80
1500	81	.80
1750	75	.80
2000	70	.80
2250	66	.80
2500	63	.80
3000	58	.80
3500	53	.80
4000	50	.80
4500	47	.80
5000	45	.80
6000	41	.90
7000	38	.90
7500	36	.90
8000	35	.90
8500	34	.90
9000	33	.90
10000	30	.90
11000	27	1.05
12000	25	1.05
12500	24	1.05
13500	22	1.05
14300	21	1.05
15000	20	1.05
16000	19	1.05
17500	17	1.05
18000	17	1.05
20000	16	1.05
22500	15	1.05
25000	12	1.10
30000	*12	1.20
35000	*12	1.20
40000	*11	1.20
45000	*10.5	1.20
50000	*10	1.20

\*Operated at low temp., rated at 5 watts.

### 20 Watts Type 933

Ohms	Current m. a.	List Price
1	4480	\$.95
3	2580	.95
5	2000	.95
10	1410	.95
15	1150	.95
25	900	.95
50	680	.95
75	510	.95
100	450	.95
150	365	.95
175	340	.95
200	320	.95
250	285	.95
300	258	.95
350	240	.95
400	220	.95
500	200	.95
650	175	.95
700	169	.95
750	160	.95
800	155	.95
850	153	.95
1000	141	.95
1200	130	.95
1250	125	.95
1500	115	.95
1750	107	.95
1850	104	.95
2000	100	.95
2250	94	.95
2400	91	.95
2500	90	.95
2750	85	.95
3000	80	.95
3500	76	.95
4000	70	.95

### 20 Watts Type 933

Ohms	Current m. a.	List Price
4500	67	\$.95
5000	63	.95
6000	55	1.10
7000	53	1.10
7500	51	1.10
8000	50	1.10
10000	40	1.10
12500	32	1.20
15000	27	1.20
20000	20	1.20
25000	16	1.35
30000	13	1.35
35000	11	1.35
40000	10	1.35
45000	9	1.60
50000	8	1.60
55000	7	1.60
60000	+10.8	1.60
65000	+10.5	1.85
70000	+10.0	1.85
75000	+9.5	1.85
80000	+9.3	1.85
85000	+9.1	2.10
90000	+8.8	2.10
95000	+8.6	2.10
100000	+8.4	2.10

†Operated at low temp., rated at 7 watts.

## INSULATED MOLDED CARBON RESISTORS

## TYPES 1097-1098



Small, noiseless, vibration-proof. Crack-proof molded casing around molded carbon resistance element. Tinned copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, high-gain amplifiers. RTMA color-coded; stamped with resistance value. Precision tested. Standard tolerance  $\pm 10\%$ .

TYPE 1097— $\frac{1}{2}$  Watt-Size:  $\frac{5}{16}$ " x  $\frac{3}{8}$ " lg.....List \$0.17  
 TYPE 1098—1 Watt-Size:  $\frac{1}{4}$ " x  $\frac{3}{8}$ " lg.....List \$0.25

## JOBBER'S STOCK IN PREFERRED RTMA RANGES

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs	
0.47	3.0	18	110	680	4,800	27,000	0.1	0.62	3.9
0.51	3.3	20	120	750	4,700	30,000	0.11	0.68	4.8
0.56	3.6	22	130	820	5,100	33,000	0.12	0.75	4.7
0.62	3.9	24	150	910	5,600	36,000	0.13	0.82	5.1
0.68	4.3	27	160	1,000	6,200	39,000	0.15	0.91	5.6
0.75	4.7	30	180	1,100	6,800	43,000	0.16	1.0	6.2
0.82	5.1	33	200	1,200	7,500	47,000	0.18	1.1	6.8
0.91	5.6	36	220	1,300	8,200	51,000	0.20	1.2	7.5
1.0	6.2	39	240	1,500	9,100	56,000	0.22	1.3	8.2
1.1	6.8	43	270	1,600	10,000	62,000	0.24	1.5	9.1
1.2	7.5	47	300	1,800	11,000	68,000	0.27	1.6	10.0
1.3	8.2	51	330	2,000	12,000	75,000	0.30	1.8	11.0
1.5	9.1	56	360	2,200	13,000	82,000	0.33	2.0	12.0
1.6	10	62	390	2,400	15,000	91,000	0.36	2.2	13.0
1.8	11	68	430	2,700	16,000		0.39	2.4	15.0
2.0	12	75	470	3,000	18,000		0.43	2.7	16.0
2.2	13	82	510	3,300	20,000		0.47	3.0	18.0
2.4	15	91	560	3,600	22,000		0.51	3.3	20.0
2.7	16	100	620	3,900	24,000		0.56	3.6	22.0



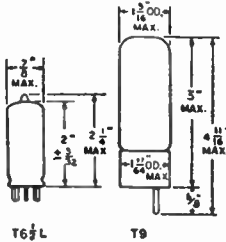


## AUTOMATIC REGULATION



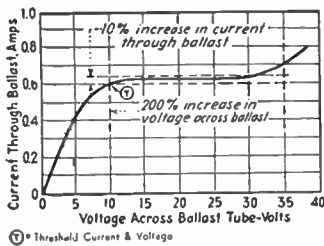
T9 BULB

AMPERITE is an automatic rheostat designed to keep the current in a circuit at a definite value, for example, 0.5 amps. Should the supply voltage increase, the Amperite will automatically increase in resistance enough to take up the increase in supply voltage—keeping the voltage on the load constant.



### SIZES:

- T-5 1/2 L, Miniature. O.D. 1 1/2"; seated height, 2 3/8".
- T-6 1/2 L, Miniature. O.D. 1 1/2"; seated height, 2 3/8".
- T-9, Octal base. O.D. 1 1/2"; seated height, 3".



## CHARACTERISTIC CURVE

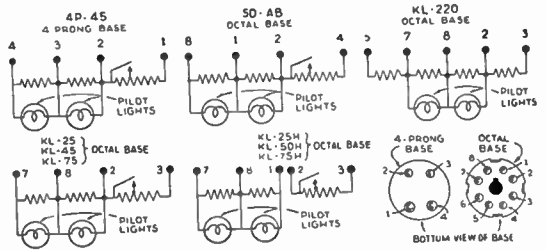
Characteristic curve of a typical Amperite. Approximate curve of any other Amperite can be obtained by multiplying or dividing the current or voltage scale by any number.

## AC-DC REPLACEMENTS

REPLACEMENT	AMPERITE	A.C.-D.C.	SETS.	List \$1.25
Amperite No.	Amperites Shown Replace All A.C.-D.C. Ballasts			
	Starting With Letter	With Numbers From	Ending In	
KL. 25# KL. 45 KL. 75	K, L, M or BK BL or BM	10 to 36 36 " 67 67 " 105	A, B, C, or D	
KL. 25H KL. 50H KL. 75H	K, L, M, or BK	11 to 26 36 " 67 67 " 105	F, G or H	
KL. 50S1 KL. 50S2 KL. 50S3	K or L " "	40 to 100 " "	S1 S2 S3	
KL. 50E	"	36 " 67	E	

# Except K18B, use Amperite K18B—4 Prong Base.

### BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



### AC-DC REPLACEMENT—List \$1.25—Dealer Cost \$0.75.

For	Use Amperite	For	Use Amperite	For	Use Amperite
2CR-241	KL-45	50W	4P45	185L44	4P45
2LR-212	50AB	50A2	4P45	185LB	4P45
2UR-215	KL-45	50A2MG	KL-50S2	185LC	4P45
2UR-224	KL-45	50B2	4P45	185M4	4P45
3-40	3-40	50B2MG	KL-50S1	185M8	4P45
6B	4P45	50X3	4P45	185R	4P45
6.125	KL-45J	50X3T	4P45	185R4	4P45
6.126	KL-45J	55A	KL-45	185R8	4P45
6-128	KL-45J	55H	KL-50H	185R44	4P45
6-129	KL-45J	55KB	KL-45	200R	200R
6-133	KL-45J	60-92A	KL-75	200R4	4P45
6-135	KL-45J	69-2027	3-40	200R8	4P45
7	7	69-2037	KL-45	5459 (list 2.25)	5459
8	4P45	66-2037	KL-45	81966	KL-45
9	4P45	75	KL-75	35000	35000
10-23A	KL-25	80	4P45	A (JFD)	KL-45
23-55A	KL-45	80R	80R	B (JFD)	KL-75
23-55F	KL-50H	92A	4P45	Bkv51dj	Bkv51dj
23-55B	KL-45	95K2	KL-45	D30	D-35
23-55C	KL-45	100 R8	4P45	D35	D35
23-55D	KL-45	100-37	KL-45J	D140	200R
32	KL-50H	100-38	KL-45J	D150	200R
33AG	KL-25	100-77	100-77	D200	200R
36A	KL-25	100-79	100-79	L26CC	KL-25
40	3-40	165KC	4P45	NUA	KL-45
40W	3-40	165LB	4P45	NUB	KL-45
40A2	4P45	165LC	4P45	P27287	KL-50E
40B2	4P45	165L4	4P45	R-1000	R-1000
4X300	4P45	165L8	4P45	R-3003A	R-3003A
42A	3-40	165L44	4P45	RR782	K26J218
42A1	50AB	165M4	4P45	TU-34	KL-45
42A2	50AB	165M8	4P45	TU-83	KL-45
42B2	50AB	165R	4P45	W-43357	KL-45
45W	4P45	165R4	4P45	W-45788	KL-45
46A1	46A1	165R8	4P45	W-46773	KL-45
46B1	46B1	165R44	4P45	W-46416	KL-45
49A	4P45	185A	4P45	W-46773	KL-45
49A1	50AB	185KB	4P45	X35-35	KL-45
49A2	50AB	185KC	4P45	X55B	KL-25
49B2	50AB	185L4	4P45	Y-TU-9	KL-45
50MG	KL-50S1	185L8	4P45		

### SPECIAL BALLAST TUBES

List \$3.00—Dealer Cost \$1.80

1H4	3-12	4HTF4	6H6	9-11	41-7E
1H11	3-14	5-4	6H11	10-3	55-1
1H22	3-14B	5-11	*6T2	10-4A	55-4
*1HT2	3-16	5-16	*6T3	10-4B	D5HM2
*1HT4	3-38A	5H3	*6T4	10-4D	D6M2
*1HT11	3-50A	5H4	7-4	10-4E	D6-1E
1TF10	3A20	5H11	7-11	10-25	D6-4
1HTF10	3H-1-7	*5T4	7H4	10A12	D6-11
2A12	3H-11	5TP4	7H11	10T1	*D6T4
2A16	3H-25	6-2	7H12	11-4	*D6T11
2A20	*3T2	6-3	7HTF3	11-11	*D7H4
2H4	*3T4	6-4	7HTF4	12-4	*D7HT11
2H20	*3T7	6-7	*7T4	13-4	*D7HT11
*2HT2	*3T11	6-8B	7H4B	17-2	**D6TF10
*2HT4	3TFV4	6-11	8-3B	17-3	**D6TF11
3-2	3V4	6-12	8-11	20-3	D6TF20
3-4	4H3	6-13	9-3	20-4	D6TF30
3-7	4H4	6A20	9-4	40-6E	R1900
3-11	4H11	6H4	9-7		

124A—List \$10.00.  
(\* T Type. T-5 1/2 miniature bulb.)

### A10 SERIES

List \$3.00 Dealer Cost \$1.80

Amperite Number	Voltage 12-30 Current—Amps.	Amperite Number	Voltage 12-30 Current—Amps.
**D6-TF10	0.060- .068	5H10	0.55 - .60
**1TF10	0.10 - .11	6A10	0.60 - .65
1H1C	0.15 - 1.65	6H10	0.65 - .73
**1HTF10	0.15 - .165	7A10	0.70 - .80
2A10	0.2 - .22	7H10	0.75 - .85
2H10	0.25 - .28	8A10	0.80 - .90
3A10	0.3 - .33	9A10	0.90 - 1.0
3H10	0.35 - .39	10A10	1.0 - 1.15
4A10	0.4 - .45	11A10	1.1 - 1.25
4H10	0.45 - .50	12A10	1.2 - 1.35
5A10	0.5 - .56	13A10	1.3 - 1.5
		14A10	1.4 - 1.6

\*\* Type T6 1/2 Miniature bulb—9 Pin min. base.

# ALPHA WIRE CORPORATION

## CRYSTAL MICROPHONE CABLE

**GENERAL PURPOSE:** Low loss design for use with crystal, ribbon, dynamic and velocity microphones, photo-electric cells. Use No. 1248 FOR LAPEL MICROPHONES and phonograph pickups.



**Construction:** Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

No.	Size	Strand	Capacity Per Ft.	O.D.	Put-up
1248	20	26/34	40 mmf.	.175"	100 Ft. Spool
1249	20	26/34	30 mmf.	.245"	100 Ft. Spool

## SHIELDED MICROPHONE CABLE

**GENERAL PURPOSE:** Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.



**Construction:** Each conductor extra flexible stranded tinned copper, cotton wrap, .020" "Hi-Tension" low capacity rubber, color coded, conductors twisted, cushioned with cotton fillers, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

No.	Conduc-tors	Size	Capacity Per Ft.		O.D.	Put-up
			Cond. & Shield	Between Conds.		
1250	2	20	70 mmf.	38 mmf.	.290"	100 Ft. Spool
1250/18	2	18	75 mmf.	40 mmf.	.300"	100 Ft. Spool
1251	3	20	65 mmf.	38 mmf.	.305"	100 Ft. Spool
1251/18	3	18	65 mmf.	38 mmf.	.355"	100 Ft. Spool
1252	4	20	65 mmf.	36 mmf.	.345"	100 Ft. Spool
1253	5	20	60 mmf.	32 mmf.	.350"	100 Ft. Spool
1254	6	20	60 mmf.	30 mmf.	.375"	100 Ft. Spool
1254/18	6	18	60 mmf.	30 mmf.	.430"	100 Ft. Spool
1255	7	20	60 mmf.	30 mmf.	.380"	100 Ft. Spool
1255/8	8	20	60 mmf.	30 mmf.	.400"	100 Ft. Spool

## SHIELDED MULTIPLE CONDUCTOR CABLE

**GENERAL PURPOSE:** For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.



### Construction:

Nos. 1256-7-8: Each conductor 20-10/30 stranded tinned copper, 1/64" rubber, waxed cotton braid, color coded, conductors twisted, tinned copper shield overall.

No. 1256V—Two conductors 20-10/30 stranded tinned copper, 1/64" plastic, color coded, conductors twisted, tinned copper shield overall.

Nos. 1262-3-4—Same as Nos. 1256-7-8 plus cotton braid over shield.

No. 1262V—Same as No. 1256V plus cotton braid over shield.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

### TINNED SHIELD OVERALL

No.	Conduc-tors	Cond. & Shield	Capacity Per Ft.		O.D.	Put-up
			Between Conds.	Between Conds.		
1256	2	60.5 mmf.	32 mmf.	.215"	100 Ft. Spool	
1256V	2	60.5 mmf.	32 mmf.	.170"	100 Ft. Spool	
1257	3	54.0 mmf.	29 mmf.	.245"	100 Ft. Spool	
1258	4	48.0 mmf.	26 mmf.	.270"	100 Ft. Spool	

### COTTON BRAID OVER SHIELD

1262	2	60.5 mmf.	32 mmf.	.225"	100 Ft. Spool
1262V	2	60.5 mmf.	32 mmf.	.190"	100 Ft. Spool
1263	3	54.0 mmf.	29 mmf.	.240"	100 Ft. Spool
1264	4	48.0 mmf.	26 mmf.	.275"	100 Ft. Spool

## SHIELDED TWISTED PAIR CABLE

**GENERAL PURPOSE:** Where small diameter is required for sound recording, photo electric cell circuits, public address systems, etc.



**Construction:** Two conductors 24-16/36 extra flexible tinned copper, 1/64" vinyl insulation, color coded, conductors twisted, very fine tinned copper shield overall.

No.	Conductors	Size	Strand	O.D.	Put-up
1261	2	24	16/36	.115"	1000 Ft. Spool

# ALPHA WIRE CORPORATION



**Construction:** Two conductors 18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, paper wrap, close tinned copper shield overall.

No. 1266 same as No. 1265 except with waxed cotton braid over shield.

Alternate put-up use code: F = 1000 ft.



**Construction:** Two conductors 20 AWG solid tinned enameled copper, insulated, color coded, conductors twisted, close copper shield overall.

No. 1268 same as No. 1267 except with waxed cotton braid over shield.

Alternate put-up use code: F = 1000 ft.



**Construction:** Two conductors parallel, 18-16/30 stranded tinned copper, rubber insulated, color coded, lacquered cotton braid, galvanized steel armor overall.

Alternate put-up use code: F = 1000 ft.



**Construction:** Three conductors 22-7/30 tinned copper, vinyl plastic insulation, color coded; tinned copper shield over one conductor, two conductors unshielded; cotton braid overall.

Alternate put-up use code: F = 1000 ft.



**Construction:** Two conductors 19 AWG solid tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, pure lead sheath overall.

## SHIELDED DUPLEX SPEAKER CABLE

**GENERAL PURPOSE:** For P.A. systems, photo-electric cell circuits, master control sound systems, etc.

### TINNED SHIELD OVERALL

No.	Conductors	Capacity Per Ft. Between		O.D.	Put-up
		Cond. & Shield	Conds.		
1265	2	65 mmf.	23 mmf.	.250"	500 Ft. Spool

### WAXED COTTON BRAID OVER SHIELD

1266	2	65 mmf.	23 mmf.	.280"	500 Ft. Spool
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## SHIELDED TRANSMISSION LINE

**GENERAL PURPOSE:** For inter-communication, short wave, P.A. systems, etc.

### TINNED SHIELD OVERALL

No.	Conductors	Size	Capacity Per Ft.	O.D.	Put-up
1267	2	20 Solid	25 mmf.	.135"	500 Ft. Spool

### WAXED COTTON BRAID OVER SHIELD

1268	2	20 Solid	25 mmf.	.165"	500 Ft. Spool
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## ARMORED DUPLEX SPEAKER CABLE

**GENERAL PURPOSE:** For P.A. systems, oil burner installations, automotive wiring, etc.

No.	Conductors	Size	Strand	O.D.	Put-up
1272	2	18	16/30	.132" x .182"	500 Ft. Spool

## INTER-COMMUNICATION CABLE

### 3 CONDUCTORS

(1 SHIELDED - 2 UNSHIELDED)

**GENERAL PURPOSE:** This cable is ideal for general wiring from station to station where a shielded single conductor is essential to eliminate cross talk.

No.	Conductors	Size	Strand	O.D.	Put-up
1242	3	22	7/30	.155"	500 Ft. Spool

## LEAD SHEATHED CABLE

**GENERAL PURPOSE:** For P.A. systems, communications, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered. For all outdoor use including underground and underwater.

No.	Conductors	Size	O.D.	Put-up
1271	2	19 Solid	.325"	1000 Ft. Reel

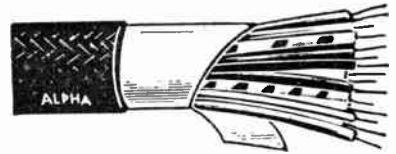
# ALPHA WIRE CORPORATION

## BRAIDED COMMUNICATION CABLE

(TWISTED PAIRS)

**GENERAL PURPOSE:** For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.

No.	Pairs	Conductors	Size	O.D.	Put-up
1276/2	2	4	22 Solid	.185"	1,000 Ft. Reel
1276/3	3	6	22 Solid	.210"	1,000 Ft. Reel
1276	6	12	22 Solid	.240"	1,000 Ft. Reel
1277	10	20	22 Solid	.300"	1,000 Ft. Reel
1277/13	13	26	22 Solid	.360"	1,000 Ft. Reel
1277/15	16	32	22 Solid	.380"	1,000 Ft. Reel
1277/25	26	52	22 Solid	.445"	1,000 Ft. Reel



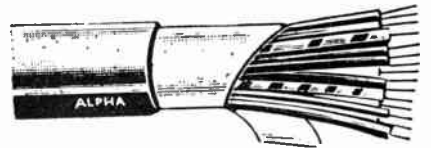
**Construction:** Each conductor 22 AWG solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and overall a cotton braid saturated with a moisture-proof, flame retarding, rodent-proof compound.

## LEAD-COVERED COMMUNICATION CABLE

(TWISTED PAIRS)

**GENERAL PURPOSE:** For use indoors, outdoors, underground and in pipes for connecting inter-communication systems, annunciators, telephones, etc.

No.	Pairs	Conductors	Size	O.D.	Put-up
1289	6	12	22 Solid	.375"	1,000 Ft. Reel
1291	10	20	22 Solid	.450"	1,000 Ft. Reel
1293	16	32	22 Solid	.510"	1,000 Ft. Reel
1295	26	52	22 Solid	.560"	1,000 Ft. Reel



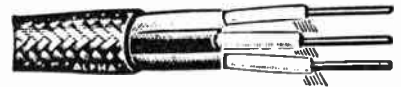
**Construction:** Similar to Braided Communication Cable above, but with lead antimony sheath instead of cotton braid over the twisted pairs.

## INTER-COMMUNICATION CABLE

(BRAIDED)

**GENERAL PURPOSE:** Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.

No.	Conductors	Size	O.D.	Put-up
1274	2	18 Solid	.150"	500 Ft. Spool
1275	3	18 Solid	.165"	500 Ft. Spool
1275/4	4	18 Solid	.180"	500 Ft. Spool
1275/5	5	18 Solid	.200"	500 Ft. Spool
1275/6	6	18 Solid	.220"	500 Ft. Spool



**Construction:** Each conductor 18 AWG solid bare copper wire, thermoplastic insulation, color coded, conductors twisted, waxed cotton braid overall.

## OUTDOOR INTER-COMMUNICATION WIRE

**GENERAL PURPOSE:** For outdoor and indoor use or in any damp location, for connecting communication systems, telephones, etc.

No.	Conductors	Size	O.D.	Put-up
1279	2	19 Solid	.200"	500 Ft. Coil
1280	3	19 Solid	.300"	500 Ft. Coil



**Construction:** Each conductor 19 AWG solid tinned copper, 1/64" telephone compound rubber, heavy cotton braid with specially treated compound to make it weather-proof for resistance against rain, snow, hail and cold.

## INDOOR INTER-COMMUNICATION WIRE

**GENERAL PURPOSE:** For connecting sound and communication systems, telephones, etc.

No.	Conductors	Size	O.D.	Put-up
1269	2	22 Solid	.125"	500 Ft Spool



**Construction:** Two conductors twisted, each 22 AWG solid copper, insulated, color coded.

# ALPHA WIRE CORPORATION



**Construction:** Each conductor 20-26/34 extra flexible stranded tinned copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

## MULTI-CONDUCTOR FLEXIBLE CABLE

(RUBBER JACKETED)

**GENERAL PURPOSE:** For indoor and outdoor speakers, permanent or portable P.A. systems, sound recording and auto radios.

No.	Con- ductors	Size	Strand	Capacity Per Ft. Between Conductors	O.D.	Put-up
1244	2	20	26/34	22 mmf.	.250"	100 Ft. Spool
1245	3	20	26/34	20 mmf.	.300"	100 Ft. Spool
1246	4	20	26/34	18 mmf.	.320"	100 Ft. Spool
1247	5	20	26/34	17 mmf.	.370"	100 Ft. Spool
1247/6	6	20	26/34	16 mmf.	.400"	100 Ft. Spool
1247/8	8	20	26/34	16 mmf.	.460"	100 Ft. Spool



**Construction:** Each conductor 20-10/30 stranded tinned copper, 1/64" thermo-plastic insulation, color coded, conductors twisted, brown cotton braid overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

## MULTI-CONDUCTOR FLEXIBLE CABLE

(COTTON BRAID)

**GENERAL PURPOSE:** For connecting speakers, analyzers, remote control units, P.A. systems or wherever a multiple circuit hook-up is required.

No.	Con- ductors	Size	Strand	Capacity Per Ft. Between Conductors	O.D.	Put-up
1182	2	20	10/30	31.5 mmf.	.135"	100 Ft. Spool
1183	3	20	10/30	31.0 mmf.	.170"	100 Ft. Spool
1184	4	20	10/30	30.0 mmf.	.180"	100 Ft. Spool
1185	5	20	10/30	29.5 mmf.	.205"	100 Ft. Spool
1186	6	20	10/30	29.2 mmf.	.225"	100 Ft. Spool
1187	7	20	10/30	28.8 mmf.	.240"	100 Ft. Spool
1188	8	20	10/30	28.5 mmf.	.255"	100 Ft. Spool
1189	9	20	10/30	27.9 mmf.	.275"	100 Ft. Spool
1190	10	20	10/30	27.6 mmf.	.310"	100 Ft. Spool
1192	12	20	10/30	27.0 mmf.	.340"	100 Ft. Spool



**Construction:** Each conductor stranded bare copper, cotton separator, 1/32" rubber, color coded, conductors twisted, cushioned with jute fillers, 40% tough rubber jacket overall.

## RUBBER SHEATHED SERVICE CORD

(UNDERWRITERS APPROVED)

**GENERAL PURPOSE:** For amplifiers, sound systems, speakers, vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough usage power line is required.

No.	Con- ductors	Size	Type	Current Carrying Capacity	Voltage Rating	O.D.	Put-up
1951	2	18	SV	5 amps	300	.250"	250 Ft. Spool
1952	2	18	SJ	5 amps	300	.310"	250 Ft. Spool
1953	2	16	SJ	7 amps	300	.340"	250 Ft. Spool
1954	2	18	S	5 amps	600	.390"	250 Ft. Coil
1955	2	16	S	7 amps	600	.410"	250 Ft. Coil
1956	2	14	S	15 amps	600	.540"	250 Ft. Coil
1957	2	12	S	20 amps	600	.605"	250 Ft. Coil
1958	2	10	S	25 amps	600	.640"	250 Ft. Coil

Available with Additional Conductors. Also other sizes.



**Construction:** Two conductors parallel, 18-41/34 extra flexible bare copper, color coded, cotton serve, 40% tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

## E-Z STRIP LAMP CORD—TYPE POSJ

(UNDERWRITERS APPROVED)

**GENERAL PURPOSE:** For line cord on radios, lamps, electric clocks, food mixers and other small devices.

No.	Conductors	Size	Strand	O.D.	Put-up
1966	2	18	41/34	.235" x .130"	100 Ft. Spool
1967	2	18	41/34	.235" x .130"	250 Ft. Spool

Standard Colors: Brown, Black and Ivory

# ALPHA WIRE CORPORATION

## TINNED COPPER SHIELDING

**GENERAL PURPOSE:** For shielding speaker leads, lead-ins, amplifier wires, auto radio installations. Also for bonding.

No.	Size of Wires	I.D.	Put-up
1229	36 AWG	1/8"	50 Ft. Spool
1230	36 AWG	3/16"	50 Ft. Spool
1231	36 AWG	1/4"	50 Ft. Spool
1232	36 AWG	3/8"	50 Ft. Spool
1233	36 AWG	5/8"	50 Ft. Spool
1234	36 AWG	3/4"	50 Ft. Spool
1235	36 AWG	1"	50 Ft. Spool



**Construction:** Composed of very fine soft annealed tinned copper wires braided and rolled flat.

Alternate put-up use code:  
Q = 100 ft., D = 250 ft., E = 500 ft., F = 1000 ft.

## SHIELDED PHONO AND GRID WIRE

**GENERAL PURPOSE:** Extreme flexibility and limpness make this an ideal wire for phonograph pick-up arm cable and grid wire.

No.	Conductors	Size	Strand	Insulation	O.D.	Put-up
1200	1	24	16/36	.010"	.080"	1000 Ft. Spool
1201	1	24	16/36	.010"	.095"	1000 Ft. Spool
1202	2	24	16/36	.010"	.115"	1000 Ft. Spool



**Construction:**

No. 1200: Single conductor 24-16/36 extra flexible stranded tinned copper, vinyl plastic insulation, fine close tinned copper shield overall.

No. 1201 same as No. 1200 plus cotton braid over shield.

No. 1202 same as No. 1200 except two conductors with shield overall.

## SHIELDED LOW LOSS CABLE

**GENERAL PURPOSE:** For auto radios, lead-ins, short wave receivers and for grid leads in the input stages of P.A. amplifiers.

No.	Size	Strand	O.D.	Put-up
1241	20	10/30	.225"	100 Ft. Spool



**Construction:** Single conductor 20-10/30 stranded tinned copper, heavy low loss insulation, white silk braid, tinned copper shield overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

## 7 MM LACQUERED CABLE

**GENERAL PURPOSE:** For high voltage leads in television receivers, cathode-ray tubes, oscilloscopes, etc.

No.	Size	Strand	Insulation	O.D.	Put-up
1981	16	19/29	3/32	.275"	100 Ft. Spool



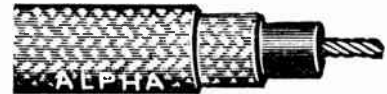
**Construction:** Single conductor 16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

## 7 MM SHIELDED IGNITION CABLE

**GENERAL PURPOSE:** For automotive and aircraft ignition systems requiring grounding to overcome interference.

No.	Size	Strand	Insulation	O.D.	Put-up
1193	16	19/29	3/32	.300"	100 Ft. Spool



**Construction:** Single conductor 16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered, braided tinned copper shield overall.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

## LACQUERED PRIMARY WIRE

**GENERAL PURPOSE:** For automobile head, tail, side, dashboard lamps, horn, spotlight, instrument leads and general high voltage and primary voltage applications.

No.	Size	Strand	Insulation	O.D.	Put-up
1989	18	16/30	1/64"	.110"	100 Ft. Spool
1991	18	16/30	1/32"	.125"	100 Ft. Spool
1995	16	26/30	1/32"	.140"	100 Ft. Spool
1997	14	41/30	1/32"	.170"	100 Ft. Spool
1999	12	19/25	1/32"	.190"	100 Ft. Spool
1983	10	19/23	1/32"	.208"	100 Ft. Spool



**Construction:** Single conductor stranded soft annealed tinned copper, insulated with rubber, highly lacquered braid. Oil, heat, and moisture resistant.

Alternate put-up use code:  
D = 250 ft., E = 500 ft., F = 1000 ft.

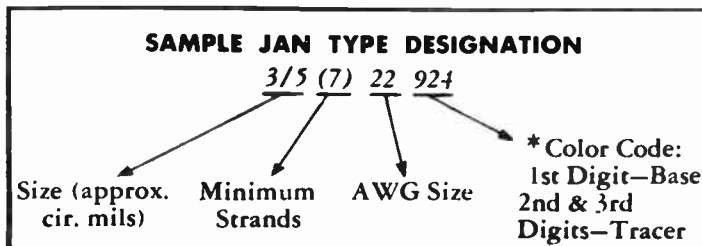


# ALPHA WIRE CORPORATION

## JAN-C-76 HOOK-UP WIRE TYPE SRIR (PLASTIC)

### GENERAL PURPOSE:

Electronic Devices      Radio      Transmitters      Lighting and Power  
Aircraft Instruments      Radar      Receivers      Rectifiers



### \*COLOR CODE

0—Black      2—Red      4—Yellow      6—Blue      8—Slate  
1—Brown      3—Orange      5—Green      7—Purple      9—White



### CONSTRUCTION:

Single conductor, stranded and solid tinned copper with thermoplastic (Vinylite) insulation. FUNGUS PROOF.

### CHARACTERISTICS:

High Dielectric Strength  
Stability at High Temperatures  
Flexibility at Low Temperatures  
Resistant to: Acids, Alkalis, Oil, Flame, Moisture.

### STRANDED

No.	JAN-C-76 Type Designation	Size	Strand	Insulation	Volt. Breakdown (60 cycles)	D.C. Insulation resistance/ft. (Megohms)	O.D.	Put-up
1550	2/5(7)-24	24	7/32	1/64"	8000	5000	.059"	1000 Ft. Spool
1551	3/5(7)-22	22	7/30	1/64"	8000	5000	.064"	1000 Ft. Spool
1552	3/5(7)-22	22	7/30	1/64"	8000	5000	.064"	100 Ft. Spool
1553	1(10)-20	20	10/30	1/64"	8000	5000	.073"	1000 Ft. Spool
1554	1(10)-20	20	10/30	1/64"	8000	5000	.073"	100 Ft. Spool
1555	1½(16)-18	18	16/30	1/64"	8000	5000	.084"	1000 Ft. Spool
1557	2½(26)-16	16	26/30	1/64"	8000	5000	.095"	1000 Ft. Spool
1559	4(41)-14	14	41/30	1/64"	12000	7500	.107"	1000 Ft. Spool
1560	6(65)-12	12	65/30	1/64"	12000	7500	.120"	1000 Ft. Spool

### SOLID

1561	3/5(1)-22	22	1	1/64"	8000	5000	.060"	1000 Ft. Spool
1562	3/5(1)-22	22	1	1/64"	8000	5000	.060"	100 Ft. Spool
1563	1(1)-20	20	1	1/64"	8000	5000	.066"	1000 Ft. Spool
1564	1(1)-20	20	1	1/64"	8000	5000	.066"	100 Ft. Spool

### STANDARD COLORS

Black      Green      Light Blue      White      Slate      Tan  
Red      Yellow      Brown      Orange      Purple      Pink      Dark Blue

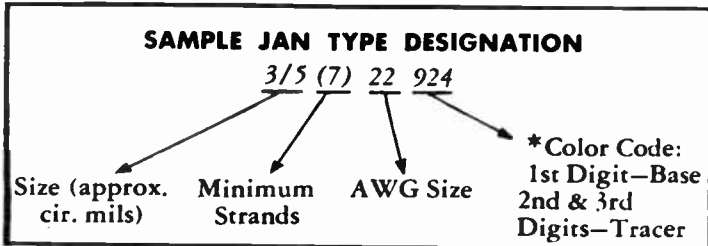
Also available in various tracer combinations

# ALPHA WIRE CORPORATION

## JAN-C-76 HOOK-UP WIRE TYPE WL

**GENERAL PURPOSE:**

Electronic Devices  
Aircraft Instruments
Radio  
Radar
Transmitters  
Receivers
Lighting and Power  
Rectifiers



**\* COLOR CODE**

0—Black  
1—Brown
2—Red  
3—Orange
4—Yellow  
5—Green
6—Blue  
7—Purple
8—Slate  
9—White

**CONSTRUCTION:**

Single conductor stranded tinned copper with thermoplastic (Vinylite) insulation, cotton or glass braid, lacquered. FUNGUS PROOF.

**CHARACTERISTICS:**

Stability at High Temperatures • Flexibility at Low Temperatures  
Resistant to: Flame, Moisture.



**COTTON BRAID**

No.	JAN-C-76 Type Designation	Size	Strand	Insulation	Volt. Breakdown (60 cycles)	D.C. Insulation resistance/ft. (Megohms)	O.D.	Put-up
1480	3/5(7)-22	22	7/30	1/64"	5000	1000	.090"	1000 Ft. Spool
1481	1(10)-20	20	10/30	1/64"	5000	1000	.100"	1000 Ft. Spool
1482	1½(16)-18	18	16/30	1/64"	5000	1000	.115"	1000 Ft. Spool
1483	2½(26)-16	16	26/30	1/64"	5000	1000	.130"	1000 Ft. Spool
1484	4(41)-14	14	41/30	1/64"	5000	1000	.150"	1000 Ft. Spool
1485	6(65)-12	12	65/30	1/64"	5000	1000	.170"	1000 Ft. Spool

**STANDARD COLORS**

Black  
Red
Green  
Yellow
Blue  
Brown
White  
Orange
Slate  
Purple

*Also available in various tracer combinations*

**GLASS BRAID**

1490	3/5(7)-22	22	7/30	1/64"	5000	1000	.085"	1000 Ft. Spool
1491	1(10)-20	20	10/30	1/64"	5000	1000	.095"	1000 Ft. Spool
1492	1½(16)-18	18	16/30	1/64"	5000	1000	.110"	1000 Ft. Spool
1493	2½(26)-16	16	26/30	1/64"	5000	1000	.125"	1000 Ft. Spool
1494	4(41)-14	14	41/30	1/64"	5000	1000	.145"	1000 Ft. Spool
1495	6(65)-12	12	65/30	1/64"	5000	1000	.165"	1000 Ft. Spool

**STANDARD COLORS**

White  
White/Black
White/Red  
White/Green
White/Yellow  
White/Blue
White/Brown  
White/Orange
White/Slate  
White/Purple

*Available in additional colors and other tracer combinations*

# ALPHA WIRE CORPORATION



**Construction:** Single conductor stranded and solid tinned copper, heavy wrap of cellulose acetate, cotton braid with flame-retarding lacquer.

### STANDARD COLORS:

Sizes 22-20-18—Stranded and Solid:  
Black, Red, Green, Yellow, Blue, Brown, White, Orange.

Sizes 16-14—Stranded and Solid:  
Black, Red.



Available in additional colors and tracer combinations.

## "CL" PUSHBACK WIRE

**GENERAL PURPOSE:** Pushback hook-up wire in various bright colors for circuit identification; radio, radar, electronics, electrical toys, etc.

### STRANDED

No.	Size	Strand	Volt. Break-down (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.	Put-up
1460	22	7/30	1000	200	.065"	1000 Ft. Spool
1461	20	10/30	1000	200	.070"	1000 Ft. Spool
1462	18	16/30	1000	200	.082"	1000 Ft. Spool
1463	16	26/30	1000	200	.093"	1000 Ft. Spool
1464	14	41/30	1000	200	.105"	1000 Ft. Spool

### SOLID

1465	22	Solid	1000	200	.060"	1000 Ft. Spool
1466	20	Solid	1000	200	.065"	1000 Ft. Spool
1467	18	Solid	1000	200	.075"	1000 Ft. Spool
1468	16	Solid	1000	200	.085"	1000 Ft. Spool
1469	14	Solid	1000	200	.095"	1000 Ft. Spool

Alternate put-up use code: Q = 100 Ft. Spool

## LACQUERED HOOK-UP AND LEAD-IN WIRE (HIGH GLOSS LACQUERED BRAID)

**GENERAL PURPOSE:** For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.



**Construction:** Single conductor stranded tinned copper, free stripping insulation, single braid highly lacquered.

### STANDARD COLORS:

Sizes 20-18—Black, Red, Green, Yellow Blue, Brown, White.

Sizes 16-14-12-10—Black, Red.

Available in additional colors and tracer combinations.

No.	Size	Strand	Insulation	Volt. Break-down (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.	Put-up
1513	20	10/30	1/64"	7000	290	.090"	100 Ft. Spool
1515	20	10/30	1/64"	7000	290	.090"	500 Ft. Spool
1523	18	16/30	1/64"	7000	300	.110"	100 Ft. Spool
1525	18	16/30	1/64"	7000	300	.110"	500 Ft. Spool
1533	18	16/30	1/32"	8500	460	.125"	100 Ft. Spool
1535	18	16/30	1/32"	8500	460	.125"	500 Ft. Spool
1543	16	26/30	1/32"	8500	460	.140"	100 Ft. Spool
1545	16	26/30	1/32"	8500	460	.140"	500 Ft. Spool
1546	14	41/30	1/32"	8500	460	.170"	500 Ft. Spool
1547	12	19/25	1/32"	8500	460	.190"	500 Ft. Spool
1548	10	19/23	1/32"	8500	460	.208"	500 Ft. Spool

## SHIELDED HOOK-UP AND LEAD-IN WIRE

**GENERAL PURPOSE:** To reduce interference caused by motors, high tension wires, x-ray machines or other apparatus that radiates electrical impulses. Ideal for grid-lead use.



**Construction:** Single conductor stranded tinned copper, low loss insulation, highly lacquered braid, close tinned copper shield overall.

No.	Size	Strand	O.D.	Put-up
1194/22	22	7/30	.105"	1000 Ft. Spool
1194	20	10/30	.110"	1000 Ft. Spool
1196	18	16/30	.145"	1000 Ft. Spool
1197	16	26/30	.160"	1000 Ft. Spool
1198	14	41/30	.180"	1000 Ft. Spool
1199	12	19/25	.210"	1000 Ft. Spool
1199/10	10	19/23	.220"	1000 Ft. Spool

# ALPHA WIRE CORPORATION

## KINKLESS TEST LEAD WIRE

**GENERAL PURPOSE:** As test leads in analyzers, oscillators and all other types of testing apparatus or wherever an EXTRA FLEXIBLE insulated wire is required.

No.	Size	Strand	Insulation	Voltage Breakdown (60 Cycles)	O.D.	Put-up
1633	20	41/36	3/64"	10,000	.140"	100 Ft. Spool
1635	20	41/36	3/64"	10,000	.140"	500 Ft. Spool
1636	18	65/36	3/64"	12,000	.150"	500 Ft. Spool



**Construction:** Single conductor extra flexible tinned soft annealed copper, concentric strand, cotton wrap, 3/64" "Super Hi-Tension" rubber, satin finish.

**STANDARD COLORS:**  
Red, Black.

## HEAVY DUTY TYPE

**GENERAL PURPOSE:** For television, therapeutic equipment, analyzers, oscillators, etc., or wherever a heavy duty EXTRA FLEXIBLE high voltage line is required.

No.	Size	Strand	Insulation	Voltage Breakdown (60 Cycles)	O.D.	Put-up
1637	18	65/36	7/64"	22,000	.245"	100 Ft. Spool
1638	18	65/36	7/64"	22,000	.245"	500 Ft. Spool



**Construction:** Single conductor 18-65/36 extra flexible tinned soft annealed copper, concentric strand, cotton wrap, 7/64" "Super Hi-Tension" rubber, satin finish.

**STANDARD COLORS:**  
Red, Black.

## TINNED COPPER BUS-BAR WIRE

**GENERAL PURPOSE:** Winding of coils, antennas, point to point, bus bar, etc.

No.	Size	Circular Mills	O.D.	Put-up
292	10 AWG	10380	.103"	1000 Ft. Spool
289	12 AWG	6530	.082"	1000 Ft. Spool
286	14 AWG	4107	.065"	1000 Ft. Spool
295	16 AWG	2583	.051"	1000 Ft. Spool
296	18 AWG	1624	.040"	1000 Ft. Spool
297	20 AWG	1022	.033"	1000 Ft. Spool
298	22 AWG	642.4	.025"	1000 Ft. Spool
299	24 AWG	404.0	.020"	1000 Ft. Spool
299/1	26 AWG	254.1	.016"	1000 Ft. Spool
299/2	28 AWG	159.8	.013"	1000 Ft. Spool



**Construction:** Pure electrolytic copper properly annealed and tinned for quick soldering.

## DIATHERMY CABLE

**GENERAL PURPOSE:** Its extreme flexibility and tough rubber jacket give it long life. This cable is used as a lead on therapy apparatus, charging cable, battery lead, underground cable, etc.

No.	Size	Strand	Insulation	O.D.	Put-up
1623	14	104/34	3/64"	.300"	100 Ft. Spool
1625	14	104/34	3/64"	.300"	1000 Ft. Reel



**Construction:** Single conductor 14-104/34 copper, paper serve, 3/64" ASTM performance grade rubber, double cotton braid, .040" oil resistant neoprene rubber jacket.

## TWISTED PAIR TRANSMISSION LINE

(WEATHERPROOF BRAID)

**GENERAL PURPOSE:** For inter-com. hook-up. Also suitable for low loss coupling between antenna and receiver as doublet style twisted lead-in.

No.	Conductors	Size	Strand	O.D.	Put-up
1146	2	22	7/30	.175"	500 Ft. Spool
1135	2	18	16/30	.190"	500 Ft. Spool



**Construction:** Two conductors stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cotton braid overall, saturated weatherproof finish.

# ALPHA WIRE CORPORATION



## TELEVISION AND FM TWIN-LEAD CABLE

**GENERAL PURPOSE:** For use especially in television and FM as the lead-in from the antenna to the receiver.

**Construction:** Two conductors parallel, each conductor 7/28 bare copper flexible stranding, low loss polyethylene plastic insulation, smooth satin finish. Standard color: brown.

No.	Impedance (Ohms)	Capacity Per Ft.	O.D.	Put-up
1150	300	4.5 mmf.	.070" x .395"	1000 Ft. Spool
1151	150	9.5 mmf.	.060" x .190"	1000 Ft. Spool
1152	75	20.0 mmf.	.070" x .120"	1000 Ft. Spool

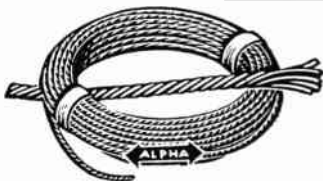


## ROTARY TV-FM CABLE

**GENERAL PURPOSE:** Designed for use with TV or FM antenna rotators.

**Construction:** Conductors flat parallel, each conductor 7/30 stranded copper with one conductor bare and other conductors tinned. Durable rubber insulation. Very flexible.

No.	Conductors	O.D.	Put-up
1150/3	3	.085" x .265"	1000 Ft. Spool
1150/4	4	.085" x .345"	1000 Ft. Spool
1150/5	5	.085" x .425"	1000 Ft. Spool



## GUY WIRE

**Construction:** Stranded galvanized steel wires with great tensile strength.

**GENERAL PURPOSE:** To prevent sway of FM, TV and radio receiver masts, poles or towers.

No.	Strand	Breaking Strength	O.D.	Put-up
1168	6/18	650 Lbs.	.156"	1000 Ft. Spool
1169	6/20	470 Lbs.	.105"	1000 Ft. Spool
1170	6/20	470 Lbs.	.105"	100 Ft. Coil



## CO-AXIAL CABLE (RG-59U)

**Construction:** Single conductor No. 22 solid copperweld, polyethylene insulation, bare copper shield, black vinyl plastic jacket overall.

**GENERAL PURPOSE:** Co-axial cable is ideal for television, FM and facsimile reception. Is suitable for very high frequency and ultra high frequency ranges.

No.	Nom. Imp. (Ohms)	Nom. Cap.	Max. Oper. Volts RMS	O.D.	Put-up
1157	73	21 mmf./F+	2300	.242"	1000 Ft. Reel



## ALPHA E-Z STRIP LINE CORD

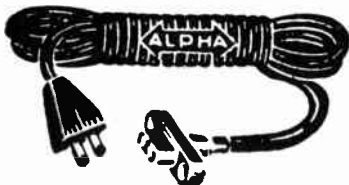
**Construction:** E-Z strip rubber parallel cord (Type POSJ) with small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach. Also available in other lengths.

**UNDERWRITERS APPROVED**

**GENERAL PURPOSE:** This is the modern and ideal power supply cord for replacement on radios, lamps, fans, etc.

No.	Conductors	Size	Strand	O.D.	Length
2106	2	18	41/34	.235" x .130"	6 Ft.
2109	2	18	41/34	.235" x .130"	9 Ft.
2112	2	18	41/34	.235" x .130"	12 Ft.

## TELEVISION POWER CONNECTOR CORD (UNDERWRITERS APPROVED)



**Construction:** E-Z Strip cord (Type POSJ), molded rubber plug attached to one end, TV molded rubber connector attached to other end. For replacement of worn out or damaged TV cords.

No.	Length
2126	6 Ft.



## UNBREAKABLE SOFT RUBBER PLUG

Made of sturdy live soft rubber. Brass blades. Unbreakable, easy to attach.

No.	Per Carton
1964	100

# ALPHA WIRE CORPORATION

## AERIAL KITS

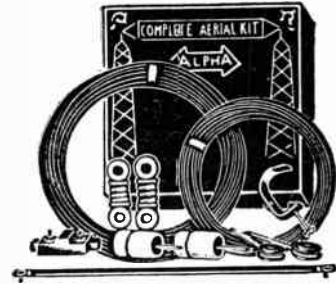
Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively. 20 Per Carton.

### No. 301

50 Ft. 7 Strand Copper Aerial  
25 Ft. Lead-in Wire  
2 No. 2022 Insulators  
2 No. 2031 Nail Knobs  
1 No. 2012 Ground Clamp  
1 No. 2002 Lead-in Strip

### No. 304

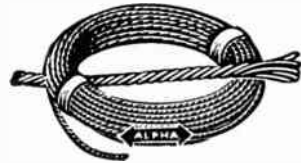
75 Ft. 7/24 Copper Aerial Wire  
25 Ft. Lead-in Wire  
1 No. 2001 Lightning Arrester  
1 No. 2002 Lead-in-Strip  
2 No. 2031 Nail Knobs  
1 No. 2012 Ground Clamp  
2 No. 2022 Insulators



## PHOSPHOR BRONZE AERIAL WIRE

**GENERAL PURPOSE:** Recommended especially for ship, short wave and transmitting aeriels where high tensile strength is required.

No.	Size	Strand	Breaking Strength	O.D.	Put-up
1160	14	7/22	420 Lbs.	.075"	500 Ft. Spool
1161	12	7/20	650 Lbs.	.100"	500 Ft. Spool
1163	10	7/18	1000 Lbs.	.122"	500 Ft. Spool
1164	8	7/16	1600 Lbs.	.150"	500 Ft. Spool
1165	6	7/14	2140 Lbs.	.190"	500 Ft. Spool
1166	4	7/12	3670 Lbs.	.240"	500 Ft. Spool



**Construction:** 7 strands Phosphor Bronze.

## LEAD-IN AND GROUND WIRE

**GENERAL PURPOSE:** Lead-in, ground, hook-up, all purpose wire.

No.	Size	Strand	Insulation	O.D.	Put-up
1114	20	10/30	1/32"	.105"	1000 Ft. Spool
1114E	20	10/30	1/32"	.105"	500 Ft. Spool
1131	18	16/30	1/32"	.125"	500 Ft. Spool



**Construction:** Single conductor stranded tinned copper, insulated with live free stripping rubber, jet black waxed finish overall.

## COPPER AERIAL WIRE

### STRANDED-BARE

No.	Size	Put-up
101	7/20	100 Ft. Coil
104	7/20	75 Ft. Coil
105	7/20	50 Ft. Coil
106	7/20	1000 Ft. Spool
107	7/22	100 Ft. Coil
110	7/22	75 Ft. Coil
111	7/22	50 Ft. Coil
112	7/22	1000 Ft. Spool
131	7/24	100 Ft. Coil
134	7/24	75 Ft. Coil
135	7/24	50 Ft. Coil
136	7/24	1000 Ft. Spool

### STRANDED-TINNED

No.	Size	Put-up
161	7/22	100 Ft. Coil
164	7/22	75 Ft. Coil
165	7/22	50 Ft. Coil
166	7/22	1000 Ft. Spool

### SOLID-ENAMEL

No.	Size	Put-up
269	14	100 Ft. Coil
274	14	1000 Ft. Spool
275	12	100 Ft. Coil
280	12	1000 Ft. Spool
281	10	100 Ft. Coil
283	10	1000 Ft. Spool

### SOLID-TINNED

No.	Size	Put-up
284	14	100 Ft. Coil
286	14	1000 Ft. Spool
287	12	100 Ft. Coil
289	12	1000 Ft. Spool
290	10	100 Ft. Coil
292	10	1000 Ft. Spool

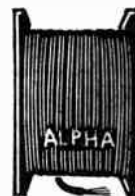


All Alpha Aerial Wire is pure electrolytic copper properly annealed to assure required flexibility and tensile strength.

## AC-DC ANTENNA WIRE

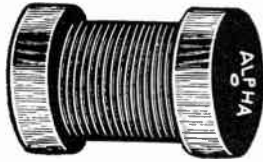
**GENERAL PURPOSE:** Ideal replacement wire for universal midjets, indoor aeriels and loop antennas.

No.	Type	Size	Strand	O.D.	Put-up
1281	Cotton	24	16/36	.050"	25 Ft. Disc.
1281V	Plastic	24	16/36	.047"	25 Ft. Disc.
1284	Cotton	24	16/36	.050"	1000 Ft. Spool
1284V	Plastic	24	16/36	.047"	1000 Ft. Spool



**Construction:** Single conductor 24-16/36 extra flexible bare copper, covered with dark brown cotton braid or plastic insulation.

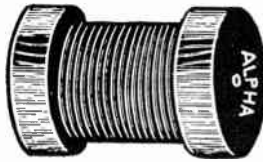
# ALPHA WIRE CORPORATION



**Construction:** 42 strands (6 x 7 x .004) genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

## PHOSPHOR BRONZE DIAL CABLE

No.	Tensile Strength	O.D.	Put-up
1691	50 lbs.	.036"	100 Ft. Spool
1692	50 lbs.	.036"	500 Ft. Spool



**Construction:** Made of the finest linen obtainable. Composed of a very strong linen center over which is a smooth black braid.

## BRAIDED LINEN DIAL CABLE HEAVY

No.	Tensile Strength	O.D.	Put-up
1695	40 lbs.	.057"	100 Ft. Spool
1696	40 lbs.	.057"	500 Ft. Spool

### LIGHT

No.	Tensile Strength	O.D.	Put-up
1698	22.5 lbs.	.036"	100 Ft. Spool
1699	22.5 lbs.	.036"	500 Ft. Spool

### EXTRA-THIN

No.	Tensile Strength	O.D.	Put-up
1700	18 lbs.	.027"	25 Ft. Spool



## FLEXIBLE VARNISHED TUBING AND SLEEVING

**RADIO VARNISHED TUBING - (Spaghetti).** A sleeving with a heavy coat of varnish, in high gloss vivid colors. Average dielectric strength: 7,000 volts.

**SATURATED SLEEVING -** A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: 2,000 volts.

**MAGNETO VARNISHED TUBING -** The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: 7,000 volts.

No.	Approx. I.D.	No.	Approx. I.D.	No.	Approx. I.D.	No.	Approx. I.D.	No.	Approx. I.D.
20	.034"	15	.059"	10	.106"	5	.186"	0	.330"
19	.038"	14	.066"	9	.118"	4	.208"	3/8"	.375"
18	.042"	13	.076"	8	.133"	3	.234"	7/16"	.438"
17	.047"	12	.085"	7	.148"	2	.263"	1/2"	.500"
16	.053"	11	.095"	6	.166"	1	.294"	5/8"	.625"

Tolerances: Sizes:

0 to 2—plus or minus .005"

3 to 13—plus or minus .004"

14 to 20—plus or minus .002"

Standard Color: Black. Other colors to order.

Sizes follow the B & S System of gauging wires. For instance, a No. 10 tubing will fit over a No. 10 bare wire or any wire with an insulation of which the O.D. is equivalent to No. 10 B & S gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

LENGTHS—STANDARD 36"

LONGER LENGTHS AVAILABLE



## SPAGHETTI TUBING

A superior varnished tubing for radio work. It will retain its dielectric and flexibility indefinitely. Takes up to No. 14 wire.

Colors: Black, Red, Yellow, Green and Brown

No. 2091 - 36" Lengths

# ALPHA WIRE CORPORATION

## NOTE: USEFUL INFORMATION FOR ORDERING

- All tests on specifications are approximate and subject to normal manufacturing tolerances.
- Lengths other than those regularly listed can be furnished.
- Other wires and cables made to specifications.
- Use the following symbols alongside catalog number for other than standard put-ups.

COILS		COILS		COILS		SPOOLS		SPOOLS		SPOOLS	
25 Ft.....H	100 Ft.....K	500 Ft.....B	25 Ft.....N	100 Ft.....Q	250 Ft.....D	50 Ft.....Z	150 Ft.....L	1000 Ft.....C	50 Ft.....T	150 Ft.....R	500 Ft.....E
75 Ft.....J	200 Ft.....M	250 Ft.....A	75 Ft.....P	200 Ft.....S	1000 Ft.....F						

### G — LONGER LENGTHS ON SPOOLS OR REELS

The constant development of new and improved designs and manufacturing processes results in continually changing specifications. In every case where Alpha wires shipped are different in specifications from those shown in this catalog, an improvement will be noted.

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
101	\$ 2.78	1194	\$60.00	1289	\$462.50	1585	\$36.25	0	\$24.75
104	2.13	1196	67.50	1291	600.00	1587	48.00	3/8	31.00
105	1.45	1197	80.00	1293	762.50	1589	61.88	7/16	35.13
106	27.00	1198	100.00	1295	1025.00	1623	20.00	1/2	41.25
107	1.55	1199	181.25	1460	18.13	1625	187.50	5/8	47.50
110	1.20	1199/10	237.50	1460-Q	2.45	1633	3.75		
111	.80	1200	45.00	1461	21.25	1635	16.88		
112	14.75	1201	55.00	1461-Q	2.75	1636	21.25		
131	1.10	1202	67.50	1462	26.25	1637	7.50		
134	.88	1229	2.75	1462-Q	3.25	1638	35.00		
135	.60	1230	3.50	1463	35.00	1691	4.13		
136	10.25	1231	3.75	1463-Q	4.13	1692	18.75		
161	1.93	1232	6.00	1464	47.50	1695	3.88		
164	1.48	1233	9.75	1464-Q	5.38	1696	18.00		
165	1.00	1234	13.00	1465	15.50	1698	3.50		
166	18.38	1235	16.25	1465-Q	2.18	1699	16.88		
269	2.00	1241	12.50	1466	18.13	1700	.68		
274	19.20	1242	52.50	1466-Q	2.45	1951	25.00		
275	3.03	1244	11.25	1467	23.13	1952	28.75		
280	29.50	1245	13.25	1467-Q	2.95	1953	37.50		
281	4.33	1246	17.25	1468	28.75	1954	42.50		
283	42.50	1247	20.00	1468-Q	3.50	1955	52.50		
284	1.95	1247/6	25.50	1469	38.75	1956	90.00		
286	18.75	1247/8	33.25	1469-Q	4.50	1957	125.00		
287	2.93	1248	10.00	1480	27.50	1958	165.00		
289	28.50	1249	12.25	1481	32.00	1964	.15		
290	4.28	1250	14.75	1482	39.38	1966	5.88		
292	41.88	1250/18	18.75	1483	50.00	1967	13.75		
295	13.75	1251	17.50	1484	69.00	1981	11.25		
296	11.75	1251/18	24.50	1485	105.50	1983	10.63		
297	7.38	1252	20.50	1490	30.00	1989	3.63		
298	4.88	1253	25.75	1491	35.00	1991	3.88		
299	6.00	1254	30.00	1492	43.50	1995	5.25		
299/1	5.50	1254/18	42.50	1493	53.75	1997	6.25		
299/2	5.00	1255	33.75	1494	70.63	1999	7.25		
301	1.45	1255/8	37.50	1495	115.00	2091	21.55		
304	2.63	1256	10.00	1513	3.13	2106	.60 ea.		
1114	9.35	1256V	10.00	1515	13.75	2109	.75 ea.		
1114E	5.00	1257	12.50	1523	3.63	2112	.95 ea.		
1131	7.50	1258	15.00	1525	16.25	2126	.80 ea.		
1135	32.50	1261	67.50	1533	3.88				
1146	24.38	1262	11.25	1535	17.50				
1150/3	50.00	1262V	11.25	1543	5.25				
1150/4	62.50	1263	15.00	1545	23.75				
1150/5	77.50	1264	18.75	1546	31.25				
1150	40.00	1265	57.50	1547	36.25				
1151	37.50	1266	67.50	1548	53.25				
1152	35.00	1267	29.38	1550	13.75				
1157	187.50	1268	34.38	1551	14.50				
1160	25.00	1269	17.50	1552	2.08				
1161	42.50	1271	155.00	1553	17.50				
1163	47.50	1272	50.00	1554	2.38				
1164	65.00	1274	23.75	1555	23.75				
1165	100.00	1275	30.00	1557	35.00				
1166	155.00	1275/4	41.25	1559	49.38				
1168	25.00	1275/5	52.50	1560	123.75				
1169	16.25	1275/6	70.00	1561	12.50				
1170	1.75	1276/2	100.00	1562	1.88				
1182	5.00	1276/3	122.50	1563	15.00				
1183	7.50	1276	215.00	1564	2.13				
1184	9.50	1277	295.00	1565	20.63				
1185	11.75	1277/13	375.00	1567	26.25				
1186	13.75	1277/15	425.00	1569	35.00				
1187	15.50	1277/25	662.50	1571	26.25				
1188	17.25	1279	30.00	1573	30.00				
1189	20.00	1280	45.00	1575	38.13				
1190	22.50	1281	.30	1577	50.50				
1192	27.50	1281V	.30	1579	67.75				
1193	15.00	1284	8.75	1581	24.00				
1194/22	56.25	1284V	8.75	1583	28.75				

### MAGNETO VARNISHED TUBING

Cat. No.	Per C ft. List Price
24	\$ 6.65
20	6.65
18	6.65
19	6.65
17	6.65
16	7.15
15	7.50
14	7.90
13	8.15
12	8.25
11	9.65
10	10.40
9	11.25
8	11.90
7	13.00
6	14.25
5	15.40
4	16.75
3	18.00
2	19.40
1	20.65
0	24.75
3/8	31.00
7/16	35.15
1/2	41.25
5/8	47.50

### SATURATED SLEEVING

Cat. No.	Per C ft. List Price
24	\$ 4.00
20	4.00
19	4.40
18	4.40
17	4.40
16	4.50
15	4.75
14	5.15
13	5.25
12	5.65
11	6.00
10	6.65
9	7.15
8	7.40
7	7.50
6	7.75
5	8.15
4	8.65
3	9.75
2	10.90
1	12.00
0	13.90
3/8	18.25
7/16	22.00
1/2	24.65
5/8	28.15

### RADIO VARNISHED TUBING

Cat. No.	Per C ft. List Price
24	\$ 6.13
20	6.13
19	6.25
18	6.50
17	6.63
16	7.00
15	7.25
14	7.50
13	7.88
12	8.25
11	9.18
10	9.75
9	10.50
8	11.00
7	11.75
6	12.63
5	13.75
4	15.38
3	16.88
2	18.38
1	20.63

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.





# TV Lead-in Cables by Federal



Transmission Lines for Every Television Application by America's  
Leading Manufacturer of Solid Dielectric HF Cables

## FTR TV-1182 "Silver" Heavy-Duty TV Line—300 ohms



Insulated with Federal "Silver" polyethylene—the revolutionary development that provides greater resistance to weather, heat and sunlight. Unchanging electrical and physical char-

acteristics assure long, trouble-free service. Installations are more attractive—silver insulation blends with any color scheme in home decoration.

Federal Code No.	Nominal impedance ohms	Nominal Attenuation DB per 100 feet			Suggested Retail Price per ft.
		50 Mc	100 Mc	200 Mc	
TV-1182	300	.84	1.2	1.8	\$ .055

### Type K-111 Shielded 300-Ohm TV Lead-In



Shielded and balanced 300-ohm TV lead-in that minimizes "snow," "ghosts" and electrical noise due to lead-in pick-up. For use in high signal strength, high noise level areas.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
K-111	300	2.4 at 50 Mc. 3.4 at 100 Mc 4.6 at 200 Mc.	\$.24

### Type K-14 Ultra Low Loss 72-Ohm Cable



72-ohm shielded cable for use as main transmission line in community TV and other distribution systems.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
K-14	72	.4 at 50 Mc. .7 at 100 Mc. 1.15 at 200 Mc.	\$1.13

### Type K-200 Ultra Low-Loss 200-Ohm TV Lead-In



A 200-ohm TV lead-in that is the answer to satisfactory reception in extreme fringe areas where weak signal strength demands a lead-in with absolute minimum losses.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
K-200	200	.45 at 50 Mc. .56 at 100 Mc. .66 at 200 Mc.	\$.26

### Type TV-59 Coaxial 72-Ohm TV Lead-In Cable



An economical, high-quality 72-ohm coaxial cable for use as lead-in with unbalanced input TV receivers.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
TV-59	72	3.8 at 100 Mc.	\$.094

### Type RG-59/U Coaxial 72-Ohm TV Lead-In Cable



72-ohm (U. S. Government approved) coaxial cable. For use with unbalanced input TV receivers where top quality installation is essential.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
RG-59/U	72	2.7 at 50 Mc. 3.8 at 100 Mc. 6.0 at 200 Mc.	\$.12

### Type RG-8/U Coaxial 52-Ohm TV Lead-In Cable



52-ohm low-loss (U. S. Government approved) coaxial cable. Characteristics and quality proved in every installation where this type cable is indicated. For special applications and experimental work.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
RG-8/U	52	1.25 at 50 Mc. 2.0 at 100 Mc. 3.2 at 200 Mc.	\$.24

### Type RG-11/U Coaxial 75-Ohm Low-Loss TV Lead-In Cable



75-ohm low-loss (U. S. Government approved) coaxial cable. For use with unbalanced input TV receivers in low signal strength areas.

Federal Code No.	Nominal Impedance Ohms	Attenuation DB/100 ft.	Sugg'd Retail Price, per ft.
RG-11/U	75	1.35 at 50 Mc. 2.1 at 100 Mc. 3.1 at 200 Mc.	\$.22

*Intelin High Frequency Cables, Manufactured by Federal Telephone and Radio Corporation, Are Available in a Complete Line for All Electronic Requirements.*

Consult your local Federal Distributor or write to Federal direct—



\*Trade Mark

# Belden

## RADIO • TELEVISION WIRE

### accessories

Trade Number	Lengths & Package	A.W.G.	Description	Stranding	Insulation Thickness (inches)	Mem. Diam (inches)
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#### litz wire

8817	100'S		For rewinding antenna primaries and for hand-wound r-f coils. Sa44 Colenamel with a wrap of Nylon.	5x44		.008
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#### lead-in wire

8206	250'S	18	Tinned copper, flexible stranding; rubber insulation; tinned copper braid shield	7x27	.040"	.156
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#### voice coil lead wire

8127	***10'	25	Bare copper wire braided	32x40		.024
***Packaged 10 ft on card, 5 cards in carton.						

#### indoor aerial wire — EXTRA FLEXIBLE

8014	*25' 600 SK	25	Tinned copper, flexible stranding; chrome vinyl plastic insulation	13x36	.010"	.044
**Packaged 25 ft on card, 5 cards in carton.						

#### aerial wire

8000	50'C 75'C 100'C 1000'S	7x22	<b>STRANDED BARE COPPER</b>			
8002	50'C 75'C 100'C 1000'S	7x24				

#### SOLID BELDENAMEL

8008	100'CK 200'S 500'S	12				
8009	100'CK 500'S	14				
8011	100'CK	12				
8012	100'CK	14				
8013	100'CK	16				

### auto and aircraft radio wires and shielding

Trade Number	Lengths & Package & Color	A.W.G.	Description	Stranding	Mem. Diam (inches)
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8664	100'S Black	26	Tinned copper, solid; polyethylene insulation; tinned copper braid shield; black vinyl plastic jacket; NOMINAL CAPACITANCE Per Ft 15.0 MMF	solid	.245
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8667	100'S Black	16	Tinned copper, flexible stranding; rubber insulation; cotton braid; lacquer coating	19x29	.200
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8665	100'S Black	19	Stainless steel alloy, flexible stranding; rubber insulation; glass yarn web braid; neoprene jacket; tinned copper braid shield; neoprene jacket; NOMINAL CAPACITANCE Per Ft 33.0 MMF	6x.013" + 1x.011" steel alloy	.305
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### auto and aircraft radio wires and shielding (cont'd)

Trade Number	Lengths & Package & Color	A.W.G.	Description	Stranding	Mem. Diam (inches)
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8833	100'S 1000'S Black Blue Green Red Yellow	18	Tinned copper, flexible stranding; paper wrap; rubber insulation; cellulose acetate yarn braid; lacquer coating	16x30	.138
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8652	100'S Black with one White Tracer	16	Tinned copper, flexible stranding; cellophane wrap; rubber insulation; cotton braid; lacquer coating	19x29	.140
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8651	100'S Green with two White Tracers	14		19x27	.170
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8650	100'S Red with three White Tracers	12		19x25	.200
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8656	100'S	18	Tinned copper, flexible stranding; cellophane wrap; rubber insulation; cotton braid; blue lacquer coating; tinned copper braid shield	19x29	.170
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8660	50'SK 250'S		Tinned copper braid in form of tubing	96x34	13/64 ID
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8668	50'SK 250'S			120x34	1/8 ID
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8661	50'SK 250'S			192x34	3/8 ID
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8669	50'S 250'S			336x34	1/2 ID
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8662	50'S 250'S			576x34	25/32 ID
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### microphone cables

Trade Number	Lengths & Package & Color	A.W.G. and No. Conducts.	General Construction	Stranding	Mem. Diam (inches)	Capacitance Per Ft (mmf)
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#### plastic microphone cable



8411	25'CK 100'S 500'S Chrome	25-1	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; polyethylene insulation; tinned copper braid shield; chrome vinyl plastic jacket	3x33 copper plus 4x33 steel	.144	.37
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\* Also for TV grounding    CK—Coiled in carton    K—Carton    CR—Crate reel    S—Spool    C—Coil    SK—Spooled in carton

# BELDEN RADIO • TELEVISION WIRE

## microphone cables (cont'd)

Trade Number	Lengths & Package & Color	A.W.G. and No. Condr.	General Construction	Stranding	Mem. Diam (inches)	Mem. Capacitance Per Ft (muf)
<b>plastic microphone cable (Cont'd)</b>						
<b>8401</b>	25' CK 50' CK 100' S 500' S	25-1	For crystal, ribbon, and carbon microphones	3x33 copper plus 4x33 steel	.200	25
	Chrome					

<b>8422</b>	25' CK 50' CK 100' S 500' S	22-2	For carbon microphones	Tinned copper, flexible stranding; polyethylene insulation, color coded; conductors cabled with fillers; rayon braid; tinned copper braid shield; chrome vinyl plastic jacket	16x34	.225	**32
	Chrome						

## rubber microphone cable

<b>8410</b>	25' CK 50' CK 100' S 500' S	25-1	For crystal, ribbon, and carbon microphones	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; rubber insulation; rayon braid; tinned copper braid shield; rayon wrap; black rubber jacket	3x33 copper plus 4x33 steel	.245	33
	Black						

<b>8412</b>	25' CK 50' CK 100' S 500' S	20-2	For carbon microphones	Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket	26x34	.280	**68
	Black						

<b>8423</b>	50' CK 250' S	23-3	For carbon microphones	26x34	.280	**54
	Black					

## shielded multiple conductor cables

Trade Number	Lengths & Package & Color	A.W.G. and No. Condr.	General Construction	Stranding	Mem. Insulation Thick. (inches)	Mem. Jacket Thick. (inches)	Mem. Diam (inches)
<b>8424</b>	50' CK 250' S	20-4	Interconnecting power cable for all electronic uses	26x34	.020	.040	.305
	Black						

<b>8425</b>	50' CK 250' S	20-5	Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket	26x34	.020	.040	.335
	Black						

<b>8426</b>	100' S	20-6		26x34	.020	.040	.355
	Black						

<b>8427</b>	100' S	20-7		26x34	.020	.040	.370
	Black						

\* Also used as microphone cable.

## multiple conductor cables

Trade Number	Lengths & Package & Color	A.W.G. and No. Condr.	General Construction	Stranding	Insulation Thick. (inches)	Jacket Thick. (inches)	Mem. Diam (inches)	
<b>rubber-jacketed portable cord</b>								
<b>8452</b>	100' S 500' S	18-2	Underwriters' Type SV	Bare copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; cotton wrap; black rubber jacket	41x34	1/64	1/32	.245
	Black							

<b>8472</b>	250' S	16-2	Underwriters' Type SJ	65x34	1/32	1/32	.325
	Black						

<b>8453</b>	100' S 500' S	18-3		41x34	1/64	1/32	.265
	Black						

<b>8454</b>	100' S 500' S	18-4		41x34	1/64	1/32	.265
	Black						

<b>8455</b>	100' S 250' S	22-3 18-2		16x34 41x34	1/64	1/32	.280
	Black						

<b>8462</b>	100' S 250' S	18-2	Underwriters' Type POSJ-64	41x34	1/32	.123x .223
	Brown					

<b>8888</b>	250' S	18-2	Underwriters' Type POT-64	41x34	1/32	.114x .231
	Black					

## plastic-insulated cable

<b>8443</b>	100' S 500' S	22-3		7x30	.010	.140
	Brown					

<b>8444</b>	100' S 500' S	22-4		7x30	.010	.158
	Brown					

<b>8445</b>	100' S 500' S	22-5		7x30	.010	.170
	Brown					

‡ CK—Coiled in carton

K—Carbon

CR—Crate reel

S—Spool

C—Coil

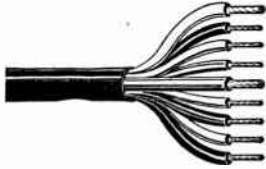
SK—Spooled in carton

# BELDEN RADIO · TELEVISION WIRE

## multiple conductor cables (cont'd)

Trade Number	Lengths & Package & Color	A.W.G. and No. Conductors	General Construction	Insulation Thick. (inches)	Jacket Thick. (inches)	Nom. Diam. (inches)
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### plastic-insulated cable (Cont'd)



8446	100'S Brown	22-4 18-2		7x30 16x30	.010 .018	.212
8447	100'S Brown	22-6 18-2		7x30 16x30	.010 .018	.236
8448	100'S Brown	22-6 18-2		7x30 16x30	.010 .018	.240
8449	100'S Brown	22-7 18-2		7x30 16x30	.010 .018	.262

## transmission line cables

### NOMINAL ELECTRICAL PROPERTIES

Trade Number	Lengths & Package & Color	A.W.G. and No. Conductors	General Construction and Application	Nom. Diam. (in.)	Frequency (mc)	Attenuation Per 100 Ft (Dbs)	Impedance (ohms)	Velocity of Propagation (per cent)	Capacitance (per Ft)
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8204	500'S White	18 7x26	Tinned copper, flexible stranding; cotton wrap; low-loss rubber insulation, color coded; two conductors cabled; white cotton braid treated with weather-resistant compound. For extension speakers.	.190					
8209	500'S White	18 7x26	Tinned copper, flexible stranding; cotton wrap; low-loss rubber insulation, color coded; two conductors cabled; paper wrap; tinned copper braid shield; white cotton braid, treated with weather-resistant compound. For long runs in extension speaker installations.	.236					
8205	500'S Black	22 7x30	Tinned copper, flexible stranding; rubber insulation, color coded; two conductors cabled; black cotton braid, treated with weather-resistant compound. For extension speaker and control circuits.	.165					
8222	100'S 500'S Brown	20 7x25	Bare copper, flexible stranding; conductors parallel; polyethylene plastic insulation. For use with receiving antenna at high frequencies.	.075 .128	100 200 300 400	7.7 7.2 11.0 13.6 15.9	72	69	28.3
8223	100'S 500'S Brown	20 7x25	Same as 8222. For use with receiving antenna, matching transformer, connecting link between electronic units, and experimental applications at high frequencies.	.075 .143	100 200 300 400	5.1 4.2 8.9 10.3	100	72	14.4
8224	100'S 500'S Brown	20 7x28	Same as 8222. For use with receiving antenna, matching transformer, and experimental applications at high frequencies.	.075 .182	100 200 300 400	2.8 4.2 5.4 6.4	160	78	9.0

## transmission line cables (cont'd)

### NOMINAL ELECTRICAL PROPERTIES

Trade Number	Lengths & Package & Color	A.W.G. and No. Conductors	General Construction and Application	Nom. Diam. (in.)	Frequency (mc)	Attenuation Per 100 Ft (Dbs)	Impedance (ohms)	Velocity of Propagation (per cent)	Capacitance (per Ft)
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8225	100'S 500'S 1000'S Brown	20 7x28	Same as 8222. For use with television and FM receiving antenna. Exceptionally low losses at high frequencies.	.072 .100	100 200 300 400	1.1 1.7 2.2 2.7	300	86	4.8
8227	100'S 250'S Black	20 7x28	One bare and one tinned copper conductor, flexible stranding; polyethylene plastic insulation; two conductors cabled; polyethylene plastic jacket; tinned copper braid shield; black vinyl plastic jacket. For use with television and FM antenna in extremely noisy locations.	.325	100 200 300 400	4.1 6.4 8.4 10.2	100	82	15.5
8236	100'S 500'S Black	16 solid	Bare copper, solid; polyethylene plastic insulation; bare copper double braid shield; black vinyl plastic jacket. A small diameter microwave cable.	.332	100 200 300 400	2.85 3.50 4.50 5.60	52.5	96	28.5
8237	100'S 500'S Black	18 7x21	Bare copper, flexible stranding; polyethylene plastic insulation; bare copper braid shield; black vinyl plastic jacket. Medium sized 60 ohm video & communication cable.	.406	100 200 300 400	2.10 3.30 4.10 4.50	62	86	29.5
8238	100'S 500'S Black	18 7x26	Tinned copper, flexible stranding; polyethylene plastic insulation; bare copper braid shield; black vinyl plastic jacket. Medium sized 75 ohm video & communication cable.	.406	100 200 300 400	1.90 2.65 3.60 4.35	75	86	29.5
8239	100'S 500'S Clear	18 7x.0152	Bare copper, flexible stranding; polyethylene plastic insulation; tinned copper braid shield; polyethylene plastic jacket. Small diameter general purpose cable.	.250	100 200 300 400	3.10 4.40 5.70 6.70	58	86	26.5
8240	100'S 500'S Black	20 solid	Bare copper, solid; polyethylene plastic insulation; tinned copper braid shield; black vinyl plastic jacket. A cable designed for radio frequency transmission, video, test equipment, and pulse transmission.	.196	100 200 300 400	4.10 6.20 7.10 9.50	63.5	96	28.5
8241	100'S 500'S Black	22 solid	Bare "Copperweld" solid; polyethylene plastic insulation; bare copper braid shield; black vinyl plastic jacket. A television antenna cable.	.242	100 200 300 400	3.75 5.60 7.10 9.31	73	86	21.8
8242	100'S 500'S Gray	13 7x21	Silver coated copper wire flexible stranding; polyethylene plastic insulation; silver coated copper braid shield; bare copper braid; shielded gray plastic jacket. Medium size 75 ohm video & communications cable.	.428	100 200 300 400	2.10 3.30 4.10 4.91	61	86	30.8
8243	100'S 500'S Gray	16 solid	Topbit A resistance wire solid; polyethylene plastic; silver coated copper wire; double shield; gray plastic jacket. Special high attenuation cable with small temperature coefficient of attenuation.	.332	100 200 300 400	14.5 20.5 25.0 29.6	63	86	29.0
8244	100'S 500'S Clear	20 solid	Bare copper solid; polyethylene plastic; tinned copper braid double shield; polyethylene plastic jacket. Small diameter general purpose cable.	.184	100 200 300 400	4.10 6.20 7.90 9.50	63.5	96	28.5
8245	100'S 500'S Clear	20 solid	Bare copper solid; polyethylene plastic; tinned copper braid double shield; polyethylene plastic jacket. Small diameter general purpose cable.	.206	100 200 300 400	4.10 6.20 7.90 9.51	63.5	96	28.5

\*Capacitance between conductors

1CK—Coiled in carton

E—Carton

CR—Crate reel

S—Spool

C—Coil

SK—Spooled in carton

# BELDEN RADIO • TELEVISION WIRE

## magnet wire

BELDENAMEL					
Size	Turns Per Linear Inch	Turns Per Square Inch	Approx. Length in Feet		
			1/2-Lb Spool	1-Lb Spool	1-Lb Spool
14	15.2	231	...	40	...
16	19.1	365	...	62	...
18	23.9	571	...	100	...
20	29.9	894	...	160	...
22	37.4	1399	...	250	...
24	46.9	2200	...	400	...
26	59.0	3481	...	638	...
28	73.8	5446	...	1010	...
30	92.2	8501	...	1610	...
32	114.0	12996	...	2540	...
34	144.0	20736	...	4030	...
36	180.0	32400	...	6400	...
38	225.0	50625	...	...	...
40	290.0	84100	...	...	...

HNC NYLCLAD					
14	...	...	...	...	79
16	...	...	...	...	125
18	...	...	...	...	199
20	...	...	...	...	316
22	...	...	...	...	503
24	...	...	...	...	809
26	...	...	...	...	1264
28	...	...	...	...	2001
30	...	...	...	...	3167
32	...	...	...	...	5023
34	...	...	...	...	7962
36	...	...	...	...	12618
38	...	...	...	...	20004
40	...	...	...	...	31686

SINGLE COTENAMEL					
14	14.1	199	...	39	78
16	17.4	303	...	61	123
17	...	...	...	...	155
18	21.4	458	...	97	195
19	...	...	...	...	245
20	26.1	681	...	154	307
22	31.9	1018	...	241	481
24	38.6	1490	...	376	752
25	...	...	...	...	942
26	46.4	2153	...	590	1178
28	55.1	3036	...	916	1832
30	64.7	4186	...	710	1420
32	74.6	5565	...	1090	2180
34	86.6	7500	...	...	...
36	97.6	9526	...	2425	...

## intercommunicating and sound system cables

Trade Number	Lengths & Package	A.W.G. and No. Conds.	No. Pairs	General Construction	Tinned Copper Shielding	Insulation Stranding	Insulation Thick. (inches)	Nom. Diam. (inches)
<b>8740</b>	100'S 500'S	22-2	1	For Station-to-Station and Extension Wiring (Unshielded)	None	solid		.146
<b>8741</b>	100'S 500'S	22-4	2	Bare copper, solid; baked enamel film; cotton braid; waxed; color coded; conductors cabled in pairs; over-all tubed brown vinyl plastic jacket	None	solid		.206
<b>8742</b>	100'S 500'S	22-6	3		None	solid		.230
<b>8743</b>	100'S 500'S	22-12	6		None	solid	.010	.206
<b>8744</b>	100'S 500'S	22-18	9		None	solid	.010	.320
<b>8745</b>	100'S 500'CR	22-30	15	Tinned copper, solid; vinyl plastic insulated; color coded; conductors cabled in pairs; over-all tubed brown vinyl plastic jacket	None	solid	.010	.380
<b>8746</b>	100'S 500'CR	22-64	27		None	solid	.010	.510

CK—Coiled in carton

K—Carton

CR—Crate reel

S—Spool

C—Coil

SK—Spooled in carton

## intercommunicating and sound system cables (cont'd)

Trade Number	Lengths & Package	A.W.G. and No. Conds.	No. Pairs	General Construction	Tinned Copper Shielding	Insulation Stranding	Insulation Thick. (inches)	Nom. Diam. (inches)
<b>8734</b>	100'S 500'S	22-3	Not paired	Pre Station-to-Station and Extension Wiring (shielded)	None	Over 1 conductor	7x30	.012 .218
<b>8735</b>	100'S 500'S	22-3	Not paired	Tinned copper, flexible stranding; vinyl plastic insulation; cotton braid; waxed; color coded; three conductors cabled; one conductor tinned copper braid shield; and two conductors unshielded; over-all tubed brown vinyl plastic jacket	None	Over 3 conductors	7x30	.012 .220
<b>8737</b>	100'S 500'S	22-2	1	Tinned copper, flexible stranding; vinyl plastic insulation; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield; over-all tubed brown vinyl plastic jacket	None	Over 2 conductors	7x30	.012 .220
<b>8747</b>	100'S	22-12	6	For Station-to-Terminal Wiring (Unshielded)	None			None 7x30 .010 .276
<b>8748</b>	100'S	22-18	9	Tinned copper, flexible stranding; vinyl plastic insulation; color coded; conductors cabled in pairs; over-all brown cotton braid; lacquer coating	None			None 7x30 .010 .336
<b>8749</b>	100'S	22-30	15		None			None 7x30 .010 .436
<b>8750</b>	100'S	22-64	27		None			None 7x30 .010 .586
<b>8738</b>	100'S 500'S	22-2	1	Bare copper, solid; baked enamel film; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield	None	solid		Over-all solid .136
<b>8739</b>	100'S 500'S	22-2	1	Same as 8738 plus over-all tubed brown vinyl plastic jacket	None	Over 2 conductors		solid .176

## broadcast audio cables

# BELDEN RADIO • TELEVISION WIRE

## intercommunicating and sound system cables (Cont'd)

Trade Number	Lengths & Package	A.W.G. and No. Condr.	No. Pairs	General Construction	Tinned Copper Shielding	Insulation Thickness (inches)	Nom. Diam (inches)
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### broadcast audio cables (cont'd)

P.A. Cable Amplifier-to-Speaker Broadcast Control Cable



<b>8799</b>	100'S	18-2	1	Bare copper, solid; baked enamel film; cotton wrap; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield	Overall	solid	.105
	500'S						



<b>8432</b>	100'S	20-2	1	Tinned copper, flexible stranding; paper wrap; rubber insulation; cotton braid; lacquer coating; color coded; conductors cabled; tinned copper braid shield	Overall	10x30	.016	.215
	500'S							

<b>8433</b>	100'S	20-3	Not paired	Tinned copper, flexible stranding; paper wrap; rubber insulation; cotton braid; lacquer coating; color coded; conductors cabled; tinned copper braid shield	Overall	10x30	.015	.230
	500'S							



<b>8482</b>	9-1000	19-2	1	Bare copper, solid; vinyl plastic insulation, color coded; conductors cabled	None	solid	.012	.105

<b>8483</b>	9-1000	19-3	Not paired	Bare copper, solid; vinyl plastic insulation, color coded; conductors cabled	None	solid	.012	.120



<b>8437</b>	100'S	22-2	1	Tinned copper, solid; baked enamel film; heavy cellulose acetate yarn wrap; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield; 22 A.W.G. tinned solid copper wire parallel to twisted pair under shield; tubed black vinyl plastic jacket	Over 2 conductors	solid	.210
	500'S						



<b>8438</b>	100'S	20-2	1	Tinned copper, solid; baked enamel film; cotton wrap; cotton braid, waxed; color coded; conductors cabled; tinned copper braid shield	Overall	solid	.100
	500'S						



<b>8439</b>	100'S	20-2	1	Tinned copper, solid; heavy cellulose acetate yarn wrap, cellulose acetate yarn braid; lacquer coating; color coded; conductors cabled; tinned copper braid shield	Overall	solid	.100
	500'S						

## hook-up and lead wires

Trade Number	Lengths & Package	A.W.G.	General Construction and Colors	Stranding	Insulation Thick. (in.)	Nom. Res. Per 1000 Ft (imp. ohms)	Nominal "D-C" Ins. Dia. (in.)	Nominal "Brush-down" Voltage (volts)
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### cellulose braid lacquered



<b>8941</b>	25'CK	20	Tinned copper, solid; heavy cellulose acetate yarn wrap; cellulose acetate yarn braid; fungus-resistant lacquer coating. Colors: Black, Blue, Green, Orange, Red, White, Yellow	solid	.072	200	1000
	100'SK						
	1000'S						

<b>8945</b>	25'CK	18	Colors: Black, Blue, Green, Red, White, Yellow	solid	.080	200	1000
	100'SK						

## hook-up and lead wires (cont'd)

Trade Number	Lengths & Package	A.W.G.	General Construction and Colors	Stranding	Insulation Thick. (in.)	Nom. Res. Per 1000 Ft (imp. ohms)	Nominal "D-C" Ins. Dia. (in.)	Nominal "Brush-down" Voltage (volts)
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### cellulose braid lacquered (Cont'd)



<b>8943</b>	25'CK	20	Tinned copper, flexible stranding; heavy cellulose acetate yarn wrap; cellulose acetate yarn braid; fungus-resistant lacquer coating. Colors: Black, Blue, Brown, Green, Orange, Red, White, Yellow	10x30	.078	200	1000
	100'SK						
	1000'S						

<b>8947</b>	25'CK	18	Colors: Black, Blue, Green, Red, White, Yellow	16x30	.087	200	1000
	100'SK						

<b>8942</b>	100'SK	16	Colors: Black, Green, Red	20x30	.089	200	1000
	1000'S						

<b>8938</b>	100'SK	14	Colors: Black, Red	41x30	.115	200	1000
	500'S						

### plastic insulated



<b>8901</b>	100'SK	20	Tinned copper, solid; vinyl plastic insulation. Colors: Black, Blue, Green, Red, Yellow	solid	.016	.008	5000	8000
	1000'S							

<b>8905</b>	100'SK	20	Tinned copper, flexible stranding; vinyl plastic insulation. Colors: Black, Blue, Green, Red, Yellow	10x30	.015	.073	5000	8000
	1000'S							

<b>8913</b>	100'SK	20	Colors: Black, Blue, Green, Red, Yellow	10x30	.025	.091	5000	12000
	1000'S							

<b>8918</b>	250'S	18	Colors: Black, Green, Red, Yellow	16x30	.031	.112	5000	12000
	1000'S							

### R-F push-back wire CELLULOSE ACETATE BRAID WAXED



<b>8841</b>	100'SK	20	Tinned copper, solid; two cellulose acetate yarn braids; waxed. Colors: Black, Blue, Green, Red, all with White Tracer	solid	.067	1000	1000
	1000'S						

<b>8839</b>	100'SK	20	Tinned copper, flexible stranding; two cellulose acetate yarn braids; waxed. Colors: Black, Blue, Green, Red, all with White Tracer	10x30	.072	1000	1000
	1000'S						

<b>8844</b>	100'SK	18		16x30	.082	1000	1000
	1000'S						

### rubber-insulated push-back



<b>8837</b>	100'SK	20	Tinned copper, solid; cotton wrap; vulcanized rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating. Colors: Black, Blue, Green, Red, Yellow	solid	.010	.075	2000	2000
	1000'S							

<b>8838</b>	100'SK	20	Tinned copper, flexible stranding; cotton wrap; vulcanized rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating. Colors: Black, Blue, Green, Red, Yellow	10x30	.010	.081	2000	2000
	1000'S							

<b>8833</b>	100'S	18	Tinned copper, flexible stranding; paper wrap; rubber-insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating. Colors: Black, Blue, Green, Red, Yellow	16x30	.031	.125	10000	8000
	1000'S							

1 CK—Coiled in carton

K—Carton

CR—Crude reel

S—Spool

C—Coil

SK—Spooled in carton

# BELDEN RADIO • TELEVISION WIRE

## hook-up and lead wires (cont'd)

Trade Number	Lengths & Package A.W.G.	General Construction and Colors	Stranding	Insulation Thick. (in.)	Nom. Diam. (in.)	Nom. Res. Per Ft. (imp. ohms)	Nominal "D-C Ins." Break-Down Voltage (volts)
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### shielded hook-up wire

8885	25'CK	Tinned copper, flexible stranding; rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating; tinned copper braid shield	10x30	.015	.117	5000	4700
	100'SK						
	500'S						

### display Belden assortments



8864	Contents: 6—25' Coils 8941. Size 20 solid; cellulose acetate wrap and braid lacquered. One each Black, Blue, Green, Red, White, and Yellow.						
8865	Contents: 6—25' Coils 8943. Size 20 flexible; cellulose acetate wrap and braid lacquered. One each Black, Blue, Green, Red, White, and Yellow.						

## instrument and lead wires photoelectric cell cable (sound projectors)

Trade Number	Lengths & Package & Color	A.W.G.	General Construction	Stranding	Nom. Diam. (inches)	Nominal Capacitance Per Ft (mmf)
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8221	100'S	25	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; polyethylene insulation; tinned copper braid shield; black vinyl plastic jacket	3x33 copper plus 5x33 steel	.240	20
	Black					

### phonograph pickup arm cable

Trade Number	Lengths & Package & Color	A.W.G.	General Construction	Stranding	Insulation Thick. (inches)	Nominal Diam. (inches)
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8431	15' 100'S	24	Tinned copper, flexible stranding; rubber insulation; tinned copper braid shield; fine brown cotton braid	16x36	.015	.095
	Brown					



8014	25' 500'SK	25	Tinned copper, flexible stranding; chrome vinyl plastic insulation	13x36	.010	.044
	Chrome					

## high-voltage and cathode-ray tube lead cable

8869	100'S	20	Tinned copper, flexible stranding; flame retardant polyethylene plastic insulation; red cellulose acetate yarn braid with 2 white tracers; lacquer coating. Suggested Voltage Rating (volts) 10000	7x28	.035	.138
	Red with Two White Tracers					



8868	100'S	20	Same as 8869 except heavier insulation and solid red braid. Suggested Voltage Rating (volts) 20000	7x28	.065	.198
	Red					

### test prod wire

8899	14'CK	18	Tinned copper, extra flexible stranding; cotton wrap; rubber insulation. Suggested Voltage Rating (volts) 5000	65x36	.043	.140
	100'S					
	1000'S					



8898	100'S	18	Suggested Voltage Rating (volts) 10000	65x36	.068	.230
	500'S					

† CK—Coiled in carton

K—Carton

CR—Crate reel

## replacement and extension cords

Trade Number	Package	Lengths & Color
--------------	---------	-----------------

1701	1 K	10 Ft Brown
1702	1 K	15 Ft Brown
1705	1 K	6 Ft Brown



Extension Cord — Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord. Both ends unbreakable rubber. Does not mar floors or furniture. Safe for use on table tops. Underwriters' Flag Type Blue Cord Set Label.

1751	1 K	20 Ft Black
------	-----	-------------



Extension Cord — Size 18, Type SV. All-rubber portable cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug. Underwriters' Flag Type Blue Cord Set Label.

1725	1 K	7 Ft 6 In. Brown
------	-----	------------------



Replacement Cord — Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned — ready for easy attachment. Underwriters' Flag Type Green Power Supply Cord Label. For lamps, radios, small appliances.

1749	1 K	6 Ft 3 In. Black
------	-----	------------------



Replacement Cord — Size 18, Type SV. All-rubber portable cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned — ready for easy attachment. Underwriters' Flag Type Green Power Supply Cord Label. For amplifiers, test equipment, and small appliances.

8874	1 K	6 Ft Brown
------	-----	------------



Television Power Supply Connector Cord. Original equipment on most television sets. Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug. Underwriters' Flag Type Blue Cord Set Label.

8125	10 K	
------	------	--



Male Connector — Flush mounting for use with 8874 and 1777 cord connector sets.

1777	1 K	6 Ft Brown
------	-----	------------



Connect-A-Cord. 6 Ft. Size 18, Type POSJ-64. All-rubber parallel lamp cord with Belden unbreakable soft rubber plug; opposite end, Belden rubber connector and flush mounting receptacle. Underwriters' Flag Type Blue Cord Set Label.

S—Spool

C—Coil

SK—Spooled in carton

## Belden Manufacturing Company • Chicago, Illinois

Radio's Master — 17th Edition

See Page S-21 for BELDEN Prices

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S-20

# BELDEN • Price List

Belden Trade Number	Unit Package & Length**	Suggested List Price Each	Belden Trade Number	Unit Package & Length**	Suggested List Price Each	Belden Trade Number	Unit Package & Length**	Suggested List Price Each	Belden Trade Number	Unit Package & Length**	Suggested List Price Each
1701	Brown	\$1.30	8422	50'	\$4.50	8745	500'	\$.21'	8913†	25'	\$.45
1702	Brown	1.45	8422	100'	\$.09'	8746	100'	.34'	8913†	100'	1.55
1705	Brown	1.20	8422	500'	.09'	8746	500'	.34'	8913†	1000'	.015'
1706	Brown	2.40	8423	50'	5.00	8747	100'	.13'	*8918	250'	.025'
1709	Brown	2.75	8423	250'	.11'	8748	100'	.18'	*8918	1000'	.025'
1712	Brown	3.00	8424	50'	6.25	8749	100'	.28'	8920		1.25
1715	Brown	3.25	8424	250'	.14'	8750	100'	.48'	8921		1.25
1725	Brown	.55	8425	50'	7.25	8751	100'	.40'	8922		1.25
1749	Black	.70	8425	250'	.16'	8752	100'	.65'	8923		1.25
1751	Black	2.15	8426	100'	.20'	8799	100'	.05'	8924		1.25
*1777		.90	8427	100'	.21'	8799	500'	.05'	8925		1.25
8000	50'	.70	8431	100'	.04'	8817	100'	\$.40	8929		1.25
8000	75'	1.00	8432	100'	.07'	8833†	100'	.03'	8938†	100'	2.90
8000	100'	1.25	8432	500'	.07'	8833†	1000'	.03'	8938†	500'	.015'
8000	1000'	11.40	8433	100'	.09'	8837†	25'	.50	8941†	25'	.45
8002	50'	.53	8433	500'	.09'	8837†	100'	1.95	8941†	100'	1.65
8002	75'	.70	8443	100'	.045'	8837†	1000'	.02'	8941†	1000'	.015'
8002	100'	.90	8443	500'	.045'	8838†	25'	.55	8942†	100'	2.40
8002	1000'	7.75	8444	100'	.06'	8838†	100'	2.00	8942†	1000'	.025'
8008	100'	1.95	8444	500'	.06'	8838†	1000'	.02'	8943†	25'	.50
8008	200'	3.75	8445	100'	.07'	8839†	25'	.55	8943†	100'	1.80
8008	500'	9.00	8445	500'	.07'	8839†	100'	2.00	8943†	1000'	.02'
8009	100'	1.35	8446	100'	.10'	8839†	1000'	.20'	8945†	25'	.50
8009	500'	6.00	8447	100'	.11'	8841†	25'	.50	8945†	100'	1.90
8011	100'	1.95	8448	100'	.12'	8841†	100'	1.85	8945†	1000'	.02'
8012	100'	1.40	8449	100'	.12'	8841†	1000'	.02'	8947†	25'	.55
8013	100'	1.05	8452	100'	.05'	8844†	25'	.60	8947†	100'	2.10
8014	25'	.30	8452	500'	.05'	8844†	100'	2.25	8947†	1000'	.025'
8014	500'	.015'	8453	100'	.07'	8844†	1000'	.025'	8976		1.25
8125		.20	8453	500'	.07'	8864		2.70	8977		1.25
8126		.15	8454	100'	.08'	8865		3.00	8989	25c pkg.	.25
8127	10'	.23	8454	500'	.08'	8868	25'	1.55	8989	100	.75
8200	100'	.015'	8455	100'	.10'	8868	100'	.055'	8989	1000	5.00
8200	500'	.015'	8455	250'	.10'	8869	25'	1.00	8989	25c pkg.	.25
8200	1000'	.015'	8462	100'	.03'	8869	100'	.03'	8992	100	.75
8204	500'	.04'	8462	250'	.03'	8872		1.25	8992	1000	5.00
8205	500'	.03'	*8472		.08'	8873		1.15	8993	25c pkg.	.25
8206	250'	.02'	*8482		.015'	8874		.70	8993	100	.65
8209	500'	.08'	*8483		.025'	8885	25'	1.00	8993	1000	3.75
8210	100'	.07'	8484	500'	.045'	8885	100'	.04'	8994		.65
8210			8484			8885			8995	25c pkg.	.25
8210			8650	100'	.08'	8888	250'	.05'	8995	100	.65
8210			8651	100'	.06'	8890		.30	8995	1000	3.75
8210			8652	100'	.05'	8895		1.10	8996	25c pkg.	.25
8210			8654	100'	.10'	8896		.55	8996	100	.65
8210			8656	100'	.07'	8898†	100'	.04'	8996	1000	3.75
8210			8660	50'	.035'	8898†	500'	.04'	8997	25c pkg.	.25
8210			8660	250'	.035'	8899†	14'	.50	8997	100	.65
8210			8661	50'	.05'	8899†	100'	.025'	8997	1000	3.75
8210			8661	250'	.05'	8899†	1000'	.025'	8998	25c pkg.	.25
8225	1000'	.04'	8662	50'	.19'	8901†	100'	1.00	8998	100	.50
8226	100'	.09'	8662	250'	.19'	8901†	1000'	.015'	8998	1000	2.50
8226	500'	.09'	8664	100'	.09'	8905†	25'	\$.40	8999	25c pkg.	.25
8227	100'	.14'	8665	100'	.21'	8905†	100'	1.25	8999	100	.50
8227	250'	.14'	8667	100'	.09'	8905†	1000'	.015'	8999	1000	3.10
8228	100'	.07'	8668	50'	.05'						
8228	500'	.07'	8668	250'	.05'						
8229	100'	.08'	8669	50'	.15'						
8229	500'	.08'	8669	250'	.15'						
8235	100'	.08'	8734	100'	.09'						
8235			8734								
8235			8735								
8309	500'	.08'	8735	500'	.09'						
8320		2.30	8737	100'	.07'						
8321		7.50	8737	500'	.07'						
8322		4.25	8737	100'	.07'						
8322		12.65	8737	500'	.07'						
8401	25'	1.90	8738	100'	.04'						
8401	50'	3.75	8738	100'	.04'						
8401	100'	.08'	8739	100'	.06'						
8401	500'	.08'	8739	500'	.06'						
8410	25'	2.50	8740	100'	.03'						
8410			8740								
8410			8740								
8410	50'	5.00	8740	500'	.03'						
8410	100'	.10'	8741	100'	.06'						
8410	500'	.10'	8741	500'	.06'						
8411	25'	1.55	8742	100'	.07'						
8411	100'	.06'	8742	500'	.07'						
8412	25'	2.40	8743	100'	.09'						
8412	50'	4.75	8743	500'	.09'						
8412	100'	.10'	8744	100'	.13'						
8412	500'	.10'	8744	500'	.13'						
8422	25'	2.25	8745	100'	.21'						

\*New Item. †Specify Color. All prices subject to change without notice.

\*\*Please indicate length desired, immediately following trade number, when more than one length is listed under the same trade number.

BELDENAMEL MAGNET WIRE				SINGLE COTENAMEL MAGNET WIRE				HNC NYLCLAD	
Suggested List Price				Suggested List Price				Suggested List Price	
Size	1/4 lb. Spools	1/2 lb. Spools		Size	1/4 lb. Spools	1/2 lb. Spools	1 lb. Spools	Size	1 lb. Spool
14	—	\$.70		14	—	\$.75	\$1.95	14	\$1.83
16	—	.70		16	—	.80	2.08	16	1.88
18	—	.70		17	—	—	2.13	18	1.90
20	—	.70		18	—	.85	2.20	20	2.03
22	—	.70		19	—	—	2.35	22	2.08
24	—	.70		20	—	.90	2.43	24	2.30
26	—	.75		22	—	.95	2.58	26	2.45
28	\$.50	.80		24	—	1.05	2.90	28	2.65
30	.50	.95		25	—	—	3.13	30	2.85
32	.55	.95		26	\$.65	1.15	3.15	32	3.18
34	.60	1.05		28	.70	1.30	3.58	34	3.18
36	.75	1.30		30	.85	1.60	4.08	36	3.63
38	.95	—		32	1.00	1.85	—	38	4.40
40	1.35	—		34	1.35	—	—	40	5.93
				36	1.60	—	—		





# RADIO AND TELEVISION WIRE PRODUCTS

## P-A WIRES and CABLES

### HOLLYWOOD MICROPHONE CABLES (Shielded-Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded conductors. Braided with tinned copper shield. Tough weatherproof polished jacket overall.

Single Conductor — unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.



Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1105	1	100	.260"	\$85.00
2104	1	500	.260"	82.00
2101	1	1000	.260"	80.00



Two Conductor, for low impedance microphones and transmission lines.

Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1152	2	100	.280"	\$105.00
1153	2	250	.280"	102.00
2152	2	500	.280"	100.00
1154	3	100	.280"	130.00
1155	3	250	.280"	127.00
2153	3	500	.280"	125.00
1156	4	100	.305"	160.00
1157	4	250	.305"	157.00
2154	4	500	.305"	155.00

### LAPEL MICROPHONE CABLE



Similar to No. 2101 except smaller in diameter.

Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1160	1	100	.175"	\$75.00
1161	1	500	.175"	72.00
2160	1	1000	.175"	70.00

### SHIELDED CABLES



These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton. Conductors No. 20 gauge unless otherwise specified.

Cat. No.	Put-Up	List Price per M ft.
1114	100' Spool 2 Conductor	\$ 78.00
1115	250' Spool 2 Conductor	75.00
1116	100' Spool 3 Conductor	108.00
1117	250' Spool 3 Conductor	105.00
1118	100' Spool 4 Conductor	135.00
1119	250' Spool 4 Conductor	132.00
1120	100' Spool 5 Conductor	161.00
1121	250' Spool 5 Conductor	158.00
1122	100' Spool 6 Conductor	183.00
1123	250' Spool 6 Conductor	180.00

### SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price per M ft.
1125	250' Spool 2 Conductor	\$ 95.00
1127	250' Spool 3 Conductor	132.00
1129	250' Spool 4 Conductor	160.00
1131	250' Spool 5 Conductor	190.00
1133	250' Spool 6 Conductor	220.00

### RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

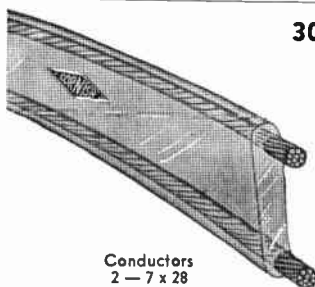
Multi-conductor cables having flexible conductors with overall heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. Systems. Conductors No. 20 gauge.

Cat. No.	Put up in spool	List Price per M ft.	Cat. No.	Put up in spool	List Price per M ft.
228	3 Wire-100 Ft.	\$ 70.00	241	7 Wire-100 Ft.	\$137.00
219	4 Wire-100 Ft.	85.00	222	8 Wire-100 Ft.	153.00
221	5 Wire-100 Ft.	100.00	223	9 Wire-100 Ft.	170.00
231	6 Wire-100 Ft.	120.00	224	10 Wire-100 Ft.	188.00

### SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

No. 20 1/32" R.C.	List Price Price	No. 18 1/32" R.C.	List Price Price
1143— 50 Ft. Coil....	\$ 1.80	1146— 50 Ft. Coil....	\$ 2.10
1144— 250 Ft. Spool....	8.00	1147— 250 Ft. Spool....	9.25
1145—1000 Ft. Spool....	30.00	1148—1000 Ft. Spool....	35.00



### 300-OHM TELEVISION DOWN-LEAD

Furnished in three web thicknesses shown below, in order to meet all weather and operating conditions.

Supplied in brown and clear.

Cat. No.	Web Thickness	250' Spool	List Price per M Ft. 1000' Spool	*Mill Reel	Approx. Wt. per M Ft.
500	.045"	\$28.25	\$27.50	\$26.75	17 lbs.
501	.065"	30.75	30.00	29.25	20 lbs.
502	.100"	40.75	40.00	39.25	28 lbs.

### TELEVISION ANTENNA ROTATOR CABLE

Consists of 4 conductors, each 7 x 28 (3 bare and 1 tinned), poly-ethylene insulated, ribbed to permit easy stripping.

Cat. No.	250' Spool	List Price per M Ft. 1000' Spool	*Mill Reel	Approx. Wt. per M Ft.
510	\$40.75	\$40.00	\$39.25	30 lbs.

### BRAIDED TINNED COPPER TUBULAR SHIELDING

Recommended for wires up to 1/8" O.D.

Cat. No.	Put-Up	Width	List Price Each
1109	100 Ft. Spool	1/4"	\$ 6.25
1110	250 Ft. Spool	1/4"	14.00

\*About 2500 Feet.



# RADIO AND TELEVISION WIRE PRODUCTS

## INTERCOMMUNICATION CABLES

### MULTI-PAIRED CABLES



Conductors are No. 22 solid tinned copper insulated with either vinyl plastic or double cotton impregnated braid—cabled in color-coded twisted pairs—with overall cotton braid.

Cat. No.	Put-Up	Width	List Price per M ft.
1225	2 Pair (O.D. approx. $\frac{3}{16}$ " )		\$ 54.00
1226	6 Pair (O.D. approx. $\frac{1}{8}$ " )		153.00
1227	13 Pair (O.D. approx. $\frac{1}{8}$ " )		325.00
1228	26 Pair (O.D. approx. $\frac{1}{8}$ " )		640.00

### TWO CONDUCTOR SHIELDED CABLE



Consists of two No. 20 stranded tinned copper plastic insulated conductors, color-coded and twisted with overall close tinned copper shield.

No. 1230 .....\$45.00

### THREE CONDUCTOR CABLE

3 Conductors are No. 20 solid tinned copper, plastic insulated, color-coded, twisted, with overall treated cotton braid.

No. 1231 .....\$42.00

### THREE CONDUCTOR (One Shielded)

Consists of a twisted pair of No. 20 solid tinned copper plastic insulated wires, and a single No. 20 solid tinned copper plastic insulated and shielded, all twisted, with over-all dry cotton braid.

No. 1232 .....\$75.00  
 No. 1233—Same as No. 1232 except conductors are No. 22 solid .....\$63.00

### FLEXIBLE CORDS (Fixture Wires — Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords. Colors: Brown, Black, Ivory.

Cat. No.	Put-Up	List Price per M ft.
3050—No. 18 Single, Type F, Cotton	1000 ft.	\$17.50
*3020—No. 18 Parallel, Type PO, Rayon	250 ft.	40.00
*3000—No. 18 Parallel, Type POSJ, All Rubber	250 ft.	32.50
*3300—No. 18 All Rubber Service Cord, Type SJ	250 ft.	60.00
*3500—Replacement Cord Set—6 ft. 18/2, POSJ, 1/64 with Molded Rubber Plug		.40 ea.

\*Has Underwriter's Labels.

## AERIAL WIRE

### STRANDED BARE WIRE — Copper

No.	Ft.	Size	List Price
40A	75-ft. coil	7/22	\$ 1.07
40	100-ft. coil	7/22	1.40
40B	1000-ft. spool	7/22	14.00
42A	75-ft. coil	7/24	.75
42	100-ft. coil	7/24	.95
42B	1000-ft. spool	7/24	9.50

## LEAD-IN WIRE

### STRANDED—Rubber Covered

No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
300	50' coil	18- $\frac{3}{32}$ "	\$ .60	302	500' spool	18- $\frac{3}{32}$ "	\$5.50
301	100' spool	18- $\frac{3}{32}$ "	1.10	303	1000' spool	18- $\frac{3}{32}$ "	10.50

## LEAD-IN WIRE

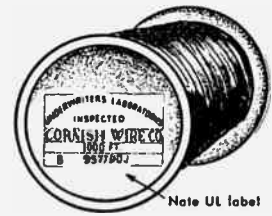
### SOLID—Rubber Covered

No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
320	25' coil	18- $\frac{3}{32}$ "	\$.32	330	25' coil	20- $\frac{3}{32}$ "	\$.28
321	50' coil	18- $\frac{3}{32}$ "	.57	331	50' coil	20- $\frac{3}{32}$ "	.51
322	500' spool	18- $\frac{3}{32}$ "	5.25	332	500' spool	20- $\frac{3}{32}$ "	4.75
323	1000' spool	18- $\frac{3}{32}$ "	10.00	333	1000' spool	20- $\frac{3}{32}$ "	9.00

### TWISTED PAIR DOWNLEAD

Two conductors, each No. 22 stranded copper, 1/32" rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 122—List Mft. ....\$30.00



### "NOFLAME-COR"—

The Television Hook Up Wire

For the first time a hook-up wire for the trade with Underwriters' Label attached. The famous "NoFlame-Cor" wire is approved for 90°C—600 volt usage.

SOLID				STRANDED			
Cat. No.	Size	Put-up	List Each	Cat. No.	Size	Put-up	List Each
470	22	100' spool	\$2.25	473	22	100' spool	\$2.45
471	20	"	2.55	474	20	"	2.80
472	18	"	3.15	475	18	"	3.40

## RADIO HOOK-UP WIRE

### "CORLAC" HOOK-UP WIRE

Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back in waxed finish. Tinned copper conductors.

WAXED			LACQUERED		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
<b>No. 22 SOLID</b>					
434—	25 Ft. Cartons...	\$.40	452—	25 Ft. Cartons...	\$ .46
436—	1000 Ft. Spools...	10.60	454—	1000 Ft. Spools...	12.50
<b>No. 20 SOLID</b>					
437—	25 Ft. Cartons...	.48	455—	25 Ft. Cartons...	.56
439—	1000 Ft. Spools...	13.00	457—	1000 Ft. Spools...	16.00
<b>No. 22 STRANDED</b>					
443—	25 Ft. Cartons...	.44	461—	25 Ft. Cartons...	.50
445—	1000 Ft. Spools...	12.00	463—	1000 Ft. Spools...	14.00
<b>No. 20 STRANDED</b>					
446—	25 Ft. Cartons...	.52	464—	25 Ft. Cartons...	.58
448—	1000 Ft. Spools...	14.50	466—	1000 Ft. Spools...	17.00
<b>No. 18 STRANDED</b>					
449—	25 Ft. Cartons...	.64	467—	25 Ft. Cartons...	.72
451—	1000 Ft. Spools...	19.00	469—	1000 Ft. Spools...	22.50

### AC-DC ANTENNA WIRE

Flexible Bare copper conductor with brown cotton braid.

661	1000 Ft. Spools	\$10.00
661A	25 Ft. on Fibre	.33

### TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering. O.D.—.140".

1140	100 Ft. Spools	\$ 3.00
1141	500 Ft. Spools	13.00
1142	1000 Ft. Spools	25.00

# GOV'T. SPECIFICATION HOOKUP WIRE

## *Birnbach* JAN-C-76 SRIR — SRIR SHIELDED — SRHV

### 105° C. UL APPROVED

#### TYPE SRIR — 1000-VOLT (Fungus Proof)

The following items meet all requirements of Army-Navy joint specifications JAN-C-76 Type SRIR for thermoplastic plain resin construction where highest resistance to fungus growth is required. Has high dielectric strength, high temperature stability, low temperature flexibility, low moisture absorption, high flame resistance; resists all common solvents.



#### SPEC. JAN-C-76

Cat. No.	Spool	Size AWG	JAN-C-76 Type Designation*	CONDUCTOR		Nom. Wall	Nom. DC Ins. Res/Ft - Megs	Nom. Break- down Voltage 60 Cycles	O.D.
				Construction	Stranding				
7024	1000'	24	2 5(16)-24	16 Wires	.005"	.015"	5000	8000	.054"
7024-1	100'	24	2 5(16)-24	16 Wires	.005"	.015"	5000	8000	.054"
7001	1000'	22	3 5( 7)-22	7 Wires	.010"	.017"	5000	8000	.069"
7001-1	100'	22	3 5( 7)-22	7 Wires	.010"	.017"	5000	8000	.069"
7003	1000'	20	1 (10)-20	10 Wires	.010"	.017"	5000	8000	.077"
7003-1	100'	20	1 (10)-20	10 Wires	.010"	.017"	5000	8000	.077"
7005	1000'	18	1-1/2 (16)-18	16 Wires	.010"	.017"	5000	8000	.086"
7005-1	100'	18	1-1/2 (16)-18	16 Wires	.010"	.017"	5000	8000	.086"
7007	1000'	16	2-1/2 (26)-16	26 Wires	.010"	.017"	5000	8000	.098"
7007-1	100'	16	2-1/2 (26)-16	26 Wires	.010"	.017"	5000	8000	.098"
7009	1000'	14	4 (41)-14	41 Wires	.010"	.033"	7500	12000	.148"
7009-1	100'	14	4 (41)-14	41 Wires	.010"	.033"	7500	12000	.148"
7011	1000'	12	6 (65)-12	65 Wires	.010"	.033"	7500	12000	.171"
7011-1	100'	12	6 (65)-12	65 Wires	.010"	.033"	7500	12000	.171"
				<b>SOLID</b>					
7000	1000'	22	3/5(1)-22	.0253 Solid		.017"	5000	8000	.064"
7000-1	100'	22	3/5(1)-22	.0253 Solid		.017"	5000	8000	.064"
7002	1000'	20	1(1)-20	.032 Solid		.017"	5000	8000	.071"
7002-1	100'	20	1(1)-20	.032 Solid		.017"	5000	8000	.071"
7004	1000'	18	1-1/2(1)-18	.0403 Solid		.017"	5000	8000	.079"
7004-1	100'	18	1-1/2(1)-18	.0403 Solid		.017"	5000	8000	.079"

**COLORS:** Black, Brown, Red, Orange, Yellow, Green, Blue, Violet (Purple), Gray (Slate), White, Dark Blue, Pink, Tan

In addition to the standard colors we can furnish #7001† and #7003† in the following spiral Tracer Colors (Add "S" to Catalog Number):  
 Wh/Black Wh/red Wh/yellow Wh/blue Wh/gray  
 Wh/brown Wh/orange Wh/green Wh/purple  
 †Add \$3.00 to List Price for Single Spiral Tracer Wire.



#### TYPE SRIR — SHIELDED — Spec. JAN-C-76 HOOK-UP WIRE SHIELDED (TINNED COPPER)

Cat. No.	Spool	Size AWG	JAN-C-76 Type Designation*	Stranding	Nom. Wall	Nom. Diam.
7074	1000'	24	2 5(16)-24	7 .010	.033	.105"
7072	1000'	22	3 5( 7)-22	7 .010	.033	.105"
7070	1000'	20	1(10)-20	10 .010	.033	.113"
7068	1000'	18	1-1/2 (16)-18	16 .010	.033	.122"



#### TYPE SRHV (THERMOPLASTIC) HOOK-UP WIRE STRANDED

Cat. No.	Spool	Size AWG	JAN-C-76 Type Designation*	Stranding	Nom. Wall	Nom. DC Ins. Res. Meg/Ft	Nom. Breakdown Volt. 60 Cycles	Max. Diam. (Inches)
7322	1000'	22	3 5(7)-22	7 .010	.033	7500	12000	.105
7322-1	100'	22	3 5(7)-22	7 .010	.033	7500	12000	.105
7320	1000'	20	1(10)-20	10 .010	.033	7500	12000	.113
7320-1	100'	20	1(10)-20	10 .010	.033	7500	12000	.113
7318	1000'	18	1-1/2 (16)-18	16 .010	.033	7500	12000	.122
7318-1	100'	18	1-1/2 (16)-18	16 .010	.033	7500	12000	.122
7316	1000'	16	2-1/2 (26)-16	26 .010	.033	7500	12000	.134
7316-1	100'	16	2-1/2 (26)-16	26 .010	.033	7500	12000	.134
7314	1000'	14	4(41)-14	41 .010	.033	7500	12000	.152
7314-1	100'	14	4(41)-14	41 .010	.033	7500	12000	.152
7312	1000'	12	6(65)-12	65 .010	.033	7500	12000	.172
7312-1	100'	12	6(65)-12	65 .010	.033	7500	12000	.172

**COLORS:** BLACK, BROWN, RED, ORANGE, YELLOW, GREEN, BLUE, PURPLE, GRAY, WHITE



#### BIRNBACH THERMOPLASTIC INSULATED HOOK-UP WIRE 105°C. — 600-VOLT RATING UL APPROVED

Especially designed for the chassis, sub chassis wiring of radio and television receivers and transmitters inside or outside the chassis. UL approved for 105°C. (221°F.) operating temperature. Has high electrical characteristics. All wires are annealed tinned copper.

Cat. No.	Spool	AWG	Stranding	Nom. Wall	Volt. Breakdown	DC Ins. Res. Megs/Ft	Max. O.D. Inches
7201	1000'	22	7 .010	.032	18000	5000	.100
7201-1	100'	22	7 .010	.032	18000	5000	.100
7203	1000'	20	10 .010	.032	18000	5000	.104
7203-1	100'	20	10 .010	.032	18000	5000	.104
7205	1000'	18	16 .010	.032	18000	5000	.112
7205-1	100'	18	16 .010	.032	18000	5000	.112
7207	1000'	16	26 .010	.032	18000	5000	.129
7207-1	100'	16	26 .010	.032	18000	5000	.129
7202	1000'	22	Solid	.032	18000	5000	.095
7202-1	100'	22	Solid	.032	18000	5000	.095
7204	1000'	20	Solid	.032	18000	5000	.102
7204-1	100'	20	Solid	.032	18000	5000	.102

**COLORS:** Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple

ALL PRICES SUBJECT TO CHANGE WITH THE COPPER MARKET

# Birnbach

## GOV'T. SPECIFICATION HOOKUP WIRE JAN-G-76 WL NYLON JACKET GLASS BRAID HIGH VOLTAGE CRT LEAD WIRE

### JAN TYPE of DESIGNATION \* **SAMPLE**

(For all Govt. Specification HOOKUP WIRES on this page and preceding page.)

**3/5 (7) 22 90**

SIZE (Approx. Cir. Mills)

MINIMUM STRANDS

AWG SIZE

COLOR CODE  
1st Digit Represents Body  
2nd Digit Represents Tracer

- 0. BLACK
- 1. BROWN
- 2. RED
- 3. ORANGE
- 4. YELLOW
- 5. GREEN
- 6. BLUE
- 7. VIOLET (purple)
- 8. GRAY (slate)
- 9. WHITE

Hookup Wire with no outer covering shall be designated by the letter "U".  
Hookup Wire with an outer covering, either braid or jacket, shall be designated by the letter "C".

### TYPE WL — EXTRUDED NYLON JACKET HOOK-UP WIRE (Fungus Proof)



SPEC. JAN-C-76

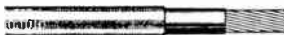
Extensively used in electronic devices, aircraft instruments, lighting and power transmitters, radar, etc. Constructed of one conductor, copper tinned high heat vinyl insulation with an extruded Nylon jacket overall. This wire will not fray, crack or rot; it is non-combustible with extreme high chemical and abrasion resistance; extreme low moisture absorption and low dielectric leakage; extremely flexible over a wide temperature range it remains soft and pliable at reduced temperatures; it will absorb hard usage, frequent bending and twisting.

Cat. No.	Spool	Size AWG	JAN-C-76 Type Designation*	Stranding	Nom. Wall	Nom. DC Ins. Res. Meg/Ft	Nom. Breakdown Voltage 60 Cycles	Max. Diam. (Inches)
7224	1000'	24	2/5(16)-24	16/.005	.012	1000	5000	.067
7224-1	100'	24	2/5(16)-24	16/.005	.012	1000	5000	.067
7222	1000'	22	3/5(7)-22	7/.010	.012	1000	5000	.073
7222-1	100'	22	3/5(7)-22	7/.010	.012	1000	5000	.073
7220	1000'	20	1(7)-20	7/.0126	.012	1000	5000	.081
7220-1	100'	20	1(7)-20	7/.0126	.012	1000	5000	.081
7218	1000'	18	1 1/2(7)-18	7/.0159	.013	1000	5000	.092
7218-1	100'	18	1 1/2(7)-18	7/.0159	.013	1000	5000	.092
7216	1000'	16	2 1/2(19)-16	19/.0113	.015	1000	5000	.108
7216-1	100'	16	2 1/2(19)-16	19/.0113	.015	1000	5000	.108
7214	1000'	14	4(19)-14	19/.0142	.018	1000	5000	.132
7214-1	100'	14	4(19)-14	19/.0142	.018	1000	5000	.132
7212	1000'	12	6(19)-12	19/.0179	.018	1000	5000	.152
7212-1	100'	12	6(19)-12	19/.0179	.018	1000	5000	.152
7210	1000'	10	9(37)-10	37/.0285	.020	1000	5000	.179
7210-1	100'	10	9(37)-10	37/.0285	.020	1000	5000	.179

**COLORS:**

White	Yellow	Wh/Black	Wh/Yellow	Wh/Gray	Wm/Blk/Green
Black	Green	Wh/Brown	Wh/Green	Wh/Blk/Red	Wh/Blk/Orange
Brown	Blue	Wh/Red	Wh/Blue	Wh/Blk/Yellow	Wh/Blk/Brown
Red	Purple	Wh/Orange	Wh/Purple	Wh/Blk/Blue	Wh/Blk/Gray
Orange					

IN ADDITION Sizes 7218, 7220, 7222 can be furnished in red/black and black/white.



SPEC. JAN-C-76

### TYPE WL GLASS BRAID — 600-VOLT (Fungus Proof)

Extensively used on electronic devices, aircraft instruments, lighting and power, transmitters, radar, etc. Constructed of one conductor, stranded copper tinned, high heat vinyl insulation, glass braid with a heavily lacquered coating which is fungus proof and flame resistant.

Cat. No.	Spool	Size AWG	JAN-C-76 Type Designation*	Stranding	Nom. Wall	Nom. DC Ins. Res/Ft - Megs	Nom. Break-down Voltage 60 Cycles	O.D.
7022	1000'	22	3/5(7)-22	7 Wires .010"	.012"	1000	5000	.077"
7022-1	100'	22	3/5(7)-22	7 Wires .010"	.012"	1000	5000	.077"
7020	1000'	20	1(10)-20	10 Wires .010"	.012"	1000	5000	.085"
7020-1	100'	20	1(10)-20	10 Wires .010"	.012"	1000	5000	.085"
7018	1000'	18	1-1/2(16)-18	16 Wires .010"	.013"	1000	5000	.096"
7018-1	100'	18	1-1/2(16)-18	16 Wires .010"	.013"	1000	5000	.096"
7016	1000'	16	2-1/2(26)-16	26 Wires .010"	.015"	1000	5000	.112"
7016-1	100'	16	2-1/2(26)-16	26 Wires .010"	.015"	1000	5000	.112"

**COLORS:**

White	Yellow	White/Black	White/Green	White/Black/Blue
Black	Green	White/Brown	White/Blue	White/Black/Green
Brown	Blue	White/Red	White/Purple	White/Black/Orange
Red	Purple	White/Orange	White/Black/Red	White/Black/Brown
Orange		White/Yellow	White/Black/Yellow	White/Black/Gray

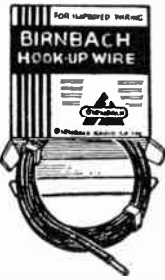
### HIGH VOLTAGE & CATHODE-RAY TUBE LEAD CABLE



This High Voltage and Cathode Ray Tube Lead Wire is approved for 10,000, 20,000, and 40,000 volt applications. It is made of RULAN (flame retarding type Polyethylene) which is high heat resistant and moisture resistant. Approved by A.S.T.M. It has a dielectric constant of 2.7 and a power factor of .002.

Cat. No.	Spool	Size	Stranding	Max. DC Voltage	Approx. O.D.
7402	1000'	20	10/30	10,000	.125
7402-1	100'	20	10/30	10,000	.125
7412	1000'	20	10/30	20,000	.169
7412-1	100'	20	10/30	20,000	.169
7418	1000'	18	16/30	10,000	.135
7418-1	100'	18	16/30	10,000	.135
7428	1000'	18	16/30	20,000	.179
7428-1	100'	18	16/30	20,000	.179
7448	1000'	18	16/30	40,000	.231
7448-1	100'	18	16/30	40,000	.231

ALL PRICES SUBJECT TO CHANGE WITH THE COPPER MARKET



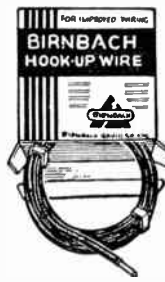
### BIRNBACH BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin. Pushes back easily.

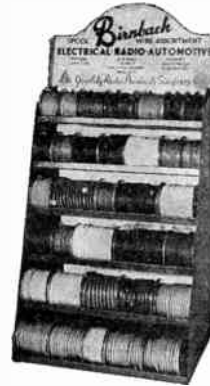
**COLORS:** Black, Red, Blue, Yellow, Green, White, Brown, Yellow.

### BIRNBACH REX SLIPBACK HOOKUP WIRE

It has a covering of .010 rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into paraffin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. It has a high dielectric strength and will withstand all climatic changes without breakdown.



### BIRNBACH SPECIAL SPOOL ASSORTMENT



**FREE DISPLAY**  
One Display is given with each initial order for 100 spools. Each Display made of strong, reinforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price. Extra Display Racks available.

Cat. No.	Put-up Ft.	Size	Puncture V. 60 Cy.		
			Strands	AC	O.D.
70	25 Coil	22	Solid	1500	.060
72	100 Spool	22	Solid	1500	.060
74	500 Spool	22	Solid	1500	.060
76	1000 Spool	22	Solid	1500	.060
80	25 Coil	20	Solid	1500	.065
84	100 Spool	20	Solid	1500	.065
88	500 Spool	20	Solid	1500	.065
92	1000 Spool	20	Solid	1500	.065
82	25 Coil	18	Solid	1500	.075
86	100 Spool	18	Solid	1500	.075
90	500 Spool	18	Solid	1500	.075
94	1000 Spool	18	Solid	1500	.075

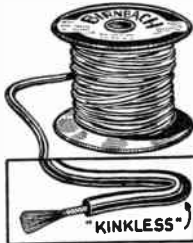
Cat. No.	Put-up Ft.	Size	Puncture V. 60 Cy.		
			Strands	AC	O.D.
280	25 Coil	20	Solid	2000	.090
380	100 Spool	20	Solid	2000	.090
480	500 Spool	20	Solid	2000	.090
580	1000 Spool	20	Solid	2000	.090
282	25 Coil	18	Solid	2100	.098
382	100 Spool	18	Solid	2100	.098
482	500 Spool	18	Solid	2100	.098
582	1000 Spool	18	Solid	2100	.098
284	25 Coil	16	Solid	2100	.108
384	100 Spool	16	Solid	2100	.108
484	500 Spool	16	Solid	2100	.108
584	1000 Spool	16	Solid	2100	.108
286	25 Coil	14	Solid	2100	.122
386	100 Spool	14	Solid	2100	.122
486	500 Spool	14	Solid	2100	.122
586	1000 Spool	14	Solid	2100	.122
288	25 Coil	12	Solid	2200	.135
388	100 Spool	12	Solid	2200	.135
488	500 Spool	12	Solid	2200	.135
588	1000 Spool	12	Solid	2200	.135

Cat. No.	Put-up Ft.	Size	Puncture V. 60 Cy.		
			Strands	AC	O.D.
71	25 Coil	22	7/30	1500	.065
73	100 Spool	22	7/30	1500	.065
75	500 Spool	22	7/30	1500	.065
77	1000 Spool	22	7/30	1500	.065
81	25 Coil	20	10/30	1500	.070
85	100 Spool	20	10/30	1500	.070
89	500 Spool	20	10/30	1500	.070
93	1000 Spool	20	10/30	1500	.070
83	25 Coil	18	16/30	1500	.080
87	100 Spool	18	16/30	1500	.080
91	500 Spool	18	16/30	1500	.080
95	1000 Spool	18	16/30	1500	.080

Cat. No.	Put-up Ft.	Size	Puncture V. 60 Cy.		
			Strands	AC	O.D.
281	25 Coil	20	10/30	2100	.093
381	100 Spool	20	10/30	2100	.093
481	500 Spool	20	10/30	2100	.093
581	1000 Spool	20	10/30	2100	.093
283	25 Coil	18	16/30	2200	.103
383	100 Spool	18	16/30	2200	.103
483	500 Spool	18	16/30	2200	.103
583	1000 Spool	18	16/30	2200	.103
285	25 Coil	16	26/30	2200	.118
385	100 Spool	16	26/30	2200	.118
485	500 Spool	16	26/30	2200	.118
585	1000 Spool	16	26/30	2200	.118
287	25 Coil	14	41/30	2200	.135
387	100 Spool	14	41/30	2200	.135
487	500 Spool	14	41/30	2200	.135
587	1000 Spool	14	41/30	2200	.135
289	25 Coil	12	65/30	2300	.155
389	100 Spool	12	65/30	2300	.155
489	500 Spool	12	65/30	2300	.155
589	1000 Spool	12	65/30	2300	.155

### BIRNBACH KINKLESS TEST LEAD WIRE

An extremely flexible wire with a wall of abrasion resisting live rubber that will not kink or break down in service under rough usage and repeated bendings. Has found wide use in laboratory test equipment, analyzers, oscillators, etc.



Cat. Spool No.	Ft.	Size	Strand- ing	Insul.	Breakdown 60 Cycles	O.D.
62	500	20	41/36	3/64	12,000	.140
66	100	18	66/36	3/64	12,000	.150
67	500	18	66/36	3/64	12,000	.150

#### High Voltage Kinkless Test Lead Wire

68	100	18	66/36	5/64	16,500	.210
69	500	18	66/36	5/64	16,500	.210

**COLORS:** Red and Black

### VARNISHED CAMBRIC WIRE



Widely used in automotive wiring because of oil and waterproof construction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.

Cat. No.	Spool Ft.	Size	Stranding	Puncture V.	O.D.
3418	100	18	16/30	1000	.097
3416	100	16	26/30	1000	.108

### RAYON BRAID LACQUERED WIRE



Constructed of stranded tinned copper with heavy wall of live rubber over which is woven a rayon braid and a high gloss lacquered finish over braid. Easy to solder and strip.

Cat. No.	Ft.	Size	Strand	Insul.	Punc. Volts	DC Ins. Res./Ft.	O.D.
3450	50	18	16/30	1/32	9000	460	.125
3460	100	18	16/30	1/32	9000	460	.125
3600	500	18	16/30	1/32	9000	460	.125

### BIRNBACH HI VOLTAGE LACQUERED PRIMARY WIRE



Recommended for use as leads for wiring high voltage devices, auto head, tail, dashboard, lamps, horns, spotlight, instrument leads and for all primary voltage applications. Constructed of soft drawn, tinned copper, with a wall of rubber and covered with a highly lacquered cotton braid, making it oil, heat and moisture resistant.

Cat. No.	Spool Ft.	Size	Strand- ing	Insul.	Puncture V.	O.D.
2816	100	16	26/30	1/32	9500	.140
2814	100	14	41/30	1/32	9500	.170
2812	100	12	19/25	1/32	9500	.190
2810	100	10	19/23	1/32	9500	.208

### STRANDED COLORED RUBBER WIRE



Annealed stranded copper conductors with a cotton wrap, and insulated with a special grade of non-cracking live colored rubber compound. It strips readily.

Cat. No.	Ft.	Size	Wire Strand- ing	Carrying Amps.	Punct. 60 Cy.	O.D.
440	50	16-1/32	26-30	6	8000	.135
1440	100	16-1/32	26-30	6	8000	.135
2440	500	16-1/32	26-30	6	8000	.135

**COLORS:** Red, Black, White, Brown, Green

#### FILAMENT WIRE (High Amperage)

782	25	14-1/32	26-28	15	8500	.145
786	500	14-1/32	26-28	15	8500	.145
784	25	12-3/64	41-28	20	12,000	.190
787	500	12-3/64	41-28	20	12,000	.190

**COLORS:** Red and Black

### RG59/U-72 OHM COAXIAL CABLE



Low impedance assures efficient transfer of energy with negligible interference from local noise, auto ignition and other electrical disturbances.

Attenuation—D.B. per 100 ft.  
10MC 30MC 100MC 300MC 400MC 3000MC  
1.0 2.0 3.8 7.0 8.9 29

Cat. No.	Nominal Capacitance	Nominal Impedance	Length	St. Pkg.
907	100	ft. spool	.....	4
908	250	ft. spool	.....	4
909	500	ft. spool	.....	4
910	1000	ft. reel	.....	1



### BIRNBACH RUBBER MULTIPLE CONDUCTOR CABLES\*



(Not Shielded)

Used for permanent or portable P.A. systems, sound recording, indoor and outdoor speakers where it will stand up under all weather conditions and rough usage. Consists of No. 20 Stranded 26/34 flexible tinned copper cotton wrap, .022 low capacity rubber color coded, twisted, cotton filler, cotton wrap with a tough rubber jacket overall.

#### MULTIPLE CABLE COLOR CODING CHART

1—Black; 2—White; 3—Red; 4—Green;  
5—Yellow; 6—Blue; 7—Brown; 8—Orange

Cat. No.	Spool Ft.	No. Conds.	Size	Stranding	Cap. Bet. Conds. mmf	O.D.
788	100	2	20	26/34	22	.275
789	250	2	20	26/34	22	.275
790	100	3	20	26/34	20	.285
791	250	3	20	26/34	20	.285
792	100	4	20	26/34	18	.305
793	250	4	20	26/34	18	.305
794	100	5	20	26/34	16	.335
795	250	5	20	26/34	16	.335
796	100	6	20	26/34	15	.355
797	250	6	20	26/34	15	.355
798	100	7	20	26/34	15	.370
799	250	7	20	26/34	15	.370
798	100	8	20	26/34	14	.395
799	250	8	20	26/34	14	.395

LONGER LENGTHS AVAILABLE

\*MEETS SIGNAL CORPS SPEC. 714945

### BIRNBACH RUBBER SERVICE CORD



Heavy Duty  
U.L.  
Approved

For power line requirement where rough usage is indicated as for amplifiers, speakers, vacuum cleaners, tools, refrigerators, washing machines, trouble lights, etc. All color coded. Underwriters approved.

Cat. No.	Spool Ft.	Cds	Size	Type	Amp. Rating	Volt Rating	O.D.
701	250	2	18	SV 41/34	7	300	.250
574	250	2	18	SJ 41/34	7	300	.300
578	250	2	16	SJ 65/34	10	300	.325
702	250	2	18	S 41/34	7	600	.390
703	250	2	16	S 65/34	10	600	.410
704	100	2	14	S 41/30	15	600	.540
705	100	2	12	S 65/30	20	600	.590

Longer lengths and additional conductors also available.

### BIRNBACH RUBBER SHIELDED MICROPHONE CABLE\*



Used for indoor and outdoor crystal, carbon and condenser mikes and for all sound systems. Consists of extra flexible tinned copper conductors, each insulated with a wall of .022 low capacity rubber, color coded, twisted, cotton fillers, braided tinned copper shielding, cotton wrap with a tough weatherproof black rubber jacket overall which will withstand hard and rough usage.

#### Microphone Cable Color Coding Chart

1—Black; 2—White; 3—Red; 4—Green;  
5—Yellow; 6—Blue; 7—Brown; 8—Orange

Cat. No.	Spool Ft.	No. Conds.	Size	Strand- ing	Shield and Bet. Conds. mmf	Cap. Bet. Shield Cap. mmf	O.D.
772	100	2	20	26/34	50	40	.280
1772	250	2	20	26/34	50	40	.280
772/18	100	2	18	41/34	55	45	.300
773	100	3	20	26/34	55	38	.290
1773	250	3	20	26/34	55	38	.290
774	100	4	20	26/34	60	35	.300
1774	250	4	20	26/34	60	35	.300
775	100	5	20	26/34	60	31	.330
1775	250	5	20	26/34	60	31	.330
776	100	6	20	26/34	60	30	.350
1776	250	6	20	26/34	60	30	.350
777	100	7	20	26/34	60	30	.365
1777	250	7	20	26/34	60	30	.365
778	100	8	20	26/34	60	30	.390
1778	250	8	20	26/34	60	30	.390

Longer Lengths Available

\*MEETS SIGNAL CORPS SPEC. 714945

### CRYSTAL MICROPHONE CABLE\*



Used with crystal, dynamic, velocity, ribbon microphones, and photoelectric cells. Birnbach No. 870 used widely for lapel microphones and phono pickups. Constructed of extra flexible, stranded, tinned copper, cotton serve—insulated with new low loss rubber compound, braided tinned copper shield cotton serve and covered with tough black rubber jacket.

Cat. No.	Spool Ft.	Conds.	Size	Strand- ing	Cap./ft. mmf	O.D.
870	100	1	20	26/34	40	.175"
1870	250	1	20	26/34	40	.175"
872	100	1	20	26/34	30	.245"
1872	250	1	20	26/34	30	.245"

Longer Lengths Available

\*MEETS SIGNAL CORPS SPEC. 714945

### BIRNBACH MULTIPLE CONDUCTOR FLEXIBLE CABLE



(Cotton Braid Overall)

Constructed of individual 1/64 rubber wall No. 20 stranded, tinned cotton braid; color coded; conductors twisted and with a closely woven brown cotton braid overall. Used widely for P.A. systems, analyzers, remote control units, etc.

#### COLOR CODING CHART

1—Black, 2—White, 3—Red, 4—Green,  
5—Orange, 6—Blue, 7—Brown,  
8—Yellow, 9—White/Black Tracer  
10—Red/Black Tracer  
11—Green/Black Tracer  
12—Orange/Black Tracer

Cat. No.	Spool Ft.	No. Conds.	Size	Stranding	Rubber Insul.	O.D.
172	100	2	20	10/30	1/64	.205
173	100	3	20	10/30	1/64	.245
174	100	4	20	10/30	1/64	.265
175	100	5	20	10/30	1/64	.290
176	100	6	20	10/30	1/64	.310
177	100	7	20	10/30	1/64	.325
178	100	8	20	10/30	1/64	.360
179	100	9	20	10/30	1/64	.395
180	100	10	20	10/30	1/64	.425
182	100	12	20	10/30	1/64	.440

### MULTIPLE CONDUCTOR THERMOPLASTIC CABLE



(Cotton Braid Overall)

Constructed of individual No. 22 stranded tinned copper, 1/64 thermoplastic insulation, color coded; conductors twisted with brown cotton braid overall. Used widely for P.A. systems, remote control units, multiple circuit hookups and whenever a small diameter cable is indicated.

#### COLOR CODING CHART

1—Black, 2—White, 3—Red, 4—Green,  
5—Orange, 6—Blue, 7—Brown,  
8—Yellow, 9—Purple, 10—Pink,  
11—Gray, 12—DK. Blue.

Cat. No.	Spool Ft.	No. Conds.	Size	Stranding	Thermoplastic Insul.	O.D.
263	100	3	22	7/30	1/64	.165
264	100	4	22	7/30	1/64	.175
265	100	5	22	7/30	1/64	.200
266	100	6	22	7/30	1/64	.215
267	100	7	22	7/30	1/64	.235
268	100	8	22	7/30	1/64	.250
269	100	9	22	7/30	1/64	.265
270	100	10	22	7/30	1/64	.300
272	100	12	22	7/30	1/64	.330

### BIRNBACH SHIELDED MULTI-CONDUCTOR CABLE



THERMOPLASTIC INSULATION  
TINNED SHIELD OVERALL  
500 FT. SPOOLS

Cat. No.	No. of Conds.	Size	Strand- ing	Ins. Shield	Cap. and Bet. mmf	O.D.
972S	2	20	10/30	1/64	50	28 .170
973S	3	20	10/30	1/64	48	21 .192

WAXED COTTON BRAID OVER SHIELD

Cat. No.	Spool Ft.	No. Conds.	Size	Stranding	O.D.
972B	2	20	10/30	1/64	50 28 .180

### BIRNBACH SHIELDED TWO WIRE SPEAKER CABLE



Used widely for master control sound systems, photo electric circuits, public address systems, etc. The No. 972A consists of 2 conductors twisted No. 18—16/30 tinned copper with a 1/32" wall of color coded low capacity rubber with paper wrap covering the two conductors and a closely woven tinned copper shield overall. The No. 1972A has same construction as the 972A with a waxed cotton braid over the shield.

#### COLOR CODING CHART

1—Black; 2—Red

#### TINNED SHIELD OVERALL 500 FT. SPOOLS

Cat. No.	No. of Conds.	Size	Strand- ing	Ins. Shield	Cap. and Bet. mmf	O.D.
972A	2	18	16/30	1/32	65	23 .250

Tinned Shield with Cotton Braid Overall

Cat. No.	No. of Conds.	Size	Strand- ing	Ins. Shield	Cap. and Bet. mmf	O.D.
1972A	2	18	16/30	1/32	65	23 .275

### BIRNBACH SHIELDED MULTI-CONDUCTOR CABLE



(Tinned Braid Overall)

Consists of No. 20, 10/30 flexible tinned copper with 1/64" rubber wall, color coded cotton braid, twisted, with tinned copper shield woven over cable. Generally used indoors to prevent interference pickup on P.A. systems, recording equipment, photo electric circuits, etc. 100 Ft. Spools.

Cat. No.	No. of Conds.	Size	Strand- ing	Ins. Shield	Cap. and Bet. mmf	O.D.
972	2	20	10/30	1/64	60	32 .215
973	3	20	10/30	1/64	55	30 .220
974	4	20	10/30	1/64	48	26 .250
975	5	20	10/30	1/64	45	23 .290
976	6	20	10/30	1/64	40	23 .290
977	7	20	10/30	1/64	40	20 .315
978	8	20	10/30	1/64	35	20 .350

#### COLOR CODING CHART

1—Black, 2—Red, 3—White, 4—Green,  
5—Brown, 6—Yellow, 7—Blue, 8—Orange

### SHIELDED MULTIPLE CONDUCTOR CABLE



(Cotton Braid Overall)

Constructed of individual tinned stranded copper with a 1/64" wall of rubber covered with a colored cotton braid. A tinned copper shield follows and a brown cotton braid covers this cable. 100 Ft. Spools.

Cat. No.	No. of Conds.	Size	Strand- ing	Ins. Shield	Cap. and Bet. mmf	O.D.
1972	2	20	10/30	1/64	60	32 .225
1973	3	20	10/30	1/64	55	30 .230
1974	4	20	10/30	1/64	48	36 .260
1975	5	20	10/30	1/64	45	23 .290
1976	6	20	10/30	1/64	40	23 .300

#### COLOR CODING CHART

1—Black, 2—Red, 3—White, 4—Green,  
5—Brown, 6—Yellow, 7—Blue, 8—Orange

### BIRNBACH DIATHERMY CABLE



Especially designed for use with electrotherapy apparatus, charging cable battery lead and underground cable. It is made of size No. 14 stranded double cotton braid and with an extremely flexible special grade of tough, live rubber jacket.

Cat. No.	Spool Ft.	No. Conds.	Size	Stranding	O.D.
756	100	1	14	104/34	.300
757	1000	1	14	104/34	.300



### SHIELDED TWISTED PAIR CABLE



Consists of two conductors #24, 16/36 tinned copper, twisted with .015 vinyl insulation color coded and with tinned copper shield overall. For public address systems, phono pickups, sound recording and various electronic circuits. **COLOR CODE:** Red and Black.

Cat. No.	Spool Ft.	Conds.	Size	Stranding	Insul.	O.D.
826	1000	2	24	16/36	.015	.115

### INTER-COM CABLE 3 CONDUCTORS



1 Shielded  
2 Unshielded

Used for single shielded wire in station to station wiring in order to eliminate cross talk. Consists of 3 conductors #22 stranded tinned copper wire with vinyl insulation, color coded and twisted—one conductor with tinned copper shield, the other two unshielded; with cotton braid overall.

Cat. No.	Spool Ft.	Conds.	Size	Stranding	O.D.
923	500	3	22	7/30	.155

### SHIELDED TWISTED PAIR



Cat. No. 822 and 824 are constructed of solid enameled wire with a cotton wrap, color coded cotton braid, twisted pair waxed and bare copper braid woven overall. Cat. No. 825 is composed of two conductors twisted #20 solid tinned copper enamel baked, cotton wrap waxed; color coded and twisted with a bare copper braid shield overall.

Cat. No.	Spool Ft.	Conds.	O.D.
822	500 Ft.	2 - 22 Solid	.125
824	500 Ft.	2 - 19 Solid	.145
825	500 Ft.	2 - 20 Solid	.135

### ARMORED SPEAKER CABLE



Constructed of 2 conductor parallel #18—16/30 stranded tinned copper 1/64" wall rubber, color coded cotton braid lacquered, and spiral steel armor overall.

Cat. No.	Spool Ft.	Size	Stranding	O.D.
1111	250	18	16/30	.155 x .240
1112	500	18	16/30	.155 x .240
1113	1000	18	16/30	.155 x .240

### BIRNBACH SERVICE LINE CORD



Underwriters  
Approved

Constructed of all rubber parallel UL approved wire with rubber plug on one end and with the other end stripped, tinned and hanked ready for use. Available in black and brown.

Cat. No.	Ft.
816	6
817	7 1/2
819	10



**BIRNBACH  
HEAVY DUTY  
SERVICE  
CORD**

UL APPROVED

A heavy rubber jacketed cable, Underwriters Approved for replacement in refrigerators, washing machines and electrical appliances. Cat. Nos. 309 and 312 consist of 2 No. 18 S.V. Stranded Conductors with a soft rubber plug at one end; the other end is stripped and tinned ready for use. Cat. No. 248 consists of 8 ft. 2 Cond. No. 16 S.J. all rubber hanked, stripped and tinned with all rubber plug.

Cat. No.	Conds.	Ft.	Type	Stranding	O.D.
348	2	8	SJ	65/34	.325
309	2	9	NV	41/34	.250
312	2	12	SV	41/34	.250

### TINNED COPPER SHIELDING



Very flexible, slides over wires and cables. For bonding, shielding, in aircraft, auto radio, etc.

TINNED		
Cat. No.	Inside Diam.	Spool
855	1/16"	50 ft.
858	1/8"	50 ft.
859	3/16"	50 ft.
863	1/4"	50 ft.
864	3/8"	50 ft.
868	1/2"	50 ft.
865	5/8"	50 ft.
857	25/32"	50 ft.
856	1"	50 ft.

BARE	
Cat. No.	Spool
860	1/4" 50 ft.

Longer Lengths Available

### 7MM HIGH TENSION CABLE



UNSHIELDED

Useful in reducing interference from auto secondary circuits. Also used as photoelectric cell leads, high voltage leads in television receivers, cathode-ray tubes, etc. Single conductor #16 stranded rubber insulation with cotton braid and heavy coats of lacquer.

Cat. No.	Spool	Size	Stranding	O.D.
1600	100 Ft.	16	19/29	.275

### 7MM SHIELDED SECONDARY WIRE

Used for auto and aircraft ignition systems where grounding is necessary for effective elimination of interference. Same construction as #1600 with a shielded, tinned copper braid overall.

Cat. No.	Spool	Size	Stranding	O.D.
781	100 Ft.	16	19/29	.295

### BIRNBACH PHONO PICKUP WIRE



EXTRA  
FLEXIBLE

Where small diameter, limpness and extreme flexibility is necessary as for use on phono pickup arms and grid wire. Constructed of #24 gauge flexible stranded copper wire with rubber insulation and a close tinned copper braid shield overall. No. 1825 and 1825M have same construction with fine brown cotton braid over shield.

Cat. No.	Spool Ft.	Size	Stranding	Insul.	O.D.
1824	500	24	16/36	.015	.080
1824M	1000	24	16/36	.015	.080
1825	500	24	16/36	.015	.095
1825M	1000	24	16/36	.015	.095

### PHONO PICKUP WIRE

Used on phono pickup arms and grid leads where extreme flexibility is not of paramount importance. Constructed of #22—7/30 tinned copper wire with 1/64 wall of vinyl plastic insulation and a closely woven tinned copper shield overall.

Cat. No.	Spool Ft.	Size	Stranding	Insul.	O.D.
1822	100	22	7/30	1/64	.090
1822B	500	22	7/30	1/64	.090
1822C	1000	22	7/30	1/64	.090

### COMMERCIAL TYPE TWISTED PAIR



(Transmission  
Line)

Used for low loss transmission line between receiver and antenna as doublet lead-in wire and for intercom setup. Consists of two wires with 1/32" wall rubber color coded with a cotton braided weather-proof finish overall.

Cat. No.	Spool Ft.	No. of Conds.	Gauge	Stranding	Insul.
951	100	2	22	7/30	1/32
952	500	2	22	7/30	1/32
919	500	2	18	16/30	1/32
920	1000	2	18	16/30	1/32

Cat. No.	Cap. Bet. Conds.	Freq. KC	O.D.
951	21.8 mmf	3.75	.200
952	21.8 mmf	3.75	.200
919	21.8 mmf	3.75	.225
920	21.8 mmf	3.75	.225

### SHIELDED GRID LEAD WIRE



High insulation of this wire will reduce loss in shielded grid circuits. Tinned copper stranded wire with rubber insulation, lacquered cotton braid with closely woven tinned copper shield overall.

Cat. No.	Spool Ft.	Size	Stranding	Ins. Under-shield	Cap/Ft. mmfd.	O.D.
820	100	20	10/30	.085	70	.140
818	100	18	16/30	.085	75	.150

### SHIELDED HOOK-UP AND LEAD-IN WIRE



Used to prevent and reduce interference caused by motors, high tension wires, X-ray machines and man-made static. Consists of stranded tinned copper, a wall of low loss loss rubber over which is woven a tinned copper shield.

Cat. No.	Spool Ft.	Size	Stranding	Insul.	Cap/Ft. mmfd.	O.D.
810	500	20	10/30	1/64	105	.095
809	100	18	16/30	1/64	125	.125
803	250	18	16/30	1/64	125	.125
851	100	16	26/30	1/32	90	.145
802	250	16	26/30	1/32	90	.145
806	100	14	19/27	3/64	95	.185
801	250	14	19/27	3/64	95	.185

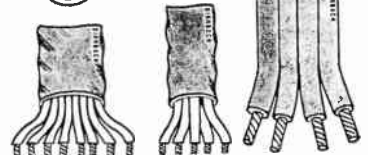
### SHIELDED VARNISHED CAMBRIC WIRE



Used where an oil and water resistant wire with a shielded covering is required. Constructed of tinned stranded conductor with 2 layers of varnished cambric and a lacquered cotton braid with a tinned copper shield overall.

Cat. No.	Spool Ft.	Size	Stranding	Cap/Ft. mmfd.	O.D.
1820	100	20	10/30	100	.125
1848	100	18	16/30	102	.131
1800	100	16	26/30	142	.145

### ANTENNA CONTROL ROTOR CABLE



Four Conductor has ribbed Polyethylene construction to facilitate making of connections in compact housings and control boxes. Separates like zip wire. Cable has one tinned conductor for coding identity. 4 conductors No. 7/28 stranded. Five conductor is color coded and twisted with round plastic jacket overall. 5 cond. No. 20 - 7/28 stranded. Eight Conductor is color coded and twisted with round plastic jacket overall as used widely for Radiat. 8 cond. No. 22 - 7/30 stranded.

Cat. No.	Spool Ft.	Conds.	Stranding
1874A	500	4	Flat Rotor Cable
1874	1000	4	Flat Rotor Cable
1875A	500	5	Round Rotor Cable
1875	1000	5	Round Rotor Cable
1878A	500	8	Round Rotor Cable
1878	1000	8	Round Rotor Cable

### POSJ ALL RUBBER LAMP CORD



(Underwriters  
Approved)

An all purpose approved, very flexible rubber covered parallel cord which is easily separated by slit in jacket; has color coded cotton serve.

Cat. No.	Spool Ft.	Conds.	Size	No.	Stranding	O.D.
570	100	2	18	41/34	.135 x .235	
572	250	2	18	41/34	.135 x .235	
573	500	2	18	41/34	.135 x .235	

COLORS: Brown, Black, Ivory



## BARE, TINNED and ENAMELED COPPER WIRE

### Stranded Bare Copper Wire

Cat. No.	Size	Length	Material
493	7/20	100 ft. coil	
1640	7/22 (14 B&S)	75 ft. coil	
1670		100 ft. coil	
1639		1000 ft. spool	
1643	7/23 (15 B&S)	75 ft. coil	
1673		100 ft. coil	
1634		1000 ft. spool	
1646	7/24 (16 B&S)	75 ft. coil	
1680		100 ft. coil	
1647		1000 ft. spool	
647	7/26	75 ft. coil	
681		100 ft. coil	
1648		1000 ft. spool	
740	7/27	75 ft. coil	
700		100 ft. coil	
1741		1000 ft. spool	

### Stranded Tinned Copper Wire

Cat. No.	Size	Length	Material
495	7/20	100 ft. coil	
1641	7/22 (14 B&S)	75 ft. coil	
1671		100 ft. coil	
1638		1000 ft. spool	
1644	7/23 (15 B&S)	75 ft. coil	
1674		100 ft. coil	
1633		1000 ft. spool	
1697	7/24 (16 B&S)	75 ft. coil	
1696		100 ft. coil	
1628		1000 ft. spool	
1622	7/30 (22 B&S)	1000	
1620	10/30 (20 B&S)	1000	
1618	16/30 (18 B&S)	1000	

### Solid Tinned Copper Wire

Cat. No.	Size	Length	Material
1433	No. 8	100 ft. coil	
1401	No. 10	50 ft. coil	
1402		100 ft. coil	
1403		1000 ft. spool	
1405	No. 12	50 ft. coil	
1406		100 ft. coil	
1407		1000 ft. spool	
1409	No. 14	50 ft. coil	
1410		100 ft. coil	
1411		1000 ft. spool	
1413	No. 16	50 ft. coil	
1414		100 ft. coil	
1415		1000 ft. spool	
1417	No. 18	50 ft. coil	
1418		100 ft. coil	
1419		1000 ft. spool	
1421	No. 20	50 ft. coil	
1422		100 ft. coil	
1423		1000 ft. spool	
1434	No. 22	1000 ft. spool	

### Phosphor Bronze

Twice the strength of copper. Used extensively on Master Antenna Systems, airports, ships, where strength and resistance to the elements are important.

Cat. No.	Size	Length	Material
527	100	7/16	
499	100	7/18	
524	100	7/20	
526	100	7/22	

Longer Lengths Available

### Stranded Enamel Copper Wire

Cat. No.	Size	Length	Material
1642	7/22 (14 B&S)	75 ft. coil	
1672		100 ft. coil	
1637		1000 ft. spool	
1645	7/23 (15 B&S)	75 ft. coil	
1675		100 ft. coil	
1631		1000 ft. spool	
1683	7/24 (16 B&S)	75 ft. coil	
1682		100 ft. coil	
1627		1000 ft. spool	

### Solid Bare Copper Wire

Cat. No.	Size	Length	Material
1561	No. 10	50 ft. coil	
1562		100 ft. coil	
1563		1000 ft. spool	
1565	No. 12	50 ft. coil	
1566		100 ft. coil	
1567		1000 ft. spool	
1569	No. 14	50 ft. coil	
1570		100 ft. coil	
1571		1000 ft. spool	
1573	No. 16	50 ft. coil	
1574		100 ft. coil	
1575		1000 ft. spool	

### Solid Enamel Copper Wire

Cat. No.	Size	Length	Material
697	No. 10	50 ft. coil	
497		100 ft. coil	
1497		1000 ft. spool	
292	No. 12	50 ft. coil	
492		100 ft. coil	
492-A		150 ft. coil	
492-B		200 ft. coil	
1492		1000 ft. spool	
290	No. 14	50 ft. coil	
490		100 ft. coil	
490-A		150 ft. coil	
490-B		200 ft. coil	
1490		1000 ft. spool	



### Birnbach Tinned Bus Bar Wire

For hooking up all types of transmitters, especially ultra short wave equipment. All Bus Wire is made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths. (100 to Std. Pkg.)

Cat. No.	Length	Material
2010	10 Round	
2012	12 Square	
2013	12 Round	
2014	14 Square	
2015	14 Round	
2016	16 Round	

# Birnbach MAGNET WIRE



### PLAIN ENAMEL

Size B&S	1/4 lb. Spool Ft.	1/2 lb. Spool Ft.	1 lb. Spool Ft.
10	8	16	32
12	12	25	50
14	20	40	80
16	32	63	126
18	50	100	201
20	80	160	320
22	127	254	508
24	201	403	806
26	320	640	1280
28	507	1015	2030
30	805	1610	3220
32	1282	2564	5128
34	2037	4075	8150
36	3221	6443	12887
38	5132	10246	20492
40	8143	16286	32573

### DOUBLE SILK

Size B&S	1/4 lb. Spool Ft.	1/2 lb. Spool Ft.	1 lb. Spool Ft.
12	12	24	49
14	19	39	78
16	31	62	125
18	49	99	198
20	78	157	314
22	123	247	495
24	195	390	781
26	303	606	1212
28	478	956	1912
30	739	1479	2958
32	1136	2272	4545
34	1712	3424	6849
36	2551	5102	10204
38	3770	7541	15082
40	5040	10080	20161

### SOLID TINNED (Soft Drawn)

Size B&S	1/4 lb. Spool Ft.	1/2 lb. Spool Ft.	1 lb. Spool Ft.
10	8	16	32
12	12	25	50
14	20	40	80
16	32	63	126
18	50	100	201
20	80	160	320
22	127	254	508
24	201	403	806
26	320	640	1280
28	507	1015	2030
30	805	1610	3220
32	1282	2564	5128
34	2037	4075	8150
36	3221	6443	12887
38	5132	10246	20492
40	8143	16286	32573

### DOUBLE COTTON

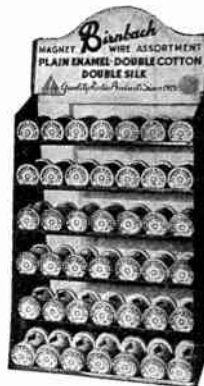
Size B&S	1/4 lb. Spool Ft.	1/2 lb. Spool Ft.	1 lb. Spool Ft.
12	12	24	49
14	19	39	78
16	32	63	126
18	49	97	194
20	78	157	314
22	119	238	477
24	184	369	739
26	284	568	1136
28	435	871	1742
30	641	1284	2569
32	976	1953	3906
34	1365	2735	5470
36	1827	3654	7309
38	2738	5476	10952
40	3405	6811	13623

## BIRNBACH MAGNET and TINNED WIRE SPECIAL SPOOLS

Attractive Spools, even sizes from 10 to 40 inclusive in Double Cotton, Plain Enamel, Double Silk and Solid Tinned. This display on the counter is a Silent Salesman bringing you real profits the year around.

### FREE DISPLAY

One Display Given with each initial order of 100 spools. Display made of strong, reinforced steel. Mahogany crackle finish. 3-color display at top. Space for YOUR resale price. Extra Display Racks available.



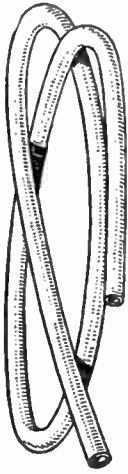
### Length of Wire of Special Spools

Size B&S	Plain Enamel Ft.	Double Cotton Ft.	Double Silk Ft.	Solid Tinned Ft.
10	11	—	—	11
12	15	9	—	15
14	26	20	11	26
16	34	34	19	34
18	56	44	23	56
20	86	56	29	86
22	112	75	37	112
24	184	97	56	184
26	244	116	71	244
28	401	131	90	401
30	525	153	112	525
32	675	180	124	675
34	900	185	131	900
36	1275	208	142	1275
38	1725	240	116	1725
40	1950	265	125	1950





### BIRNBACH BIRACO TUBING (Extruded Vinyl)



Synthetic plastic tubing especially designed for electronic and electrical insulation work. Extremely flexible and high resistance to abrasion. Has high dielectric strength, average 10,000 volts and high tensile strength. Will not support combustion, soften up to 257°F. or crack at -75°F. Its dielectric strength: 1100 volts per mil at room temperature when dry and 1000 volts per mil when wet. Impervious to water, oil, alkalies, alcohol, solvents, etc. Meets all ASTM specs. (36" Lengths)

Cat. No.	B&S Gauge Size No.	Approx. I.D.
313	20	.034
314	18	.042
315	16	.053
316	14	.066
317	12	.085
325	10	.106
318	8	.135
326	6	.166
319	4	.208
320	2	.263
321	5/16	.3125
322	3/8	.375
323	1/2	.500
324	5/8	.625

COLORS: Black, Red, Green, White, Yellow, Blue, Brown, Orange and Clear.

### BIRNBACH VARNISHED TUBING (Radio & Electronic Grade)



Constructed of high quality rayon braid with heavy coatings of varnish applied. The inside is also coated for easy insertion of stranded wires. It is impervious to oil, acid and water. Extremely flexible; it will not crack after aging. Average dielectric strength 5000 volts. Meets all ASTM and VTA No. B-1 Specifications. (30" Lengths)

Cat. No.	B&S Gauge Size No.	Approx. I.D.
291	20	.034
293	18	.042
294	16	.053
295	14	.066
300	12	.085
307	10	.106
301	8	.135
302	6	.166
297	3/16	.208
296	1/4	.263
303	5/16	.3125
304	3/8	.375
299	1/2	.500
296	5/8	.625

COLORS: Black, Red, Green, Yellow, Blue, Brown, Orange.

### BIRNBACH DIAL CABLE 42-STRAND PHOSPHOR BRONZE



Finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

Cat. No.	(.040 Diameter)
1025	25 ft. Spool
1050	50 ft. Spool
1051	100 ft. Spool
1052	1000 ft. Spool

### BRAIDED PHOSPHOR BRONZE DIAL CABLE

(Light — .025 Diameter)

Cat. No.	(.025 Diameter)
1053	25 ft. Spool
1054	50 ft. Spool
1055	100 ft. Spool
1056	1000 ft. Spool

All of the quality cables are constructed of the finest Nylon Braid, over a fiberglass core. They are pre-stretched and chemically treated to prevent stretching and slipping. Has maximum resistance to abrasion.

### EXTRA THIN NYLON DIAL CABLE (.025 Diameter)

Cat. No.	(.025 Diameter)
4025	25 ft. Spool
4050	50 ft. Spool
4051	100 ft. Spool
4052	1000 ft. Spool

Used on Motorola, RCA, GE, etc. Is extra thin!

### REGULAR THIN NYLON CORD (.026 Diameter)

The most popular of all dial cords.

Cat. No.	(.026 Diameter)
2025	25 ft. Spool
2050	50 ft. Spool
2051	100 ft. Spool
2052	1000 ft. Spool

### LIGHT NYLON DIAL CORD (.040 Diameter)

Used extensively in RCA, Philco, Majestic, Wells Gardner, etc.

Cat. No.	(.040 Diameter)
3025	25 ft. Spool
3050	50 ft. Spool
3051	100 ft. Spool
3052	1000 ft. Spool

### HEAVY DUTY NYLON DIAL CORD (.062 Diameter)

Cat. No.	(.062 Diameter)
1057	25 ft. Spool
1058	50 ft. Spool
1059	100 ft. Spool
1060	1000 ft. Spool

As used on models of Philco, Majestic, Brunswick, etc.

### ALUMINUM GROUND WIRE

Approved method for grounding. (Soft drawn). Size No. 8 (1/8" O.D.) Recommended for use by National Electric Code. For grounding mast to ventpipes, gutters, ground rods, etc. against lightning and electrical disturbances.

Cat. No.	(.062 Diameter)
7061	50 ft. coil
7062	100 ft. coil
7063	500 ft. spool
7064	1000 ft. spool

### TUBING IN HANDY SPOOLS



Both the Biraco Extruded Vinyl Tubing and Varnished Tubing are now available on convenient spools, in special length spools and 100-ft. spools in a variety of assorted colors. It is a perfect item for servicemen, laboratories and for manufacturing purposes.



### BIRNBACH BIRACO TUBING (Extruded Vinyl)

Cat. No.	B&S Gauge Size No.	Approx. I.D.	Length Spool
313B	20	.034	25 Ft.
314B	18	.042	25 Ft.
315B	16	.053	25 Ft.
318B	14	.066	25 Ft.
317B	12	.085	25 Ft.
325B	10	.106	15 Ft.
318B	8	.135	15 Ft.
328B	6	.166	15 Ft.
319B	4	.208	10 Ft.
320B	2	.263	10 Ft.
313BC	20	.034	100 Ft.
314BC	18	.042	100 Ft.
315BC	16	.053	100 Ft.
316BC	14	.066	100 Ft.
317BC	12	.085	100 Ft.
325BC	10	.106	100 Ft.
318BC	8	.135	100 Ft.
326BC	6	.166	100 Ft.
319BC	4	.208	100 Ft.
320BC	2	.263	100 Ft.
321BC	5/16	.3125	100 Ft.
322BC	3/8	.375	100 Ft.
323BC	1/2	.500	100 Ft.
324BC	5/8	.625	100 Ft.

COLORS: Red, Black, Green, White, Yellow, Blue, Brown, Clear and Orange.

### BIRNBACH VARNISHED TUBING (Radio and Electronic Grade)

Cat. No.	B&S Gauge Size No.	Approx. I.D.	Length Spool
291V	20	.034	25 Ft.
293V	18	.042	25 Ft.
294V	16	.053	25 Ft.
295V	14	.066	25 Ft.
300V	12	.085	25 Ft.
307V	10	.106	25 Ft.
301V	8	.135	15 Ft.
302V	6	.166	10 Ft.
305V	4	.208	10 Ft.
306V	2	.263	10 Ft.
291VC	20	.034	100 Ft.
293VC	18	.042	100 Ft.
294VC	16	.053	100 Ft.
295VC	14	.066	100 Ft.
300VC	12	.085	100 Ft.
307VC	10	.106	100 Ft.
301VC	8	.135	100 Ft.
302VC	6	.166	100 Ft.
305VC	4	.208	100 Ft.
308VC	2	.263	100 Ft.
303VC	5/16	.3125	100 Ft.
304VC	3/8	.375	100 Ft.
299VC	1/2	.500	100 Ft.
296VC	5/8	.625	100 Ft.

COLORS: Black, Red, Green, White, Yellow, Blue, Brown, and Orange.

### GUY WIRE

Galvanized steel stranded twisted wire. Made of 6 strands No. 20. Fully weather-proofed. 450 lbs. tensile strength.

Cat. No.	Length
19	25 ft. coil
20	50 ft. coil
221	100 ft. coil
220	500 ft. spool
1220	1000 ft. spool

### ECONOMY BRAND GUY WIRE



4 strands of No. 20 high tensile twisted steel galvanized wire. Fully weather-proofed. 225 lbs. tensile strength.

Cat. No.	Length
20A	50 ft.
221A	100 ft.
220A	500 ft.
1220A	1000 ft.

### BIRNBACH COPPERWELD ENAMEL ANTENNA WIRE

Steel core covered with copper and heavily enameled. Will not elongate because of its high tensile strength . . . which is several times that of enameled copper wire. It has low R.F. resistance and is ideal for transmitting doublet and directional antenna systems as it will maintain the frequency characteristics of the antenna because of its stretchless qualities.



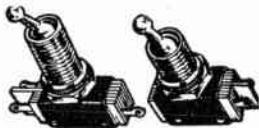
Cat. No.	Size B&S
710	10
712	12
714	14

Available in Following Footages:	Size B&S	Ft. per Lb.	Tensile Strength
100 ft. coils; 250 ft., 500 ft., 1000 ft., 2500 ft. spools	10	34 1/2	1130 lbs.
	12	54	720 lbs.
	14	85	400 lbs.

Specify Length Desired Next to Cat. No.



## BIRNBACH TOGGLE SWITCHES



A very small, high grade UL approved switch. Well adapted for use on small motors, radio and electronic devices. Rated at 3 amps. at 125 volts. Mfd. by H. & H. for Birnbach. Switches nickel plated and supplied with ring and mounting nut. Laminated type.

Cat. No.	Description	Shank Length	Std. Pkge.
6200	SPST	15/32"	25
6201	SPST	3/4"	25
6202	SPDT	15/32"	25
6203	SPDT	3/4"	25
6204	DPST	15/32"	25
6205	DPST	3/4"	25
6206	DPDT	15/32"	25
6207	DPDT	3/4"	25
6208	ON-OFF Toggle Switch Plates Only		10

## BIRNBACH BAT HANDLE TOGGLE SWITCHES



Available in nickel-plated finish and supplied with ring and mounting nut. Made by H. & H. for Birnbach. UL approved.

Cat. No.	Description	Shank Length	Std. Pkge.
6220	SPST	15/32"	25
6221	SPDT	15/32"	25
6222	DPST	15/32"	25
6223	DPDT	15/32"	25

## BIRNBACH POWER SWITCH

DPST switch rated at 12 amps at 125 volts per pole. When a single pole switch is required, the rating can be doubled. The push button power switch has the same rating. Primarily intended as a safety switch to be used as an interlock connection on doors of dangerous high voltage devices. Mfd. by H. & H. for Birnbach. UL approved.



Cat. No.	Description	Std. Pkge.
6225	Toggle Switch	25
6226	Push Button Switch	25

## SMALL APPLIANCE SWITCH



Rated high—3 amps. at 250 volts; 6 amps. at 125 volts. Small molded compact switch 15/32" shank; brass nickel plated with solder lugs and complete with hex nut and ring. One hole mounting. UL approved.

Cat. No.	Description	Std. Pkge.
6244	SPST	25

## CANOPY SWITCH

Has a 3 amp., 125 volts; 1 amp., 250 volts rating. 6" leads. CSA approved.



Cat. No.	Std. Pkge.
6249	Canopy Switch . . . 50

## HEAVY DUTY POWER SWITCH



Recommended for use in transmitters, amplifiers, movie equipment and motors where heavy currents are carried. Made by H. & H. for Birnbach. Nickel plated and rated 10 amps., 125 volts. Neutral off in center position. 2" L., 1" H., 1 1/4" W. Mounting sleeve diam. 3/8". UL approved.

Cat. No.	Description	Std. Pkge.
6227	DPDT	25
6228	3PDT	25
6229	4PDT	10

## BIRNBACH DPDT CENTER OFF SWITCH



Rated at 1 amp., 125 volts. Has lug terminal with bat handle. 15/32" diam. shaft, nickel plated.

6243	St. Pkge.	25
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## BIRNBACH PUSH BUTTON SWITCH

Momentary Contact

Made by H. & H. for Birnbach. Slow make and quick break. Laminated type with solder lugs. No. 6224 is a two circuit slow make and quick break momentary contact switch. One circuit is normally ON and the other is OFF. Pushing the button reverses the circuits in use. Used on many testers and analyzers. Cat. No. 6230 and 6231 are slow make and break switches with circuit normally OFF and push to make. Has 9/16" slotted sleeves, 15/32" diam. Complete with 1 hex nut and one knurled nut. Rated 1 amp., 125 volts. UL approved. Nickel plated.



Cat. No.	Description	Std. Pkge.
6224	DPST	25
6230	SPST	25
6231	DPST	25
6232	Button Only—Red or Black	20

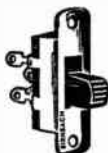
## MOMENTARY PUSH BUTTON SWITCH

Molded momentary push button switch with solder lugs. Rated at 1 amp., 125 volts. With 15/32" shank. Normally OFF—push to make. Nickel plated.



Cat. No.	Description	Std. Pkge.
6233	SPST	25
6234	SPDT	25
6235	DPST	25
6236	DPDT	25

## BIRNBACH SLIDE LEVER SWITCH



Popular for phonographs, tone controls, auto lights, test instruments. Rated at 1 1/2 amps., 110 volts; 1/2" wide by 1 3/8" long. Mounting centers 1 1/4".

Cat. No.	Description	Std. Pkge.
6245	SPST	25
6246	SPDT	25
6247	DPST	25
6248	DPDT	25

## BIRNBACH ROTARY SWITCHES



Made by H. & H. for Birnbach. Rated at 1 amp., 250 volts; 3 amps., 125 volts. Nickel plated and supplied with mounting nut. UL approved.

Cat. No.	Description	Shank Length	Overall Length of Shaft Incl. Shank	Std. Pkg.
6210	SPST	3/8"	1 1/8"	25
6211	SPST	1"	2 1/2"	25
6212	SPDT	3/8"	1 1/2"	25
6213	SPDT	1"	2 1/2"	25
6214	DPST	3/8"	1 1/2"	25
6215	DPST	1"	2 1/2"	25
6216	DPDT	3/8"	1 1/2"	25
6217	DPDT	1"	2 1/2"	25

## BIRNBACH MOLDED BAT HANDLE TOGGLE SWITCHES

Meets Joint Army and Navy Specifications

### JAN-S-23

Made by H. & H. for Birnbach, they meet all Joint Army and Navy Specifications JAN-S-23. Molded with 15/32" Shank length they have back connected lugs and have a bat handle. Maintained contact.



Cat. No.	A.W.S. No.	Description	Shank Length	Std. Pkge.
6250	ST-12-A	SPST	3/8"	25
6251	ST-12-D	SPDT	3/8"	25
6252	ST-22-K	DPST	3/8"	25
6253	ST-22-N	DPDT	3/8"	25

## BAKELITE MOLDED MOMENTARY CONTACT SWITCH

Made by H. & H. for Birnbach. Rated at 3 amps., 250 volts; 6 amps., 125 volts. Molded with 15/32" diam., 15/32" shank. Has momentary contact bat handle. Circuit normally OFF. Used on intercoms. UL approved.



Cat. No.	Description	Shank Length	Std. Pkge.
6241	SPST	15/32"	25
6242	DPDT	15/32"	25

## BIRNBACH KNIFE SWITCHES

Made of special nickel-plated spring brass on a rugged base. Screw terminals located conveniently for easy connections in circuit. Two mounting holes.



Cat. No.	Description	Std. Pkge.
6100	S.P. S.T.	10
6102	S.P. D.T.	10
6103	D.P. S.T.	10
6104	D.P. D.T.	10
6105	T.P. D.T.	10

## PHONO ATTACHMENT PLUG

To be used with recording and reproducing equipment, record players, etc. Large hole in cap for coaxial cable and extra long pin for new type jacks.



Cat. No.	Std. Pkge.
248	Phono Plug (Long Pin) . . . . . 100
248S	Phono Plug (Short Pin) . . . . . 100

## PHONO JACK



Designed to fit No. 248 Plug. Positive grip, single prong. Mounted on 3/8" bakelite. 3/8" mounting centers.

Cat. No.	Std. Pkge.
249	Phono Jack . . . . . 100

## DUAL PHONO JACK



Used on phono players and recording units, etc., where dual application is needed.

Mounted on 3/8" bakelite. Double mounting holes are spaced 1/2" x 1 1/8". 3/8" center to center of jacks.

Cat. No.	Std. Pkge.
7250	Dual Phono Jack . . . . . 100



### BIRNBACH INSULATED PHONE TIP (SCRULOK)



1" long, 5/16" dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing).

COLORS: Red, Black, Green, Blue and Yellow.  
Cat. No. Std. Pkg.  
412—Scrulok Pin Tip, 1-9/16" Long.....50  
419—Scrulok Pin Tip, 1-15/16" Long.....50

### INSULATED Solderless PHONE TIPS



They have insulated handles 3/8" dia. by 1" long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut.

COLORS: Red, Black, Green, Blue and Yellow.  
Cat. No. Std. Pkg.  
409—Insulated Sr. Solderless Tip  
2 1/2" Long.....50  
415—Insulated Jr. Solderless Tip  
1-13/16" Long.....50

### No. 407 INSULATED TIP JACK



7/16" insulated top; mounts in a 5/16" dia. hole. The specially designed bronze springs hold the phone tip tight and straight.

COLORS: Red, Black, Yellow, Green.  
Cat. No. Std. Pkg.  
407—Insulated Phone Tip Jack...100

### No. 330 INSULATED NEEDLE POINT PLUG



The insulated sleeve is 3/4" long. Positive contact is assured with the sharp needle point phone tip. Body of plug accommodates all standard banana type plugs; easily pierces insulation.

Available in Black or Red.

Cat. No. Std. Pkg.  
330—Insulated Needlepoint Plug.....50

### No. 331 INSULATED PHONE TIP PLUG



Plugs into all standard phone tip jacks. The 3/4" long insulated sleeve is designed to accommodate all standard banana type plugs. Overall length 1 1/2". Available in Black, Red, Yellow and Green.

Cat. No. Std. Pkg.  
331—Insulated Phone Tip Plug.....50  
331A—Tip Only.....50

### No. 332 INSULATED SPADE LUG

Sleeve measures 3/4" long by 3/8" diameter. Barrel accommodates all standard banana type plugs. Available in Red or Black.

Cat. No. Std. Pkg.  
332—Insulated Spade Lug.....50  
332A—Spade Only.....50



### TEST CLIPS

The No. 27-C is a solid copper clip with a brass screw designed for high frequency work.

Cat. No.	Length	Jaw Spread	Std. Pkg.
27—Pee Wee	1 1/2"	3/8"	50
28—Midget	2"	3/8"	50
29—Medium	2 3/4"	1"	50
30—Large	4"	1 3/4"	50
27C—Pee Wee Copper	1 1/2"	3/8"	50
27R—Rubber Sleeve—Red or Black			50

### No. 404 INSULATED BANANA PLUG



It has the Scrulok solderless connection and the non-collapsible special alloy springs assembled on a pin preventing collapse of the plug spring. The handle is made of phenolic resin and is 3/4" wide by 1" long.

COLORS: Red, Black, Yellow, Blue and Green.  
Cat. No. 404.....Std. Pkg. 50

### No. 404B SPRING BANANA PLUG



Same construction as No. 404 above except with small side screw for wire connection.

COLORS: Red, Black, Yellow, Blue and Green.  
Cat. No. 404B.....Std. Pkg. 50



### No. 604 BANANA PLUG

Solid brass nickel-plated, with the end slotted. Cast phenolic handle is 1" long by 3/8" dia. and is held on by the screw that secures wire to plug.

COLORS: Red, Black, Yellow, Green and Blue.  
Cat. No. 604.....Std. Pkg. 50

### No. 341 INSULATED BANANA PLUG



This plug consists of our No. 404A plug with a larger handle 1 7/8" long by 1/2" dia. Used on therapeutic apparatus and test equipment. Overall length 2 3/4". COLORS: Red or Black.

Cat. No. 341.....Std. Pkg. 50



### No. 392 INSULATED GIANT PLUG

No projecting edges are exposed.

Connection is made by soldering into the hole at the end of the threaded shank of the plug. Handle is 1 3/4" long by 3/8" dia.; length overall 3". COLORS: Red or Black.

Cat. No. 392.....Std. Pkg. 50

### No. 342 HARD RUBBER INSULATED GIANT PLUG



Designed for use with diathermy cables. It has a 3/8" dia. hole in the handle to take the largest cable. Polished black hard rubber. The handle is 3" long by 3/8" dia. Overall length is 4 1/2". COLORS: Red or Black

Cat. No. 342.....Std. Pkg. 50

### No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jack. Handle is made of cast phenolic resin 3/8" dia. by 1 1/4" long. COLORS: Red, Black, Yellow and Green.

Cat. No. 605.....Std. Pkg. 50

### Nos. 391 and 406 INSULATED BANANA JACKS



1/2" dia. Insulated head admits all of the exposed metal part of the metal plug when inserted. Mounts in a 5/16" dia. hole on a panel up to 3/8" thick. No. 406 Jack has a 7/16" dia. insulated top. It fits into 5/16" dia. hole and takes up to a 3/8" panel. Both with insulating shoulder washer, nut and lug.

Cat. No. Std. Pkg.  
391—Insulated Jack—Red, Black, Yellow, Green...50  
406—Insulated Jack—Red, Black, Yellow, Blue, Green.....50

### No. 393 INSULATED GIANT JACK



Designed to leave no metal part exposed on the panel. The 3/8-21 brass nickel plated sleeve has a 10-32 threaded hole at the end permitting a connection at the end of the jack or to the lug under the head. Either assembly available complete with nut, insulating shoulder washer, lock-washer and lug. Length overall 1 3/4".

COLORS: Red or Black.  
Cat. No. Std. Pkg.  
393—Insulated Giant Jack  
lug under head.....50  
393A—Insulated Giant Jack  
lug at end.....50

### No. 333 INSULATED COMBINATION JACK



Accommodates all standard plugs of the phone tip or banana type construction. 3/4" hole mounting in panels up to 1/2" thick. Overall length 1 3/4". Supplied complete with insulating shoulder, washer and nut. Insulated head comes in following colors: Black, Red, Green or Yellow.

Cat. No. 333.....Std. Pkg. 50

### No. 310 INSULATED ALLIGATOR CLIP



Steel nickel plated. The insulated handle is 3/4" dia. and 3/8" long and 2 1/4" overall and comes in Red or Black.

Cat. No. 310.....Std. Pkg. 50

### No. 334 ALLIGATOR CLIP WITH PHONE TIP JACK



1" long insulated handle houses a tip jack that accommodates all standard phone tip plugs. Overall length 2 3/4". COLORS: Red or Black.

Cat. No. 334.....Std. Pkg. 50

### No. 335 ALLIGATOR CLIP COMBINATION JACK

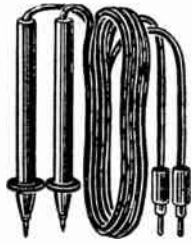


Insulated alligator clip is composed of a combination jack in rear for both standard phone tip plugs and banana plugs. 1-9/16" length of handle. Overall length 3". Available in Red or Black.

Cat. No. 335.....Std. Pkg. 50



### HEAVY DUTY HIGH VOLTAGE TEST LEADS



Safely tests up to 15,000 volts. High dielectric strength and low leakage resistance. Has low voltage drop. Prods and tip handles are made of black and red bakelite with special tip for application. Cable constructed of No. 18-66/36 tinned copper with heavy duty rubber wall. Prods are 6" long and 1/2" dia. and have a protective rugged guard ring near the metal tip. The other end has 1 1/4" x 1/2" dia. bakelite prods. All prods and cable color coded. The leads are 60" long.

Cat. No. 562—Heavy Duty High Voltage Test Leads....10

### BAKELITE PENCIL TYPE TEST LEADS (SCRULOK)



Red and black bakelite handles, 6" long and 5/16" in dia., and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. Length overall 60".

Cat. No. 408—Bakelite Pencil Type Test Lead.....10  
439—Needlepoint Prod Tip for Replacement....10

### DELUXE TEST LEADS



Constructed with 5" long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48" long is used to connect the prods with the insulated red and black cast phenolic solderless tips.

Cat. No. 560—Solderless.....25  
561—Needlepoint.....25

### NEEDLEPOINT TEST LEADS



These test leads have 4" red and black insulated handles. A needlepoint chuck is fitted to the handle. Needles can be replaced when broken simply by loosening the knurled collar. Length overall 50".

Cat. No. 420—Needlepoint Phone Tip Test Leads.....25  
421—Needlepoint Spade Lug Test Leads.....25

### STANDARD TEST LEADS



A Sr. solderless phone tip is fitted to a red and black insulated handle 4" long. This permits replacement of wire when broken. The wire is secured by tightening the knurled nut. Length overall 50".

Cat. No. 422—Solderless Phone Tip Test Leads.....25  
423—Solderless Spade Lug Test Leads.....25

### PHONE TIPS



The 402 is 1" in overall length and fits all standard phone tip jacks. Hole is drilled for 7/64"; length of barrel is 1/2". Brass, nickel plated.

The 402A has a large drilled hole 5/32" I.D.; 7/16" barrel length; 1" overall. Made of brass with nickel plated finish.

Cat. No. 402—Phone Tips.....100  
402A—Larger Diameter.....100

### HEAVY DUTY HIGH VOLTAGE BAKELITE TEST PROD HANDLES



Same as used on No. 562. 6" long and 1/2" dia. with flange guard control. The rear of the prod can accommodate 1N-34 crystal and condenser for use as an RF probe. Tips are heavy brass with nickel plating. Available in Red and Black.

Cat. No.	Handle Length	Handle Width	Overall Length
559	6"	1/2"	6-15/16"
558	1 1/4"	1/2"	2 3/4"



### No. 411 BAKELITE PENCIL TEST PRODS

These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6" long and 5/16" dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in Red or Black.

Cat. No. 411—Bakelite Pencil Test Prods.....12

### NEEDLEPOINT TEST PROD



A threaded shank needlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in Red or Black.

Cat. No.	Handle	Std. Pkg.
344	4" Handle	50
345	5" Handle	50

### SCRULOK NEEDLEPOINT TEST PROD



These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip.

COLORS: Black or Red

Cat. No.	Handle	Std. Pkg.
417	4" Handle	50
418	5" Handle	50

### SOLDERLESS TEST PROD



Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip. Available in Red or Black.

Cat. No.	Handle	Std. Pkg.
410	4" Handle	50
343	5" Handle	50

### SOLDERLESS PHONE TIPS



These phone tips are milled of solid brass and nickel plated. Designed for easy insertion of the wire.

Cat. No. 23—Junior.....100  
24—Senior.....100



### No. 26 PHONE TIP JACK



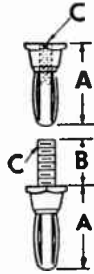
Milled of brass nickel plated. The bronze springs are made to hold the phone tip tight and straight. Mounts in a 1/4" dia. hole.

Cat. No. 26.....Std. Pkg. 100

### BIRNBACH GIANT PLUGS



The Giant Plugs are intended for use where heavy current is used. They are rated at 25 amps. The long life nickel silver alloy spring is secured over a pin preventing a collapse of the spring and also maintaining the full spring action of the spring when inserted into the jack. The No. 398A plug has a hole in the thread shank to permit soldering to it. It is used extensively on diathermy electrode pad cables.

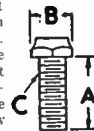


Cat. No.	Std. Pkg.	A	B	C
396	Plug 25	1-5/32	—	10-32
397	Plug 25	1-7/16	—	3/4-20
398	Plug 25	1-5/32	5/8	1/4-28
398A	Plug 25	1-5/32	5/8	3/4-28

### BIRNBACH GIANT JACKS



Carefully milled with the central hole being reamed to size to insure a tight and wobble free fit with all Giant Plugs. The No. 394 and No. 399A have a 10-32 thread tapped at the end permitting connection to be made there with the use of a screw and lug. Made of brass and nickel-plated. Complete with nut and lug.



Cat. No.	Std. Pkg.	A	B	C
394	Jack 25	1-1/16	1/2	5/8-24
395	Jack 25	11/16	1/2	5/8-24
399	Jack 25	5/8	5/8	1/2-20
399A	Jack 25	1 1/4	5/8	1/2-20

### BIRNBACH BANANA PLUGS



Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of plugs have a nickel silver contact spring secured over a full length central pin, making these plugs non-collapsible and assuring a low resistance contact. Capacity 5 Amperes.



Cat. No.	Std. Pkg.	A	B	C
400	Plug 100	5/8	1/2	6-32
401	Plug 100	31/32	1/2	6-32
404A	Plug 100	5/8	3/8	1/4-28

### BIRNBACH No. 403 BANANA JACK



Accurately milled. Precision reamed hole helps maintain the tight and smooth action of the plug. Brass nickel plated. With nut and lug.

Cat. No.	Std. Pkg.	A	B	C
403	100	1/2	5/8	1/4-28

### No. 31 ALLIGATOR CLIP

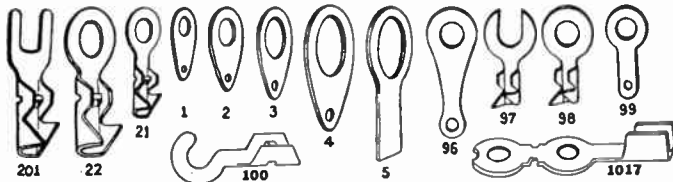


Nickel plated steel.

Cat. No.	Length	Std. Pkg.
31	2"	50



## BIRNBACH TINNED TERMINAL LUGS



Cat. No.	Hole for Screw	Length In.	Std. Pkg.
1	6	9/16	1000
2	10	5/8	1000
3	1/4	5/8	1000
4	3/8	7/8	1000
5	1/2	1-3/16	1000
21	10	1-3/16	1000
22	1/4	1-3/32	1000
201	8	1-3/16	1000
96	6-8-10	7/8	1000
97	8	5/8	1000
98	6-8-10	11/16	1000
99	4-6-8	11/16	1000
100	10	7/8	1000
1017 (TV)	10	13/16	1000

## BIRNBACH LUGS IN PACKAGES



Specify "D" for Display Card

Cat. No.	Quan. in Env.	Lug No.	Cat. No.	Quan. in Env.
1-50	50	1	1-100	100
2-50	50	2	2-100	100
3-50	50	3	3-100	100
21-35	35	21	21-100	100
22-15	15	22	22-100	100
201-35	35	201	201-100	100
96-40	40	96	96-100	100
97-40	40	97	97-100	100
98-35	35	98	98-100	100
99-35	35	99	99-100	100
100-20	20	100	100-100	100
1017-10	10	1017	1017-100	100

## FOLD-OVER SOLDERLESS TERMINAL LUGS

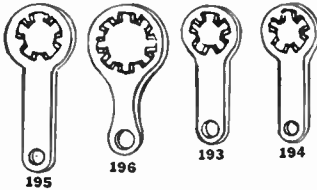
Use this lug for easy, positive vibration-proof terminal connections at antenna mast and for permanent connections at receiver. Simply lay bare wire into groove and fold over. No special tools necessary. For No. 10 hole.



Cat. No.	Quan. in Pkgs.	St. Carton
1017-10	10 (Envelope)	25 Pkgs.
1017-50	50 (Envelope)	25 Pkgs.
1017-100	100 (Envelope)	12 Pkgs.
1017-1000	1000 (Box)	10 Pkgs.

## BIRNBACH LOCKING TYPE TERMINAL LUGS

Brass Electro Plated

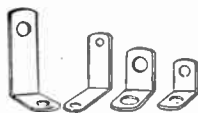
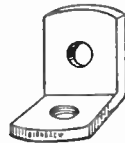


Cat. No.	Hole for Screw	Thickness	Std. Pkg.
193	4	.020"	1000
194	6	.020"	1000
195	8	.020"	1000
196	1/4"	.020"	1000

## TAPPED ANGLE BRACKET

Steel cadmium plated. 1/2" by 1/2". One plain .165 hole and one 8/32 tapped hole.

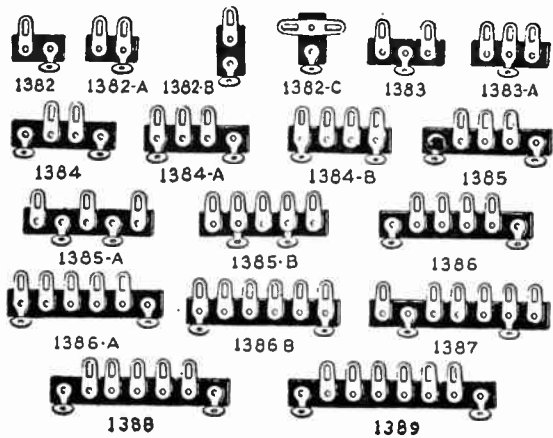
Cat. No.	Std. Pkg.
1120	100



## BRASS AND STEEL ANGLES

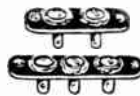
Cat. No.	Material	Size	Std. Pkg.
1121	Brass N.P.	1/2" x 1/2"	100
1122	Brass N.P.	5/8" x 5/8"	100
1123	Steel H.T.	3/4" x 3/4"	100
1124	Steel H.T.	5/8" x 1 1/8"	100

## BIRNBACH LUG TERMINAL STRIPS



Cat. No.	Std. Pkg.	Cat. No.	Std. Pkg.
1382	100	1385	100
1382A	100	1385A	100
1382B	100	1385B	100
1382C	100	1386	100
1383	100	1386A	100
1383A	100	1386B	100
1384	100	1387	100
1384A	100	1388-5 Ter., 2 grds.	100
1384B	100	1389-6 Ter., 2 grds.	100

## BIRNBACH BAKELITE TERMINAL STRIPS



Terminals are made of brass and cadmium plated. Terminals are mounted on 1/16" bakelite. 7, 8, 9 and 10 terminals are mounted on 3/32" bakelite. All terminals are space 7/16" center to center.

PLAIN			MARKED		
Cat. No.	Terminals	Mtg. Center	Cat. No.	Terminals	Marked
1372	2	1-1/8"	1260	2;	A-G
1373	3	1-3/8"	1261	2;	Output
1374	4	2-3/8"	1262	2;	Input
1375	5	2-5/8"	1263	3;	1-2-3
1376	6	3-3/8"	1264	4;	1-2-3-4
1377	7	3-1/2"	1265	5;	1-2-3-4-5
1378	8	3-3/4"	1266	6;	1-2-3-4-5-6
1379	9	4-3/8"			
1380	10	4-1/2"			

## TERMINAL STRIPS 2 POST



Excellent mounting for twin lead transmission lines. Brass hot tinned lugs spaced 1/2" center to center. 3/8" bakelite. 1 3/8" mounting center.

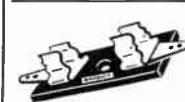
Cat. No. T16	Std. Pkg.
116	50



## BIRNBACH 3 POST

A synchronizing lock strip for RCA type television receivers. Brass hot tinned lugs. Spaced 1/2" center to center. Mounting center 1 1/4". 3/8" bakelite.

Cat. No. T16A	Std. Pkg.
T16A	50



## FUSE MOUNT BASE

Protects high voltage and similar type circuits. Takes 3 AG auto fuse. 1/2" bakelite.

T15	Std. Pkg.
T15	50



### ROUND HEAD MACHINE SCREWS

Standard Package 1000

STEEL NICKEL PLATED			BRASS NICKEL PLATED		
Cat. No.	Size	Std. Pkg.	Cat. No.	Size	Std. Pkg.
6300	2-56 x 3/8"	1000	6400	4-36 x 3/4"	1000
6301	2-56 x 1/2"	1000	6401	4-36 x 1"	1000
6302	2-56 x 5/8"	1000	6402	4-36 x 1 1/4"	1000
6303	3-48 x 3/8"	1000	6403	4-36 x 1 1/2"	1000
6304	4-36 x 3/8"	1000	6404	4-36 x 1 3/4"	1000
6305	4-36 x 1/2"	1000	6312	4-40 x 3/8"	1000
6306	4-36 x 5/8"	1000	6313	4-40 x 1/2"	1000
6307	4-40 x 3/8"	1000	6314	4-40 x 1/2"	1000
6308	4-40 x 1/2"	1000	6315	4-40 x 3/4"	1000
6309	4-40 x 5/8"	1000			
6420	6-32 x 3/8"	1000			
6421	6-32 x 1/2"	1000	6405	6-32 x 3/4"	1000
6422	6-32 x 5/8"	1000	6406	6-32 x 1"	1000
6423	6-32 x 3/4"	1000	6407	6-32 x 1 1/4"	1000
6424	6-32 x 1"	1000	6408	6-32 x 1 1/2"	1000
6425	6-32 x 1 1/4"	1000	6409	6-32 x 1 3/4"	1000
6426	8-32 x 3/8"	1000	6410	6-32 x 1"	1000
6427	8-32 x 1/2"	1000	6411	6-32 x 1 1/4"	1000
6428	8-32 x 5/8"	1000	6412	6-32 x 1 1/2"	1000
6429	8-32 x 3/4"	1000	6413	8-32 x 3/8"	1000
6430	8-32 x 1/2"	1000	6414	8-32 x 1/2"	1000
6431	8-32 x 5/8"	1000	6415	8-32 x 3/4"	1000
6432	8-32 x 1"	1000	6416	8-32 x 1"	1000
6433	10-32 x 3/8"	1000	6417	8-32 x 1 1/4"	1000
6434	10-32 x 1/2"	1000	6418	8-32 x 1"	1000
6435	10-32 x 5/8"	1000			
6436	10-32 x 1"	1000			
6437	10-32 x 1 1/4"	1000	6316	10-32 x 3/4"	1000
6438	10-32 x 1 1/2"	1000	6317	10-32 x 1"	1000
6439	10-32 x 1 3/4"	1000	6318	10-32 x 1 1/4"	1000
6310	1/4-20 x 1 1/4"	1000	6319	10-32 x 1"	1000
6311	1/4-20 x 2"	1000	6320	10-32 x 1"	1000



### BINDING HEAD MACHINE SCREWS

Steel Nickel Plated

Cat. No.	Size	Std. Pkg.
6321	6-32 x 3/4"	1000
6322	6-32 x 1"	1000
6323	6-32 x 1 1/4"	1000
6324	6-32 x 1 1/2"	1000
6325	8-32 x 1"	1000
6326	8-32 x 1 1/4"	1000

### OVAL HEAD RACK SCREWS

Brass Nickel Plated

Widely used for mounting panels on racks and cabinets. Screws are nickel-plated brass.



Cat. No.	Size	Std. Pkg.
6600	6-32 x 1/4"	1000
6601	6-32 x 3/8"	1000
6602	6-32 x 1/2"	1000
6603	6-32 x 5/8"	1000
6604	6-32 x 3/4"	1000
6605	8-32 x 3/8"	1000
6606	8-32 x 1/2"	1000
6607	8-32 x 5/8"	1000
6608	8-32 x 3/4"	1000
6609	10-32 x 3/8"	1000
6610	10-32 x 1/2"	1000
6611	10-32 x 5/8"	1000
6611-A	10-32 x 3/4"	1000



### ORNAMENTAL HEAD SCREWS

Steel—Statuary Bronze Finish

Cat. No.	Size	Std. Pkg.
6327	6-32 x 3/4"	1000
6328	6-32 x 1"	1000
6329	8-32 x 1 1/4"	1000



### WING NUTS

High quality brass nickel plated wing nut used extensively on portable and test instruments.

Cat. No.	Thread	Std. Pkg.
6	6-32	1000
8	8-32	1000
10	10-32	1000
11	1/4-20	1000



### BRASS AND STEEL WOOD SCREWS

Round, Flat and Oval Heads

BRASS NICKEL PLATED			STEEL NICKEL PLATED		
Cat. No.	Size	Std. Pkg.	Cat. No.	Size	Std. Pkg.
6460	3/8 x #4	144	6470	3/8 x #4	144
6461	1/2 x #4	144	6471	1/2 x #4	144
6462	5/8 x #5	144	6472	5/8 x #5	144
6463	3/4 x #5	144	6473	3/4 x #5	144
6464	1 x #5	144	6474	1 x #5	144
6465	1 1/4 x #6	144	6477	1 1/4 x #6	144
6466	1 1/2 x #6	144	6476	1 1/2 x #6	144
			6478	3/4 x #8	144



### BIRNBACH SHEET METAL SELF TAPPING SCREWS

Steel Cadmium Plated  
TYPE A — SHARP POINT

Cat. No.	Size	Std. Pkg.
6500	#8 x 1/4"	144
6501	#8 x 3/8"	144
6502	#8 x 1/2"	144
6503	#8 x 5/8"	144
6504	#8 x 3/4"	144
6540	#8 x 1"	144
6541	#8 x 1 1/4"	144
6542	#8 x 1 1/2"	144
6543	#10 x 1"	144
6506	#10 x 1"	144
6507	#10 x 1"	144



### BIRNBACH HEX HEAD SELF TAPPING SCREWS

TYPE B — BLUNT POINT SLOTTED  
Steel Cadmium Plated

Cat. No.	Size	Std. Pkg.	Cat. No.	Size	Std. Pkg.
6510	#6 x 3/8"	144	6515	#8 x 1/4"	144
6511	#6 x 1/2"	144	6516	#8 x 3/8"	144
6512	#6 x 5/8"	144	6517	#8 x 1"	144
6513	#8 x 3/4"	144	6518	#10 x 1/2"	144
6514	#8 x 1"	144	6519	#10 x 1"	144



### HEXAGON STEEL MACHINE SCREW NUTS

Nickel Plated

Cat. No.	Thread Size	Width across Flats	Thickness	Std. Pkg.
6330	2-56	3/16"	1/16"	1000
6331	3-48	3/16"	1/16"	1000
6332	4-36	1/4"	3/32"	1000
6333	4-40	1/4"	3/32"	1000
6448	6-32	1/4"	3/32"	1000
6449	6-32	5/16"	7/64"	1000
6334	8-32	1/4"	3/32"	1000
6450	8-32	5/16"	7/64"	1000
6335	10-32	3/8"	1/8"	1000
6736	1/4-20	7/16"	3/16"	1000



### HEXAGON MACHINE SCREW NUTS

BRASS—NICKEL PLATED

Cat. No.	Thread Size	Width across Flats	Thickness	Std. Pkg.
6440	4-36	1/4"	3/32"	1000
6442	4-40	1/4"	3/32"	1000
6441	6-32	1/4"	5/64"	1000
6443	6-32	5/16"	7/64"	1000
6444	8-32	11/32"	1/8"	1000
6445	10-32	5/16"	7/64"	1000
6446	10-32	3/8"	1/8"	1000
6447	1/4-20	7/16"	1/8"	1000



### BIRNBACH VOLUME CONTROL & TOGGLE NUTS

BRASS—NICKEL PLATED

No.	Type	Size	Std. Pkg.
6337	Volume Control	3/32 x 1/2 x 3/32	1000
6338	Toggle Switch	15-32 x 9/16 x 5/64	1000
6339	Toggle Ring Nut	15-32 x 5/8 x 1/16	1000

### BIRNBACH TUBE CLAMPS



Desirable when mounting resonant lines or elements of directive beam antennas. Made of hard drawn aluminum. The 5/16", 3/8" and 1/2" have holes for No. 10 screw and the 3/4" and 1" dia. clamps have holes for 3/4" bolts.

Cat. No.	To Fit Tube	Std. Pkg.
51—Clamp	1/4" Dia.	100
52—Clamp	3/8" Dia.	100
53—Clamp	1/2" Dia.	100
54—Clamp	3/4" Dia.	100
55—Clamp	1" Dia.	50
57—Clamp	1 1/4" Dia.	50
56—Clamp	1" Dia.	50

### BIRNBACH CABLE CLAMPS

Standard Package of 100



Cat. No.	To fit Cable	L.	W.	Hole
1153	1/4"	7/8"	1/4"	4
1154	3/8"	5/8"	3/8"	6
1155	1/2"	1 1/8"	3/8"	6
1156	3/4"	1 1/4"	3/8"	6
1157	1"	1 1/2"	3/8"	10



### FINISHING RACK WASHERS

Brass Nickel Plated

Cat. No.	Size	Std. Pkg.
6612	6-32 Cup Washer	100
6613	8-32 Cup Washer	100
6614	10-32 Cup Washer	100



### BIRNBACH BRASS NICKEL PLATED FLAT WASHERS

Cat. No.	Fits Screw No.	Hole Size	O.D.	Thickness	Std. Pkg.
6479	4	.118"	9/32"	.025"	1000
6480A	6	.145"	5/16"	.025"	1000
6480	6	.145"	3/8"	.025"	1000
6481	8	.172"	3/8"	.032"	1000
6482	10	.203"	7/16"	.036"	1000
6483	1/4-20	.265"	9/16"	.040"	1000



### STEEL KANTLINK LOCKWASHERS

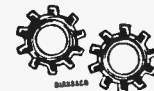
Cat. No.	Screw Size	O.D.	Thickness	Std. Pkg.
6484	4	3/16"	1/32"	1000
6485	6	15/64"	1/32"	1000
6486	8	15/64"	.025"	1000
6487	10	5/16"	.050"	1000
6488	3/4	7/16"	5/64"	1000



### SHAKEPROOF LOCKWASHERS

INTERNAL TEETH

Cat. No.	Screw Size	Std. Pkg.
6355	2	1000
6356	3	1000
6357	4	1000
6490	6	1000
6491	8	1000
6492	10	1000
6493	1/4	1000
6494	3/8	1000



### SHAKEPROOF LOCKWASHERS

EXTERNAL TEETH

Cat. No.	Screw Size	Std. Pkg.
6358	4	1000
6359	6	1000
6360	8	1000
6361	10	1000
6362	1/4	1000
6363	3/8	1000



### BIRNBACH SPEED NUTS TEMPERED STEEL PARKERIZED

These speed nuts are self locking and help reduce assembly time. They prevent loosening from vibration, eliminate need of washers and stand up under abuse. For use with machine screws.

Cat. No.	Thread Size	Length	Width	Thickness	Std. Pkg.
6350	4-36	3/8"	1/4"	.012"	1000
6351	6-32	7/16"	9/16"	.017"	1000
6352	8-32	1/2"	5/16"	.017"	1000
6353	10-24	5/8"	3/8"	.022"	1000
6354	1/4-20	3/4"	1/2"	.025"	1000

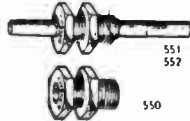


### BIRNBACH SPEED NUTS TEMPERED STEEL PARKERIZED For use with sheet metal screws.

Cat. No.	Thread Size	Length	Width	Thickness	Std. Pkg.
6350A	4A	3/8"	1/4"	.022"	1000
6351A	6A	1/2"	5/16"	.025"	1000
6352A	8A	5/8"	13/32"	.028"	1000
6353A	10A	3/4"	1/2"	.031"	1000
6354A	14A	7/8"	9/16"	.037"	1000

### BIRNBACH FRONT PANEL BEARING

Cadmium plated brass for panels up to 3/8" in thickness and for 1/4" dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and 1/4" dia. brass shaft cadmium plated.



Cat. No.	Std. Pkg.
550—Front Panel Bearing	50
551—Front Panel Bearing, 1/2" shaft, 3" long	50
552—Front Panel Bearing, 1/4" shaft, 6" long	25

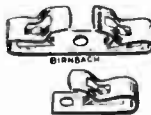
### BIRNBACH FLEXIBLE SHAFTS

With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into 1/4" dia. hubs.

Cat. No.	Std. Pkg.
553—Flexible Shaft 3" long	25
554—Flexible Shaft 6" long	25

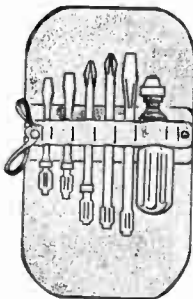
### BIRNBACH SPRING WIRE CLIPS

They will hold a wire up to No. 10 B&S Gauge in a secure contact. All clips are brass nickel plated.



Cat. No.	Length	Width	Mfg. Hole	Std. Pkg.
32A—Spring Clip	3/4"	5/8"	6	100
32—Spring Clip	1"	5/8"	10	100
33—Twin Clip	1 3/4"	7/8"	10	50

### 6 PIECE SCREW DRIVER SET



Unbreakable, shock-proof, non-inflammable amber handle, with flange aluminum screw chuck. Blades hardened, tempered and fully polished. For most TV and Radio work.

Blade Size	Qty.
1—Cabinet Blade 1/2" x 3 1/2"	1
1—Cabinet Blade 3/8" x 3 1/2"	1
1—Mechanic Blade 1/4" x 5 1/2"	1
1—Recessed Head (=1) Blade 3/8" x 4 1/2"	1
1—Recessed Head (=2) Blade 1/4" x 4 1/2"	1
1—Amber Handle with Chuck	1

All in attractive leatherette case. Wt. 5 lbs. Cat. No. 3618. Std. Pkg. 12

### BRASS BUSHING AND SPACERS



For raising sub panels, chassis, condensers, transformers, etc. Hole will accommodate a No. 6 or No. 8 screw.

For No. 6	1/4" O.D.	For No. 8
1125 100	1/4"	1130 100
1126 100	3/8"	1131 100
1127 100	1/2"	1132 100
1128 100	5/8"	1133 100
1129 100	3/4"	1134 100
<b>3/8" O.D.</b>		
1135 100	1/4"	1140 100
1136 100	3/8"	1141 100
1137 100	1/2"	1142 100
1138 100	5/8"	1143 100
1139 100	3/4"	1144 100

### INSULATED BUSHINGS & SPACERS

For No. 6	1/4" O.D.	For No. 8
1145 100	1/4"	1149 100
1146 100	3/8"	1150 100
1147 100	1/2"	1151 100
1148 100	5/8"	1152 100

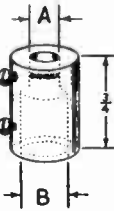


### SHAFT COUPLINGS, REDUCERS AND EXTENDERS

By the use of these units all 1/4" and 3/8" dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown.



Brass No.	Insul. No.	Shaft A	Hole B
534	634	1/4"	1/4"
535	635	1/4"	3/8"
536	636	3/8"	1/4"
537	Reducer for 3/8" dia. hole to 1/4" dia. shaft		



Brass No.	Insul. No.	Shaft A	Hole B
531	631	1/4"	1/4"
532	632	1/4"	3/8"
533	633	3/8"	3/8"



Length	538 Brass	539 Insul.
Hole I.D.	1/4"	1/4"
Shaft O.D.	1/4"	1/4"



No.	Dia.	Length
540	1/4"	6"
541	1/4"	12"
542	3/8"	8"

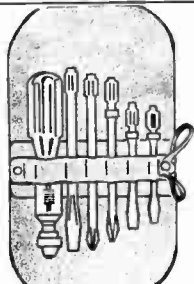


No.	Dia.	Length
543	1/4"	6"
544	1/4"	12"
545	3/8"	8"

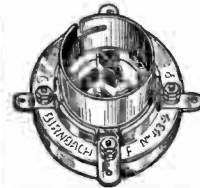
### RATCHET HANDLE SCREW DRIVER SET

6 piece set. Same as above but with ratchet amber handle. (3 way: left, right and rigid). Weight: 5 lbs.

Cat. No.	Std. Pkg.
3619	12



### TRANSMITTING TUBE SOCKETS



50-Watt socket has extra heavy side wiring phosphor bronze contact spring with the filament spring having a double contact to safely carry the heavy current.

Std. Pkg.	
434—50 Watt	25
435—10 Watt	25

### AIRPLANE INSULATORS

Used on mobile and aircraft and also with guy wire on TV installations. Shaped for the least air resistance; have very high tensile strength and low loss. Nos. 473 and 474 made of white glazed low absorption porcelain. No. 472 made of wet-process glazed brown porcelain.



Cat. No.	Std. Pkg.
472—2 1/4" (brown)	25
473—2" (white)	100
474—1 1/2" (white)	100

### LEADIN INSULATORS



Each cone 2 1/4" high, made of low absorption, vitrified glazed porcelain. The Nos. 4237 and 4238 have insulating bushings to insulate rod that goes through the wall. 2 bushings are included, 1/4" and 1/2" long, allowing complete insulation of the threaded rod of any length in multiples of 1/2". Complete with brass nickel plated hardware and lead and cork washers to permit water-tight seal.

Cat. No.	Description	Std. Pkg.
4235	10" Rod	10
4236	15" Rod	10
4237	10" Rod with bushings	10
4238	15" Rod with bushings Individually Boxed	10



### BEE-HIVE STANDOFF

Base measures 2" dia. with 3 holes on a 1 1/4" circle, for No. 6 screws. Complete with 12-24 nickel plated brass screw and nuts. No. 766J has a No. 403 Jack. Available white or brown glaze.

Cat. No.	Hardware	Std. Pkg.
766	Standoff Insulator, 12-24 Screw	10
766J	Jack Type, No. 403 Jack	10



### PORCELAIN TUBES

To bring a lead-in into a building. 3/8" diameter hole required.

Cat. No.	Length	Thread	Std. Pkg.
42—2"			100
43—3"			100
44—4"			100
46—6"			100
48—8"			100

### BIRNBACH THREADED RODS

These brass nickel plated threaded rods are standard parts of our insulator assemblies.

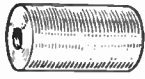
Cat. No.	Length	Thread	Std. Pkg.
16	4"	1/4-20	1000
17	5 1/2"	1/4-20	1000
18	10"	1/4-20	1000
113	15"	1/4-20	1000
114	3"	10-32	1000
115	3 1/2"	10-32	1000
116	2 1/4"	10-32	1000
117	8"	10-32	1000
118	8"	8-32	1000
119	8"	6-32	1000
15	2"	6-32	1000

# Birnbach

Ceramic • Lucite • Steatite Insulators \* Standoff  
Pillar • Cone • Feedthru • Button • Antenna



## BIRNBACH STEATITE PILLARS

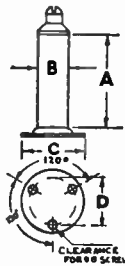


(Without Hardware)

In many constructions, these unmounted threaded steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of glazed Steatite with threaded holes on both sides.

Cat. No.	Height	Dia.	Threaded Hole	Std. Pkg.
443	1/2	1/2	6-32	100
444	3/4	1/2	6-32	100
445	1	1/2	6-32	100
446	1 1/2	1/2	6-32	100
447	2 1/2	1/2	6-32	100
448	2 1/2	3/4	1/4-20	50
449	4	3/4	1/4-20	50

## BIRNBACH STEATITE PILLARS



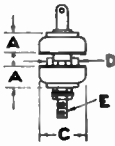
Have great tensile strength with extremely low losses at very high frequencies. Tapped on both ends; supplied with nickel plated mounting base and top hardware.

Cat. No.	Height	Std. Pkg.	Dimen. B	Base Dia. C	D	Hardware
450	1"	10	1/2"	1 1/8"	7/8"	6-32
450J	1"	10	1/2"	1 1/8"	7/8"	403 Jack
451	1 1/2"	10	1/2"	1 1/8"	7/8"	6-32
451J	1 1/2"	10	1/2"	1 1/8"	7/8"	403 Jack
452	2 1/2"	10	1/2"	1 1/8"	7/8"	6-32
452J	2 1/2"	10	1/2"	1 1/8"	7/8"	403 Jack
453	2 1/2"	5	3/4"	1 1/8"	1 1/8"	1/4-20
453J	2 1/2"	5	3/4"	1 1/8"	1 1/8"	395 Jack
454	4"	5	3/4"	1 1/8"	1 1/8"	1/4-20
454J	4"	5	3/4"	1 1/8"	1 1/8"	395 Jack

## BIRNBACH STEATITE BUTTON



This specially designed steatite button is intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.



457—Steatite Button ..... 25  
Dimensions

A	B	C	D	E
5/16"	1/2"	3/4"	1/2"	6-32

## "LUCITE" FEEDTHRU INSULATORS



These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine DuPont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The 1/2" dia. insulators have brass nickel plated 6-32 hardware and the 3/4" dia. insulators, 10-32 hardware.

Cat. No.	Height Above Panel	Insulator Dia.	Mtg. Hole	Bottom Height	Std. Pkg.
377	1/4"	1/2"	3/8"	3/4"	25
378	3/8"	1/2"	3/8"	3/4"	25
379	1"	1/2"	3/8"	3/4"	25
475	1 1/2"	3/4"	3/8"	3/4"	25
476	2"	3/4"	3/8"	3/4"	25

## CONE STANDOFF INSULATORS (STEATITE)



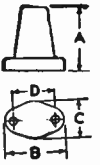
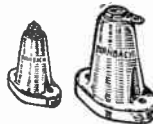
All heights except the No. 430 are available with a Jack or a threaded hole top. Complete with screws, metal and cork washers.



Cat. No.	Height A	Std. Pkg.	Base Dimensions			Threaded Holes	
			B	C	D	E	
430	1"	100	1/2"	3/4"	6-32	6-32	
431	1"	50	3/8"	1/2"	8-32	8-32	
431J	1"	50	3/8"	1/2"	8-32	403 Jack	
432	1 1/2"	50	3/8"	1/2"	10-32	10-32	
432J	1 1/2"	50	3/8"	1/2"	10-32	403 Jack	
433	2 1/2"	25	1 1/4"	3/4"	1/4-20	1/4-20	
433J	2 1/2"	25	1 1/4"	3/4"	1/4-20	395 Jack	

Mounting Hole: No. 430—5/32"; 431 & 431J—3/16"; 432 & 432J—7/32"; 433 & 433J—9/32".

## BIRNBACH STANDOFF INSULATORS



Highly vitrified low absorption glazed porcelain washers are necessary for mounting except No. 405 and No. 966. All brass nickel plated hardware is supplied.

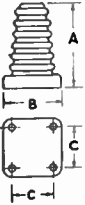
Cat. No.	Height A	Std. Pkg.	Base Dimensions			Mtg. Holes
			B	C	D	
405	5/8"	100	1"	3/4"	3/8"	"
965	1"	50	1 1/4"	3/4"	3/8"	"
966	1"	50	1 3/8"	3/4"	1"	"
966J	1"	50	1 3/8"	3/4"	1"	"
866	1 1/2"	25	1 3/8"	1 1/8"	1 1/4"	"
866J	1 1/2"	10	1 3/8"	1 1/8"	1 1/4"	"
866SJ	1 1/2"	10	2 3/8"	2"	2 1/2"	"
4275	2 3/4"	10	2 3/8"	2"	2 1/2"	"
4275J	2 3/4"	10	2 3/8"	2"	2 1/2"	"
4450	4 1/2"	5	3 3/8"	2 1/2"	2 1/2"	"
4450J	4 1/2"	5	3 3/8"	2 1/2"	2 1/2"	"

Hardware: No. 405—6-32; 965 & 966—8-32; 866 & 866J—No. 403 Jack; 866—10-32; 866SJ, 4275J & 4450J—No. 395 Jack; 4275 & 4450—1/4-20.

## BIRNBACH METAL BASE INSULATORS



Extremely long leakage paths due to the corrugated surface is one of the important characteristics. Made from high tensile strength low absorption porcelain smoothly glazed all over. Supplied with nickel plated brass screws and nuts and cadmium plated drawn steel bases.



Cat. No.	Height A	Std. Pkg.	Base Dimension		Mounting Screw D
			B	C	
867	1 3/8"	25	1 7/8"	1 1/2"	2 x 8
867J	1 3/8"	25	1 7/8"	1 1/2"	2 x 8
4176	2 3/8"	10	1 3/4"	1 3/8"	4 x 10
4176J	2 3/8"	10	1 3/4"	1 3/8"	4 x 10
4451	4 1/2"	5	2 1/4"	2 1/4"	4 x 10
4451J	4 1/2"	5	2 1/4"	2 1/4"	4 x 10

Hardware: No. 867—10-32; 867J—No. 403 Jack; 4176 & 4451—1/4-20; 4176J & 4451J—No. 395 Jack.

## BIRNBACH LUCITE SPREADERS



DuPont Lucite rod which has a very low loss at radio frequencies. Very low water absorption. Holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

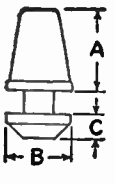
Cat. No.	Wire Spacing	Std. Pkg.
436	2"	25
437	3"	25
438	6"	25

## BIRNBACH LUCITE RODS

Cat. No.	Length	Dia.	Cat. No.	Length
455	12"	1/4"	455A	48"
458	12"	3/8"	458A	48"
460	12"	1/2"	460A	48"
461	12"	3/4"	461A	48"

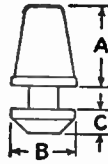
## BIRNBACH FEEDTHRU INSULATORS

Made of highly vitrified, low absorption porcelain smoothly glazed. Long insulating sleeves on the lower part of the insulator. Brass nickel plated hardware.



Cat. No.	Height A	Std. Pkg.	Dimensions B	C	Mtg. Hole	Hardware
458	5/8"	50	1/2"	3/4"	3/8"	6-32
478	1"	25	3/8"	1/2"	3/8"	10-32
478J	1"	25	3/8"	1/2"	3/8"	403 Jack
4125	1 1/4"	25	3/8"	1/2"	3/8"	10-32
4125J	1 1/4"	25	3/8"	1/2"	3/8"	403 Jack
4234	2 3/4"	10	2"	1"	3/8"	1/4-20
4175	2 3/4"	10	1 1/4"	3/4"	3/8"	1/4-20
4175J	2 3/4"	10	1 1/4"	3/4"	3/8"	394 Jack

## BIRNBACH CORRUGATED FEEDTHRU INSULATORS



Have more than twice the leakage path of the straight type because of increased surface of the corrugations. Brass nickel plated hardware and cork mounting washers supplied.

Cat. No.	Height A	Std. Pkg.	Dimensions B	C	Mtg. Hole	Hardware
479	1 3/8"	25	1 1/4"	1 1/8"	3/8"	10-32
479J	1 3/8"	25	1 1/4"	1 1/8"	3/8"	403 Jack
4276	2 3/8"	10	1 3/8"	1"	3/8"	1/4-20
4276J	2 3/8"	10	1 3/8"	1"	3/8"	394 Jack
4452	4 1/2"	5	2 3/8"	1 1/2"	1"	1/4-20
4452J	4 1/2"	5	2 3/8"	1 1/2"	1"	394 Jack

## BIRNBACH HIGH VOLTAGE FEEDTHRU INSULATOR



High dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve tapers from a base dia. of 1-3/16".

Cat. No.	H.	Pkg.	Base Dia.	Mtg. Hole	Hardware
4233	1 3/8"	10	2"	1 1/4"	1/4-20

## BIRNBACH ANTENNA INSULATORS



4/0-7 inch      471-12 inch



Low moisture absorption. The leakage path is long and the cross section is small. White glaze overall.



Cat. No.	Std. Pkg.
468—Center Insulator	25
66—1 1/2" long	10
68—1 3/4" long	25
40—7" long	10
471—12" long	5

## BIRNBACH FEEDER SPREADERS



3/8" x 1/2". Vitrified, low absorption, high tensile strength porcelain with smooth white glaze overall.



Cat. No.	Std. Pkg.
462—Spreader, 2" long	25
464—Spreader, 4" long	25
469—Spreader, 6" long	25

## STEATITE AIRPLANE INSULATORS



It is 1 1/2" long and 3/8" diameter. 463.....Std. Pkg. 25



# Birnbach

## Antenna • All Wave Kits • Ignition Filters Resistance, Phone Cords



### BIRNBACH ANTENNA KITS



#### Cat. No. 503 — AERIAL KIT

- 75 ft. 7/24 Copper Wire
- 35 ft. R.C. Lead-in Wire
- 1—No. 650 Lightning Arrestor
- 1—No. 600 Ground Clamp
- 1—No. 611 Lead-in Strip
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 665 Galvanized Screw Eyes

Std. Pkg. 24

Weight 65 lbs.

### UNIVERSAL ALL WAVE KIT



The No. 149 All Wave Antenna Kit is designed for efficient operation with all types of receivers.

#### List of Parts:

- 2—30 ft. coils 7/24 bare copper aerial wire
- 1—50 ft. coil Stranded Transmission Cable
- 1—Transfer unit
- 2—Porcelain Insulators
- 2—All Wave Lead-in Strip
- 1—Ground Clamp
- 2—Glazed Nailit Knobs

The above completely assembled for simple installation.

Cat. No. Std. Pkg.  
149—Universal All Wave Kit ..... 24

### SCREW TERMINAL LEAD-IN STRIP



Locks wire together with strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. White or Black.

Cat. No. Std. Pkg.  
617—Lead-in Strip ..... 50  
2617—Doublet Lead-in Strip ..... 25

### BIRNBACH LEAD-IN STRIPS



Covered with a heavy cotton braid and weather-proofed, with numerous coats of laquer. Clips are riveted and soldered at both ends.

Cat. No. Std. Pkg.  
611—Black 12" long ..... 50  
613—White 12" long ..... 50

### DOUBLET LEAD-IN STRIPS



Consists of two strips held parallel by a piece of bakelite. This assembly prevents the strips from moving back and forth.

Cat. No. Std. Pkg.  
2611 ..... 25  
Black or White

### BIRNBACH IGNITION FILTERS

Completely eliminate all ignition and high tension circuit interference. Copper wound inductance accounts for the low resistance of 120 ohms for the Ignition Filter. Due to the low resistance of these filters, less gasoline is consumed than when high resistance filters are used.

Cat. No.	Std. Pkg.
350—Ignition Filter (Bracket Type).....	25
351—Ignition Filter (Cable Type).....	25
352—Distributor Filter.....	10
353—Ignition Filter (Screw Type).....	25
359—Ignition Filter (Slip-on Type).....	25

### BIRNBACH MASTER FILTER



Eliminates all ignition interference, does away with necessity of having filter for each spark plug. Distributor type for easy insertion into distributor head. Cable type to be placed into the distributor lead where impossible to insert into distributor head.

Cat. No.	Std. Pkg.
354—Cable or Distributor Type.....	12

### AERIAL SPRING ADJUSTER



Corrects excessive sag of doublet antennas. Prevents swinging and swaying, eliminates resultant fading of signals. Consists of two hooks with porcelain rings, powerful compression spring. Cadmium plated thru-out.

Cat. No. Std. Pkg.  
765—Birnbach Aerial Spring Adjuster

### BIRNBACH GLASS INSULATORS



Made of crystal clear glass and have a smooth surface which prevents dirt or ice from collecting.

Cat. No. 00—3" ..... Std. Pkg. 100

### BIRNBACH AIRPLANE SPRING



Rust-proof steel, cadmium plated thru-out. Compact compression spring for taking up slack in guy wire due to pull or strain on antenna.

Cat. No. Std. Pkg.  
764—Airplane Spring ..... 100

### SPEAKER EXTENSION CORDS

These extension cords are constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

Cat. No. Std. Pkg.  
156 ..... 10 ft. Cord  
120 ..... 20 ft. Cord  
151 ..... Bakelite Extension Cord Connector

### SPEAKER CORDS



Stranded wire, insulated with rubber, with closely woven brown mercerized cotton overall.

Cat. No. Std. Pkg.  
102 ..... 5 ft. with Pin Tips on both ends  
103 ..... 5 ft. with Pin and Spade Tips  
106 ..... 5 ft. with Pin and Eye Tips  
413 ..... 10 ft. with Pin and Eye Tips



350



351



352



353



359

### BIRNBACH NAIL-IT KNOBS



Cat. No. Std. Pkg.  
669—Glazed ..... 100

### BIRNBACH PORCELAIN INSULATORS



Cat. No. Std. Pkg.  
666—White ..... 100



### BIRNBACH LIGHTNING ARRESTOR

Glazed porcelain body, nickel-plated hardware. Outdoor or indoor use. Mounting screws and instructions.

Cat. No. Std. Pkg.  
650—Lightning Arrestor ..... 50

### AC-DC ANTENNA WIRE



Low cost, flexible, stranded cotton braided wire ideal as an indoor antenna for AC-DC Universal Receivers. Colors Brown or White.

Cat. No. Std. Pkg.  
2125 ..... 25 Ft. Hank  
2100 ..... 100 Ft. Spool  
2500 ..... 500 Ft. Spool  
2000 ..... 1000 Ft. Spool

### AC-DC RESISTANCE CORDS



Consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes. The 135, 160, 180 and 200-ohm cords can also be used for single light 20 and 15-watt fluorescent fixtures. All 6-ft. long, color coded with tinned leads and all rubber plugs. All individually boxed.

Cat. No.	Cord Rating	Sets Having Following Tubes:
35	135 ohm	25Z5-43-4 (6.3 volt tubes)
36	160 ohm	25Z5-43-3 (6.3 volt tubes)
34	180 ohm	12Z3-43-4 (6.3 volt tubes)
49	200 ohm	25Z5-43-2 (6.3 volt tubes)
37	220 ohm	12Z3-43-3 (6.3 volt tubes)
41	250 ohm	12Z3-43-2 (6.3 volt tubes)
		25Z5 -3 (6.3 volt tubes)
38	300 ohm	12Z3 -3 (6.3 volt tubes)
45	300 ohm	-4 (6.3 volt tubes)
39	330 ohm	12Z3 -2 (6.3 volt tubes)
		12Z3 -1 (6.3 volt tubes)
40	350 ohm	-2 (6.3 volt tubes)
47	390 ohm	
58	560 ohm	
59	960 ohm	

For 3-way portables, AC-DC battery sets  
Wherever 45Z5 rectifier is used (All pocket type radios)  
Step down reducing cords

### HEADSET PHONE CORDS



These cords are closely woven and are very durable and strong. Standard cords listed match practically all headsets manufactured.

Cat. No. Std. Pkg.  
104 ..... 5 ft. with Pin Tips on both ends  
105 ..... 5 ft. with Pin and Spade Tips  
107 ..... 5 ft. with Pin and Eye Tips  
108 ..... 8 ft. with Pin and Eye Tips  
109 ..... 10 ft. with Pin and Eye Tips

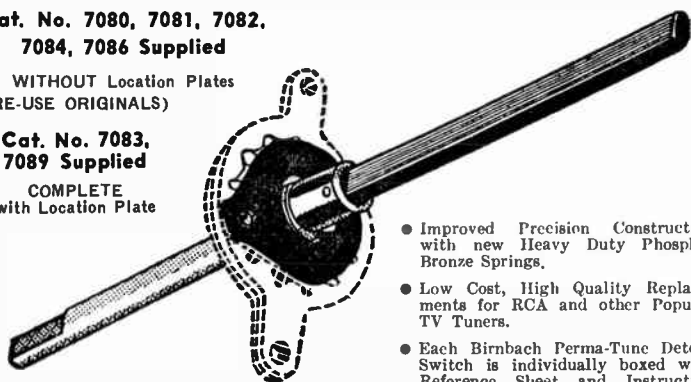


**Cat. No. 7080, 7081, 7082,  
7084, 7086 Supplied**

WITHOUT Location Plates  
(RE-USE ORIGINALS)

**Cat. No. 7083,  
7089 Supplied**

COMPLETE  
with Location Plate



- Improved Precision Construction with new Heavy Duty Phosphor Bronze Springs.
- Low Cost, High Quality Replacements for RCA and other Popular TV Tuners.
- Each Birnbach Perma-Tune Detent Switch is individually boxed with Reference Sheet and Instruction Sheet.

**\*CAT. No. 7080—(Short Shaft)**

Replaces RCA Part No. 71463 (Short Shaft)

621TS	648PV	8PCS41
630TS	648PTK	8TCS41C
641TV	8TV41	

**CAT. No. 7081—(Long Shaft)**

Replaces RCA Part No. 72743 (Long Shaft)

RCA CHASSIS NUMBERS:

721TS	721TCS	730TCS	730TV2	8TS30
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**CAT. No. 7082—(Extra Long Shaft)**

Replaces Admiral Part No. 76B14  
(Extra Long Shaft)

As used in late series Admiral chassis Models 30A and 8C. Some early model Admirals use short shaft—Admiral Part No. A158294A5. The Birnbach replacement for this is Cat. No. 7080.

Also replaces Capehart Part No. 461-P12  
Also replaces RCA Part No. 71531

**CAT. No. 7083—BIRNBACH PERMA-TUNE DETENT SWITCH  
COMPLETE ALL-PHENOLIC SHAFT — RCA Part No. 73440 Replacement**

This complete All-Phenolic Shaft Detent No. 7083 is designed for use with RCA TV Tuner Type No. 74941, 73435, and 74571.

The following is a list of RCA Chassis Models using the Birnbach Detent No. 7083 and its corresponding RCA TV Tuner Numbers:

RCA TV Tuner Type No. 73435 Chassis Numbers:				RCA TV Tuner Type No. 74941 Chassis Numbers:			RCA TV Tuner Type No. 74571 Chassis Numbers:		
T120	8TR29	8TV321	9TC247	S1000	TC168	9TC240			
T121	8TK29	8TV323	9TC249	T164	8TC270	9TC270	9T246		
TC124	8T241	9T240	9TW309	TC165	8TC271	9TC272	9T256		
TC125	8T243	9T240K	9TW333	TC166	8TK320	9TC275	T100		
TC127	8T244	9TC245		TC167	9TW390				

**\*Other TV Sets Using BIRNBACH CAT. No. 7080 DETENT  
Replacement for RCA Part No. 71463:**

AIRKING	CORONADO	EMERSON GAROD	OLYMPIC	PACKARD	PHILMORE	TRUETONE
A1000	94TV2-43-8970	545	920	TV104	BELL	PC030
A1001	94TV2-43-8971	585	940	TV105	894	D1991
A2000	94TV3-42-8995	608	1020	TV106	1091	D1993
A2001	94TV2-43-8986	617	1030	TV922	1291	D1994
A2002		618	1120	TV923	1391	1030
			1130	TV-928	3191	1031
DE WALD	CAPEHART	FADA	1220	TV944	3192	1230
BT100	610P	TV30	1230	TV945	3193	1631
CT101	651P	930		TV946	3194	T10823
CT102	661P	899			3381	T10925
CT103	501P	880			4580	T12823
CT104	502P	799			4691	T15823
	504P					T15925
	461P					1530
						CFM15925
						KRF15933
						930
						1530
						1630



**BIRNBACH  
GROUND  
RODS**

Highly efficient. For FM and TV antennas.

Cat. No.	St. Pkge.
616—4 ft.	12
618—6 ft.	12
619—8 ft.	12

**BIRNBACH LAG BOLTS**



Galvanized steel. Screws easily into wood, brick, etc. For permanently holding brackets, etc., in place. Available in four sizes—1", 1 1/2", 2", 3". Specify size.

Cat. No.	St. Pkge.
7043—1"	100
7043—1 1/2"	100
7043—2"	100
7043—3"	100



**SCREW EYE BOLT**

Use this sturdy, steel eye-bolt for guy wire on TV mast installation. Overall length 2 1/2". Shank length 1 3/8". Thread length 1 1/8". Inside diameter 3/8".

Cat. No.	St. Pkge.
T10	100

**BRIDLE RING**



Ruggedly constructed. Will stand up under maximum strain. Made of galvanized steel.

Cat. No.	St. Pkge.
7037	100

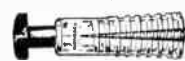


**DRIVE RING**

Can be used for securing guy wire. Made of steel galvanized. When hammered in at an angle will remain secure under any condition.

Cat. No.	St. Pkge.
7036	100

**LAG SCREW EXPANSION SHIELDS**



Used widely in television installations. Will fit 3/4" lag screws. Completely rust-proofed. Provides greater load strength and the outside corrugations add additional strength on masonry. T17 is used with the Birnbach No. 7043—(1"). T18 is used with No. 7043—(1 1/2") lag screw.

Cat. No.	St. Pkge.
T17—1" x 1/2" O.D.	100
T18—1 1/2" x 1/2" O.D.	100

**BIRNBACH LEAD ANCHORS  
FOR WOOD SCREWS**



Small installation holes can be made with these anchors. Very popular for wood screws. Takes No. 10-12-14 wood screw and are 3/8" O.D. Will fit 1/4" and 5/16" holes.

Cat. No.	St. Pkge.
T19—(3/4" long)	100
T19—(1" long)	100
T19—(1 1/2" long)	100



**BIRNBACH  
STAR  
DRILLS**

Made of hand tempered and hand forged high grade tool steel for hand drilling in brick, stone and concrete.

Cat. No.	St. Pkge.
7049A—1/4"—12" long	12
7049B—3/8"—12" long	12
7049—5/8"—12" long	12
7050—1 1/2"—12" long	12



### UNIVERSAL SCREW EYE STANDOFFS

Insulated twin lead standoff constructed of low loss polyethylene and universal for both 300 ohm line and RC59U cable. Completely weatherproofed. No. 1965—3 1/2" machine screw stand-off designed for mounting in metal mast—uses a 10-32 thread. No. 1968—3 1/2" Drivin Insulators.

Cat. No.	St. Pkge.
1963—3 1/2"	100
1964—7 1/2"	100
1967—12 1/2"	100
1965—3 1/2" M.S.	100
1968—3 1/2" Drive-in	100



### BIRNBACH "SNAP-ON" MAST STANDOFF CLAMP

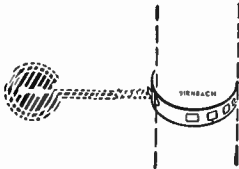
Snaps on masts in a jiffy. One piece construction for added strength; has universal polyethylene insert for both twin lead and coax cable. Constructed of .120 spring alloy music wire, heavily zinc plated for preventing rust.

Cat. No.	St. Pkge.
T100—to fit 1" masts 4 1/8" long	100
T101—to fit 1 1/4" masts 4 1/8" long	100
T102—to fit 1 1/2" masts 4 1/8" long	100

### BIRNBACH STRAP CLAMP

For Standoff Insulator

Just bend this clamp around a mast or vent pipe and screw in any wood screw stand-off to tighten. No tools required. Adjustable 3/8" to 2" diam.



Cat. No.	St. Pkge.
629	100

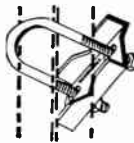
### MAST STAND-OFF ASSEMBLY

For fast mounting of twin lead or coaxial cable. Complete with polyethylene universal insert. Fits all size masts from 3/8" to 2" pipes. Fully weatherproofed.

Cat. No.	St. Pkge.
628	50

### U-BOLT MAST COUPLER

Galvanized steel bracket couples mast securely. Will take two masts. Also permits fast and secure attachment of crossarms to masts up to 1 1/2".



Cat. No.	St. Pkge.
T8	50

### MALE RUBBER PLUGS

Brass prongs. Rated 15 amps at 125 Volts. 3/8" hole.



Cat. No.	St. Pkge.
814—Rubber Male Plug	100

### INSULATED STAPLES

Essential for securing lead-in, ground, and other wires for installation.



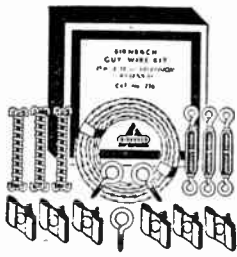
Cat. No.	St. Pkge.
R100—Plain Staples	100 to box
1000	1000
E53—Plain Staples	50 to box
1000	1000



### INSULATED WIRING NAILS

Perfect for twin lead indoors. Low capacity effect. Fully insulated.

Cat. No.	St. Pkge.
T42—White or Brown	(100 to box) - (1000 to carton)



Birnbach Vibration-proof No. 762 Clamps, and Guy Wire Ring.

Cat. No.	St. Pkge.
226	24

### VIBRATION-PROOF GUY WIRE CABLE CLAMP

For positive grip on guy wire. Weatherproofed.

Cat. No.	St. Pkge.
762—Guy Wire Clamp	100



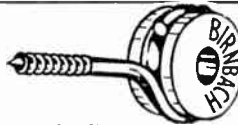
### BIRNBACH TURNBUCKLES



Constructed of rust-proofed, galvanized steel. Used to take up any slack guy wire. Convenient, durable, dependable.

Cat. No.	Sizes of Turnbuckles	St. Pkge.
763—3	3 1/2"	100
763—5	5 1/2"	100
763—7	7 1/2"	50

### BIRNBACH SCREW EYES



Porcelain screw eye handles up to 300 ohm line. Bakelite screw eye can take any size coaxial cable.

Cat. No.	Sizes of Turnbuckles	St. Pkge.
663—3"		100
664—7"		50
667—12"		25

### BAKELITE EYES

Cat. No.	Sizes of Turnbuckles	St. Pkge.
963—3"		100
964—7"		50
967—12"		25

### MAST COUPLERS

Will join 2 sections of mast easily, quickly and permanently, allowing an additional mast to be added without any trouble. Takes 1 1/4" Masts.

Cat. No.	St. Pkge.
T103—Mast Coupler	25

### BIRNBACH WIRE WINDING and MEASURING OUTFIT

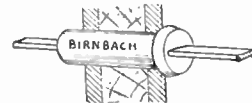


Consists of a Folding Reel, Measuring Machine, and a Wire Winder. This outfit is shipped complete, ready to assemble. It registers up to 1000 feet, and is accurate, simple to use, and time saving. Very compact, this unit can be easily set up on counter, table or bench.

Cat. No.	Shpg. Wt.
7401	23 lbs.

### BIRNBACH TV-FM GUY WIRE KIT

Simple and complete directions with each individually boxed kit. Contains 50 ft. 6 strands heavy No. 20 Guy Wire—3 Birnbach No. 764 Springs—6



### TWIN LEAD PORCELAIN TUBE

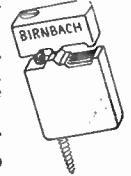
Completely water-resistant; fits 3/4" hole. Brings twin lead directly into house. Lengths specified are from underhead.

Cat. No.	St. Pkge.
T44—4"	100
T46—6"	100
T48—8"	50

### TV PORCELAIN SCREW TWIN-LEAD KNOB

Use this standoff insulator for keeping line away from wall and to anchor the end of the line. Complete with screw.

Cat. No.	St. Pkge.
T669—Screw Twin-Lead Knob	100



### DOUBLET LIGHTNING ARRESTOR

Air gap type, accepted means of protecting doublet antennas from lightning. Complete with mounting screws. Instructions printed on box.



Cat. No.	St. Pkge.
T650	25

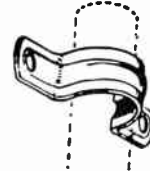
### ANTENNA STABILIZER "SKY HOOK"



Used on conical antennas to take the chatter and wow from the vibrating elements. Superior rigid universal construction handles various sized elements; prevents loosening and breakage of dipoles.

Cat. No.	St. Pkge.
T104—Antenna Stabilizer	50

### PIPE HANGERS



Galvanized steel. Can be used for fastening poles, masts to walls, roofs, gables, etc. Two sizes: 1", 1 1/4"; specify size.

Cat. No.	St. Pkge.
7038	100

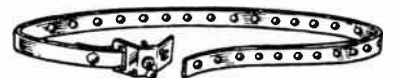
### PERFORATED HANGER STRAPPING



For mounting Antenna Masts to various odd shaped objects such as chimneys, towers, etc. Made of 3/8" x .023 galvanized steel strap. Tough but flexible.

Cat. No.	St. Pkge.
7032—12 ft. Coil—Strapping	25
7033—100 ft. Coil—Strapping	8

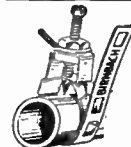
### VENT PIPE MOUNTING STRAP



For securing poles of television or mast antennas to vent pipes. Cadmium plated steel. 2 1/4" long.

Cat. No.	St. Pkge.
626	25

### SADDLE GROUND CLAMPS



Have hard pointed screw which digs through rust and makes a positive contact. Fits 3/8" to 2" pipe.

Cat. No.	St. Pkge.
625	50



### COPPER STRAP CLAMP

Will take 3/8" to 2" pipe. Made of copper with Birnbach clip riveted and soldered to strap. Complete with nut and bolt.

Cat. No.	St. Pkge.
600	50



### HALF-MOON DUO-DECAL SOCKET



For CR Television tubes. Solid moulded black bakelite provides 100% insulation around clip and lead. Multi-colored lead-in wires. 19" leads supplied.

Cat. No. T20—Duo-Decal Socket... 25 St. Pkge.

### Hi-Voltage Anode Cap with Lead



Dependable protection from high voltages found on cathode ray tubes. Supplied with 18" lead.

Cat. No. T14—Hi-Volt Anode Cap with Lead... 25 St. Pkge.  
For RCA, G.E., and Sylvania Tubes.

### TELEVISION SAFETY CORD



6 Ft. UL approved. Plugs into No. 813. 815—TV Safety Cord... St. Pkge. 100

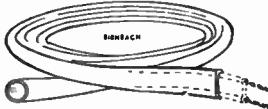
### MALE AC INTERLOCK PLUG



Designed to mount on TV receiver cabinet and serves as socket for Safety Cord No. 815.

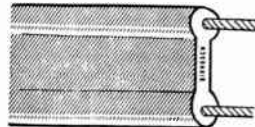
813—AC Interlock Plug St. Pkge. 100

### CLEAR VINYL TUBING FOR TV



For 300 ohm line. Protects it from grounding when going over corners and eaves of buildings. Waterproofs line and eliminates loss of signal.

Cat. No. 321BC—100 ft. coils... 8 St. Pkge.



### TWIN-LEAD 300 OHM TRANSMISSION LINE

FM - Television Smooth Polyethylene insulation resists water, alkalies, oil, acids and abrasions—superior in resistance to sunlight and moisture.

Cat. No. 7028—50 ft. coils... 25 St. Pkge.  
7029—100 ft. coils... 12  
7030—1000 ft. spool... 8



### No. 231-MC Microphone Connector

Made of milled brass and chrome plated. Wire secured by threading thru coiled spring and bending shield back on spring and soldering. Center conductor of cable is threaded thru eyelet of bakelite insulator and soldered. Set screw then tightened completing connection.

Cat. No. 231-MC—Microphone Connector... 100 St. Pkge.



### No. 232-FC Microphone Connector

Milled from brass, chromium plated. Fits all standard male fittings having 1/8"-27 thread.

Cat. No. 232-FC—Female Connector... 100 Sid. Pkg.



### No. 235 PHONE PLUG ADAPTER

1/8"-27 thread; screws into coupling ring of No. 232-FC Connector permitting cable to be plugged into standard phone jack. Made of brass and nickel-plated.

Cat. No. 235-PC... 50 St. Pkge.

### BIRNBACH TELEVISION LOOM



3/8" Non-Metallic Loom used for the protection of Twin Lead and Coax Cable on television installations.

Cat. No. 1013... 25 ft. Spool  
1014... 50 ft.  
1015... 100 ft.

### No. 233-CC CHASSIS CONNECTOR



Milled of solid brass. Mounts in .385" dia. hole to ground shell directly to chassis. Mounts in 1/2" hole when insulation from panel is required. Supplied with shoulder and flat fibre and metal washers and hex lock nut.

Cat. No. 233-CC—Chassis Connector... 100 St. Pkge.

### No. 234-CLC CHASSIS CONNECTOR



#### CLOSED CIRCUIT

Circuit is closed before cable circuit breaks. Prevents open grid circuit howls. Milled of solid brass, complete with shoulder and flat fibre and metal washers and lock nut.

Cat. No. 234-CLC—Closed Circuit Jack... 100 St. Pkge.

# Birnbach PRICE LIST

## NUMERICALLY ARRANGED BY CATALOG NUMBER See BIRNBACH Pages S-22 thru S-37

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	No. Cat.	Price List
00	\$11.00/C	32-A	\$ 1.80/C	77	\$22.07/Ea	113	\$ 1.10/Ea.	221-A	\$ 1.40/Ea.	282	\$ .82/Ea.	304-VC	\$30.00/Ea.
1-50	.45/Fa	34	10.50/C	J	.63/Ea.	114	10.00/C	225	4.00/Ea.	283	4.00/Ea.	305-V	1.50/Ea.
1-100	.90/Ea.	35	1.40/Ea.	31	.70/Ea.	115	11.00/C	231-MC	55.00/C	284	1.00/Ea.	305-VC	14.00/Ea.
1-1000	6.75/M	36	1.40/Ea.	32	.70/Ea.	116	12.00/C	232-FC	60.00/C	285	1.10/Ea.	306-V	1.60/Ea.
2-50	.45/Ea.	37	1.40/Ea.	83	.80/Ea.	117	14.00/C	233-CC	45.00/C	286	1.35/Ea.	306-VC	15.00/Ea.
2-100	.90/Ea.	38	1.40/Ea.	84	2.50/Ea.	118	6.50/C	234-CLC	55.00/C	287	1.60/Ea.	307	.90/Ea.
2-1000	6.75/M	39	1.40/Ea.	85	2.75/Ea.	119	6.50/C	235-PC	60.00/C	288	2.05/Ea.	307-VC	1.80/Ea.
3-50	.45/Ea.	40	1.40/Ea.	86	3.00/Ea.	120	2.75/Ea.	236-FC1	5.50/Ea.	289	2.25/Ea.	307-V	3.00/Ea.
3-100	.90/Ea.	41	1.40/Ea.	87	3.25/Ea.	125	2.50/Ea.	237-FC1	9.25/Ea.	290	1.25/Ea.	309	1.70/Ea.
3-1000	6.75/M	42	7.00/C	88	12.50/Ea.	149	6.25/Ea.	238-FC1	15.40/Ea.	291	1.19/Ea.	310	25.00/C
4-1000	37.50/M	43	8.00/C	89	14.00/Ea.	151	.60/Ea.	239-FC2	6.20/Ea.	291-V	1.70/Ea.	312	1.90/Ea.
5-1000	50.00/M	44	10.00/C	90	14.25/Ea.	154	7.00/Ea.	240-FC2	9.75/Ea.	291-VC	6.00/Fa.	313	.17/Ea.
6	12.00/C	45	1.40/Ea.	91	16.00/Ea.	155	7.00/Ea.	241-FC2	16.00/Ea.	292	2.15/Ea.	313-B	.75/Ea.
8	12.50/C	46	14.00/C	92	22.00/Ea.	156	4.50/Ea.	242-MC1	5.50/Ea.	293	.19/Ea.	313-BC	2.75/Ea.
10	12.50/C	47	1.40/Ea.	93	24.50/Ea.	157	4.50/Ea.	243-MC1	9.25/Ea.	293-V	1.70/Ea.	314	.17/Ea.
11	17.50/C	48	32.50/C	94	26.75/Ea.	158	12.00/Ea.	244-MC1	15.40/Ea.	293-VC	6.00/Ea.	314-B	.75/Ea.
15	7.00/C	49	1.40/Ea.	95	30.00/Ea.	160	14.25/Ea.	245-MFC	6.20/Ea.	294	.19/Ea.	314-BC	2.75/Ea.
16	.25/Ea.	50	1.40/Ea.	96-40	.45/Ea.	161	4.65/Ea.	246-MFC	9.25/Ea.	294-V	1.70/Ea.	315	.18/Ea.
17	.55/Ea.	51	.25/Ea.	96-100	1.05/Ea.	164	.40/Ea.	247-MFC	16.70/Ea.	294-VC	6.00/Ea.	315-B	.75/Ea.
18	1.00/Ea.	52	.25/Ea.	96-1000	9.75/M	166	2.00/Ea.	248	10.00/C	295	.19/Ea.	315-BC	2.75/Ea.
19	.45/Ea.	53	.25/Ea.	97-40	.45/Ea.	172	10.50/Ea.	248-S	10.00/C	295-V	1.70/Fa.	316	.19/Ea.
20	.90/Ea.	54	.25/Ea.	97-100	1.10/Ea.	173	14.25/Ea.	249	14.00/C	295-VC	6.75/Ea.	316-B	.80/Fa.
20-A	.75/Ea.	55	.40/Ea.	97-1000	9.75/M	174	17.80/Ea.	249-A	18.00/C	296	1.25/Ea.	316-BC	3.00/Fa.
21-35	.45/Ea.	56	.50/Ea.	98-35	.45/Ea.	175	22.00/Ea.	250	4.60/Ea.	296-VC	42.00/Fa.	317	.19/Ea.
21-100	1.35/Ea.	57	.50/Ea.	98-100	1.35/Ea.	176	26.00/Ea.	251	8.00/Ea.	297	.45/Ea.	317-B	.80/Ea.
21-1000	11.50/M	58	1.50/Ea.	98-1000	11.50/M	177	31.00/Ea.	252	12.85/Ea.	298	.50/Ea.	317-BC	3.00/Ea.
22-15	.45/Ea.	59	1.80/Ea.	99-35	.45/Ea.	178	37.00/Ea.	255	14.00/C	299	1.20/Ea.	318	.40/Ea.
22-100	3.20/Ea.	61	4.90/Ea.	99-100	1.30/Ea.	179	45.00/Ea.	256	7.25/Ea.	299-VC	39.00/Ea.	318-B	3.00/Fa.
22-1000	29.50/M	62	24.00/Ea.	99-1000	11.50/M	180	53.00/Ea.	257	12.50/Ea.	300	.19/Ea.	318-BC	4.70/Ea.
23	15.00/C	66	6.00/Ea.	100-20	.45/Ea.	182	61.00/Ea.	263	8.50/Ea.	300-V	1.75/Ea.	319	.45/Ea.
24	15.00/C	67	27.50/Ea.	100-100	2.25/Ea.	193	14.00/M	264	11.00/Ea.	300-VC	7.00/Fa.	319-B	.75/Ea.
26	15.00/C	68	7.75/Ea.	100-1000	20.00/M	194	14.00/M	265	13.25/Ea.	301	.35/Ea.	319-BC	6.75/Ea.
27	.11/Ea.	69	38.00/Ea.	102	.90/Ea.	195	14.00/M	266	15.50/Ea.	301-V	1.15/Fa.	320	.50/Ea.
27-C	.21/Ea.	70	.52/Ea.	103	.90/Ea.	196	18.00/M	267	17.50/Ea.	301-VC	10.00/Ea.	320-B	.75/Ea.
27-R	.195/Ea.	71	.60/Ea.	104	1.50/Ea.	201-35	.45/Ea.	268	19.50/Ea.	302	.35/Ea.	320-BC	6.75/Ea.
28	.11/Ea.	72	2.15/Ea.	105	1.50/Ea.	201-100	1.30/Ea.	269	22.50/Ea.	302-V	1.25/Ea.	321	.60/Fa.
29	.14/Ea.	73	2.50/Ea.	106	.90/Ea.	201-1000	11.50/M	270	25.00/Ea.	302-VC	11.00/Ea.	321-BC	8.50/Ea.
30	.24/Ea.	74	10.50/Ea.	107	1.50/Ea.	220	8.50/Ea.	272	31.00/Ea.	303	.65/Ea.	322	.6/Fa.
31	.11/Ea.	75	12.50/Ea.	108	1.90/Ea.	220-A	6.75/Ea.	280	.70/Ea.	303-VC	25.00/Ea.	322-BC	14.00/Ea.
32	2.50/C	76	19.50/Ea.	109	2.75/Ea.	221	1.80/Ea.	281	.80/Ea.	304	.75/Ea.	323	1.00/Ea.

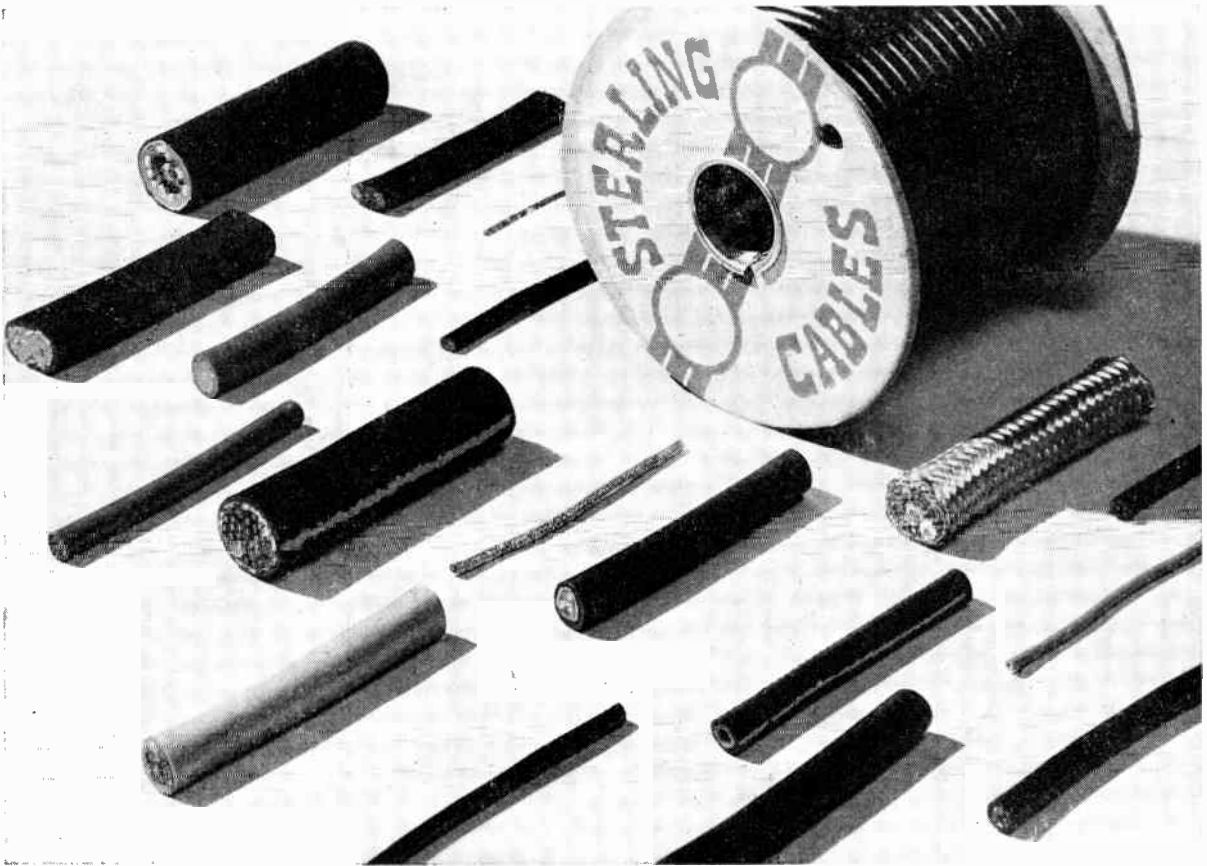
# Birnbach PRICE LIST NUMERICALLY ARRANGED BY CATALOG NUMBER (Cont'd)

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
323-BC	\$22.50/Ea.	433-J	\$1.40/Ea.	543	\$.25/Ea.	770	\$2.50/Ea.	1013	\$2.75/Ea.	1386-B	\$11.50/C	1800	\$13.25/Ea.
324	1.10/Ea.	434	1.90/Ea.	544	.50/Ea.	771	16.75/Ea.	1014	5.25/Ea.	1387	12.50/C	1818	11.90/Ea.
324-BC	27.50/Ea.	435	1.40/Ea.	545	.60/Ea.	772	16.75/Ea.	1015	10.00/Ea.	1388	12.75/C	1820	11.00/Ea.
325	.35/Ea.	436	.60/Ea.	550	.25/Ea.	772/18	21.00/Ea.	1017	35.00/M	1389	12.75/C	1822	6.75/Ea.
325-B	.75/Ea.	437	.65/Ea.	551	.50/Ea.	773	21.75/Ea.	1017-10	.45/Ea.	1401	2.85/Ea.	1822-B	30.00/Ea.
325-BC	4.40/Ea.	438	.75/Ea.	552	.60/Ea.	774	24.00/Ea.	1017-50	1.95/Ea.	1402	5.60/Ea.	1822-C	56.00/Ea.
326	.40/Ea.	439	.35/Ea.	553	.90/Ea.	775	27.50/Ea.	1017-100	3.85/Ea.	1403	51.50/Ea.	1824	26.00/Ea.
326-B	.75/Ea.	440	2.35/Ea.	554	1.30/Ea.	776	32.00/Ea.	1017-1000	35.00/M	1405	1.80/Ea.	1824-M	50.00/Ea.
326-BC	5.00/Ea.	443	.18/Ea.	555	1.80/Ea.	777	35.00/Ea.	1025	1.35/Ea.	1406	3.40/Ea.	1825	31.00/Ea.
330	25.00/C	444	.20/Ea.	558	.85/Ea.	778	45.00/Ea.	1050	2.50/Ea.	1407	31.00/Ea.	1825-M	61.00/Ea.
331	25.00/C	445	.30/Ea.	559	1.30/Ea.	781	20.00/Ea.	1051	4.50/Ea.	1409	1.25/Ea.	1870	28.00/Ea.
331-A	13.00/C	446	.35/Ea.	560	2.25/Ea.	782	1.40/Ea.	1052	37.00/Ea.	1410	2.25/Ea.	1872	33.00/Ea.
332	18.00/C	447	.40/Ea.	561	2.25/Ea.	784	1.95/Ea.	1053	.75/Ea.	1411	22.20/Ea.	1874	75.00/Ea.
332-A	20.00/M	448	.55/Ea.	562	6.00/Ea.	786	27.50/Ea.	1054	1.40/Ea.	1413	.85/Ea.	1874-A	40.00/Ea.
333	25.00/C	449	.75/Ea.	566	40.00/Ea.	787	38.50/Ea.	1055	2.75/Ea.	1414	1.40/Ea.	1875	110.00/Ea.
334	50.00/C	450	.56/Ea.	568	30.00/Ea.	788	13.00/Ea.	1056	21.00/Ea.	1415	13.90/Ea.	1875-A	57.50/Ea.
335	60.00/C	450-J	.67/Ea.	570	6.25/Ea.	789	31.75/Ea.	1057	1.45/Ea.	1417	.75/Ea.	1878	165.00/Ea.
340	11.00/C	451	.67/Ea.	572	15.50/Ea.	790	15.50/Ea.	1058	2.80/Ea.	1418	1.40/Ea.	1878-A	85.00/Ea.
341	.60/Ea.	451-J	.72/Ea.	573	28.00/Ea.	791	37.50/Ea.	1059	5.00/Ea.	1419	13.90/Ea.	1878-B	.06/Ea.
342	2.50/Ea.	452	.72/Ea.	574	28.25/Ea.	792	18.75/Ea.	1060	40.00/Ea.	1421	.63/Ea.	1878-C	.10/Ea.
343	.55/Ea.	452-J	.95/Ea.	578	33.75/Ea.	793	45.75/Ea.	1101	3.50/Ea.	1422	1.25/Ea.	1965	.10/Ea.
344	.50/Ea.	453	1.30/Ea.	580	26.25/Ea.	794	22.00/Ea.	1111	30.00/Ea.	1423	9.00/Ea.	1967	.20/Ea.
345	.55/Ea.	453-J	1.50/Ea.	581	29.00/Ea.	795	55.00/Ea.	1112	57.50/Ea.	1433	14.00/Ea.	1968	.10/Ea.
346	2.00/Ea.	454	1.70/Ea.	582	30.50/Ea.	796	27.50/Ea.	1113	115.00/C.	1434	5.75/Ea.	1972	16.00/Ea.
350	1.10/Ea.	454-J	1.75/Ea.	583	32.50/Ea.	797	32.50/Ea.	1120	5.00/C	1440	4.25/Ea.	1972-A	75.00/Ea.
351	1.10/Ea.	455	1.00/Ea.	584	35.00/Ea.	798	29.00/Ea.	1121	2.80/C	1490	22.50/Ea.	1973	18.50/Ea.
352	1.10/Ea.	455-A	4.00/Ea.	585	40.00/Ea.	799	20.00/Ea.	1122	5.20/C	1492	35.00/Ea.	1974	21.50/Ea.
353	1.10/Ea.	457	.35/Ea.	586	44.00/Ea.	800	27.50/Ea.	1123	2.20/C	1497	55.00/Ea.	1975	26.75/Ea.
354	3.50/Ea.	458	.25/Ea.	587	50.00/Ea.	801	30.00/Ea.	1124	2.20/C	1516	28.50/Ea.	1976	31.25/Ea.
359	1.10/Ea.	459	1.50/Ea.	588	79.00/Ea.	802	21.00/Ea.	1125	5.00/C	1518	1.20/Ea.	2000	14.00/Ea.
365	.40/Ea.	459-A	6.00/Ea.	589	87.50/Ea.	803	16.00/Ea.	1126	6.50/C	1519	2.30/Ea.	2010	11.00/Ea.
366	12.00/C	460	2.00/Ea.	600	.11/Ea.	806	12.00/Ea.	1127	8.00/C	1520	11.00/Ea.	2012	9.00/Ea.
367	20.00/C	460-A	8.00/Ea.	604	.25/Ea.	809	6.50/Ea.	1128	9.50/C	1526	1.40/Ea.	2013	7.75/Ea.
368	2.00/C	461	3.75/Ea.	605	.35/Ea.	810	31.25/Ea.	1129	11.00/C	1527	2.70/Ea.	2014	7.00/Ea.
369	2.00/C	461-A	15.00/Ea.	611	.14/Ea.	813	20.00/C	1130	5.00/C	1528	13.00/Ea.	2015	5.75/Ea.
370	4.50/C	462	.25/Ea.	613	.15/Ea.	814	15.00/C	1131	6.50/C	1542	12.50/Ea.	2016	4.75/Ea.
371	2.50/C	463	.40/Ea.	616	1.40/Ea.	815	.80/Ea.	1132	8.00/C	1543	4.25/Ea.	2025	1.45/Ea.
372	2.00/C	464	.35/Ea.	617	.20/Ea.	816	.55/Ea.	1133	9.50/C	1544	20.00/Ea.	2050	2.80/Ea.
373	6.00/C	468	.45/Ea.	618	2.25/Ea.	817	.70/Ea.	1134	11.00/C	1545	25.00/Ea.	2051	5.00/Ea.
377	.45/Ea.	469	.45/Ea.	619	2.80/Ea.	818	10.75/Ea.	1135	8.00/C	1548	22.50/Ea.	2052	40.00/Ea.
378	.60/Ea.	470	1.00/Ea.	625	.23/Ea.	819	.75/Ea.	1136	9.50/C	1549	18.00/Ea.	2100	1.60/Ea.
379	.65/Ea.	471	.45/Ea.	626	.56/Ea.	820	9.50/Ea.	1137	11.00/C	1550	3.75/Ea.	2125	.42/Ea.
380	2.85/Ea.	472	.80/Ea.	628	.28/Ea.	822	40.00/Ea.	1138	12.50/C	1553	25.00/Ea.	2330	15.00/Ea.
381	3.15/Ea.	473	.20/Ea.	629	8.50/C	824	47.50/Ea.	1139	14.00/C	1561	2.65/Ea.	2331	3.25/Ea.
382	3.15/Ea.	474	.16/Ea.	631	.25/Ea.	825	45.00/Ea.	1140	8.00/C	1562	5.10/Ea.	2440	19.00/Ea.
383	3.50/Ea.	475	1.40/Ea.	632	.25/Ea.	826	75.00/Ea.	1141	9.50/C	1563	47.50/Ea.	2500	7.00/Ea.
384	3.90/Ea.	476	1.05/Ea.	633	.25/Ea.	851	8.50/Ea.	1142	11.00/C	1565	1.55/Ea.	2611	.30/Ea.
385	4.25/Ea.	478	.35/Ea.	634	.25/Ea.	855-50'	3.00/Ea.	1143	12.50/C	1566	3.10/Ea.	2617	.40/Ea.
386	5.25/Ea.	478-J	.42/Ea.	635	.25/Ea.	855-50'	18.00/Ea.	1144	14.00/C	1567	29.00/Ea.	2650	.56/Ea.
387	6.25/Ea.	479	.62/Ea.	636	.25/Ea.	857-50'	18.50/Ea.	1145	6.00/C	1569	1.10/Ea.	2810	13.25/Ea.
388	8.50/Ea.	479-J	.75/Ea.	647	.70/Ea.	858-50'	3.10/Ea.	1146	6.75/C	1570	2.10/Ea.	2812	8.75/Ea.
389	9.00/Ea.	480	14.00/Ea.	650	.50/Ea.	859-50'	3.30/Ea.	1147	7.00/C	1571	21.00/Ea.	2814	6.00/Ea.
391	.22/Ea.	481	15.75/Ea.	663	14.00/C	860-50'	3.50/Ea.	1148	9.00/C	1573	.70/Ea.	2816	5.00/Ea.
392	.56/Ea.	482	15.75/Ea.	664	19.50/C	863-50'	4.10/Ea.	1149	6.00/C	1574	1.20/Ea.	2818	4.40/Ea.
393	.50/Ea.	483	17.50/Ea.	666	11.00/C	864-50'	6.00/Ea.	1150	6.75/C	1575	11.70/Ea.	3000 to	
393-A	.50/Ea.	484	19.50/Ea.	667	45.00/C	865-50'	9.50/Ea.	1151	7.00/C	1600	14.00/Ea.	3024	1.40/Ea.
394	.30/Ea.	485	21.50/Ea.	668	.35/Ea.	866	.23/Ea.	1152	9.00/C	1618	14.00/Ea.	3025	1.35/Ea.
395	.30/Ea.	486	24.00/Ea.	669	11.00/C	866-J	.30/Ea.	1153	1.50/C	1623	9.00/M	3050	2.50/Ea.
396	.35/Ea.	487	25.00/Ea.	681	.85/Ea.	866-SJ	.70/Ea.	1154	1.80/C	1627	7.00/M	3051	4.50/Ea.
397	.40/Ea.	488	40.00/Ea.	697	3.25/Ea.	867	.35/Ea.	1155	2.00/C	1627	15.50/Ea.	3052	28.00/Ea.
398	.35/Ea.	489	43.50/Ea.	700	.85/Ea.	867-J	.45/Ea.	1156	2.00/C	1628	14.50/Ea.	3416	10.00/Ea.
398-A	.35/Ea.	490	2.25/Ea.	701	28.00/Ea.	868-50'	9.50/Ea.	1157	2.00/C	1631	19.00/Ea.	3418	7.50/Ea.
399	.35/Ea.	490-A	3.40/Ea.	702	32.00/Ea.	870	11.25/Ea.	1220	17.00/Ea.	1633	18.00/Ea.	3420	6.00/Ea.
399-A	.40/Ea.	490-B	4.50/Ea.	703	59.00/Ea.	872	13.50/Ea.	1220-A	12.50/Ea.	1634	15.00/Ea.	3425	1.25/Ea.
400	.20/Ea.	492	3.50/Ea.	704	40.00/Ea.	907	14.00/Ea.	1225	25.00/Ea.	1637	23.50/Ea.	3450	2.50/Ea.
401	.20/Ea.	492-A	5.25/Ea.	705	56.00/Ea.	908	32.00/Ea.	1260	.23/Ea.	1638	20.75/Ea.	3460	5.00/Ea.
402	3.00/C	492-B	7.00/Ea.	710-100	5.70/Ea.	909	63.20/Ea.	1261	.23/Ea.	1639	18.00/Ea.	3600	22.50/Ea.
402-A	5.00/C	493	3.15/Ea.	710-250	14.25/Ea.	910	125.00/Ea.	1262	.23/Ea.	1640	1.45/Ea.	3618	2.35/Ea.
403	.15/Ea.	495	4.10/Ea.	710-500	26.25/Ea.	919	30.00/Ea.	1263	.40/Ea.	1641	1.75/Ea.	3619	2.75/Ea.
404	.30/Ea.	497	5.50/Ea.	710-1000	55.00/Ea.	920	60.00/Ea.	1264	.45/Ea.	1642	1.90/Ea.	4000 to	
404-A	.27/Ea.	499	10.75/Ea.	710-2500	135.00/Ea.	923	59.25/Ea.	1265	.56/Ea.	1643	.90/Ea.	4006	9.00/M
404-B	.35/Ea.	501	2.85/Ea.	712-100	3.95/Ea.	951	4.50/Ea.	1266	.62/Ea.	1644	1.30/Ea.	4007 to	
405	.14/Ea.	503	2.75/Ea.	712-250	9.75/Ea.	952	22.25/Ea.	1372	.15/Ea.	1645	1.50/Ea.	4013	10.00/M
406	.20/Ea.	505	2.40/Ea.	712-500	19.50/Ea.	953	140.00/Ea.	1373	.21/Ea.	1646	.95/Ea.	4014	11.25/M
407	.20/Ea.	516	2.00/Ea.	712-1000	38.25/Ea.	954	70.00/Ea.	1374	.26/Ea.	1647	12.25/Ea.	4015 to	
408	3.00/Ea.	518	17.50/Ea.	712-2500	95.00/Ea.	955	35.00/Ea.	1375	.32/Ea.	1648	8.50/Ea.	4019	12.25/M
409	.23/Ea.	519	3.80/Ea.	714-100	2.45/Ea.	956	14.00/Ea.	1376	.37/Ea.	1670	1.90/Ea.	4020-21	13.50/M
410	.50/Ea.	520	2.25/Ea.	714-250	6.00/Ea.	963							

# Birnbach PRICE LIST NUMERICALLY ARRANGED BY CATALOG NUMBER

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Size	Ft.	List Price	Size	Ft.	List Price
4275-J	\$1.00/Ea.	6226	\$2.75/Ea.	6417	\$22.90/M	6611-A	\$1.40/C	7203-I	2.60/Ea.	<b>PLAIN ENAMEL MAGNET WIRE</b> 1/4 Lb. Spools			<b>DOUBLE SILK MAGNET WIRE</b> 1/4 Lb. Spools		
4276	1.15/Ea.	6227	2.35/Ea.	6418	27.10/M	6612	4.10/C	7204	21.00/Ea.						
4276-J	1.35/Ea.	6228	8.25/Ea.	6420	6.50/M	6613	4.65/C	7204-I	2.25/Ea.	12 12	\$.60	14 19	1.05		
4450	1.15/Ea.	6229	12.00/Ea.	6422	7.00/M	6614	5.20/C	7205-I	31.50/Ea.	14 20	\$.63	16 31	1.15		
4450-J	1.50/Ea.	6230	.90/Ea.	6422	7.50/M	7000	13.75/Ea.			16 32	\$.64	18 49	1.27		
4451	.92/Ea.	6231	2.25/Ea.	6423	8.00/M	7000-I	1.50/Ea.	7207	\$41.00/Ea.	18 50	\$.65	20 78	1.45		
4451-J	1.30/Ea.	6232	.35/Ea.	6424	8.75/M	7001	17.00/Ea.	7207-I	4.25/Ea.	20 80	\$.70	22 123	\$1.70		
4452	1.70/Ea.	6233	.80/Ea.	6425	9.75/M	7001-I	20.00/M	7210	160.00/M	22 127	\$.73	24 195	1.85		
4452-J	2.00/Ea.	6234	.85/Ea.	6426	8.30/M	7001-IS	1.85/Ea.	7210-I	18.00/Ea.	24 201	\$.77	26 303	2.25		
5000	1.10/Ea.	6235	.90/Ea.	6427	8.75/M	7001-IS	2.15/Ea.	7212	120.00/M	26 320	\$.92	28 478	2.50		
5002	1.35/Ea.	6236	1.30/Ea.	6428	9.60/M	7002	16.75/Ea.	7212-I	13.50/Ea.	28 507	\$.97	32 1136	3.82		
5003	1.70/Ea.	6241	1.60/Ea.	6429	10.00/M	7002-I	1.80/Ea.	7214	87.50/M	30 805	1.05	34 1712	4.92		
5004	.90/Ea.	6242	2.50/Ea.	6430	11.00/M	7003	21.50/Ea.	7214-I	9.50/Ea.	32 1282	1.17	36 2551	7.65		
5005	1.05/Ea.	6243	1.45/Ea.	6431	12.65/M	7003S	24.50/M	7216-I	7.25/Ea.	34 2037	1.32	38 3770	10.94		
5006	1.35/Ea.	6244	.55/Ea.	6432	14.65/M	7003-I	2.30/Ea.	7216-I	7.25/Ea.	38 5132	1.75	40 5040	17.00		
5007	1.05/Ea.	6245	.35/Ea.	6433	10.85/M	7003-IS	2.60/Ea.	7218	50.00/M	10 16	\$1.11	12 24	1.97		
5008	1.45/Ea.	6246	1.40/Ea.	6434	11.00/M	7004	21.25/Ea.	7218-I	5.50/Ea.	12 25	1.12	14 39	2.02		
5009	1.70/Ea.	6247	.50/Ea.	6435	11.20/M	7004-I	1.25/Ea.	7220	40.00/M	14 40	1.14	16 62	2.20		
5010	3.30/Ea.	6248	.55/Ea.	6436	12.50/M	7005	26.00/Ea.	7220-I	4.50/Ea.	16 63	1.17	18 99	2.30		
5011	3.30/Ea.	6249	.45/Ea.	6437	13.25/M	7005-I	2.75/Ea.	7222	33.50/M	18 100	1.18	20 157	2.84		
5012	4.75/Ea.	6250	1.65/Ea.	6438	15.00/M	7007	37.50/Ea.	7222-I	4.00/Ea.	20 160	1.20	22 247	3.28		
5013	4.75/Ea.	6251	1.90/Ea.	6439	19.15/M	7007-I	3.90/Ea.	7224	32.50/M	22 254	1.27	24 390	3.60		
5015-5016	.75/Ea.	6252	2.35/Ea.	6440	10.30/M	7009	56.50/Ea.	7224-I	3.75/Ea.	24 403	1.35	26 606	4.38		
5017-5018	.75/Ea.	6253	2.60/Ea.	6441	14.70/M	7009-I	5.80/Ea.	7312	107.50/M	26 640	1.62	28 956	4.92		
5040	.23/Ea.	6300	5.25/M	6442	10.30/M	7011	100.00/Ea.	7312-I	11.50/Ea.	28 1015	1.70	30 1479	5.47		
5041	.23/Ea.	6301	5.30/M	6443	16.05/M	7011-I	10.15/Ea.	7314	62.50/M	28 1015	1.70	32 2272	7.44		
5042	.24/Ea.	6302	5.35/M	6444	17.00/M	7016	50.00/Ea.	7314-I	6.75/Ea.	32 2564	2.07	34 3424	9.63		
5043	.24/Ea.	6303	7.00/M	6445	17.00/M	7016-I	5.15/Ea.	7316	52.50/M	34 4075	2.48	36 5102	14.80		
5044	.24/Ea.	6304	5.80/M	6446	18.10/M	7018	40.50/Ea.	7316-I	5.75/Ea.	36 6443	2.79	38 7541	20.44		
5045	.24/Ea.	6305	5.80/M	6447	35.00/M	7018-I	4.20/Ea.	7318	38.00/M	38 10246	3.24	40 10080	32.00		
5046	.24/Ea.	6306	6.80/M	6448	7.80/M	7020	35.00/Ea.	7318-I	4.20/Ea.	40 16286	4.85	<b>1 Lb. Spools</b>			
5047	.23/Ea.	6307	5.40/M	6448	8.65/M	7020-I	3.65/Ea.	7400	199.50/Ea.	10 32	1.88	12 49	3.73		
5050	.45/Ea.	6308	6.40/M	6449	9.65/M	7022	32.00/Ea.	7400-I	125.00/Ea.	12 50	1.89	14 78	3.77		
5051	.45/Ea.	6309	7.40/M	6450	9.65/M	7022-I	3.35/Ea.	7402	40.00/M	14 80	1.93	16 125	3.98		
5052	.35/Ea.	6310	29.05/M	6461	3.60/Gr.	7022-I	3.35/Ea.	7402-I	4.50/Ea.	16 126	1.97	18 198	4.38		
5053	.30/Ea.	6311	49.50/M	6462	4.45/Gr.	7024	17.25/Ea.	7402-I	4.50/Ea.	18 201	2.05	20 314	5.34		
5060 to 5063	.17/Ea.	6312	5.80/M	6463	5.00/Gr.	7024-FM	1.85/Ea.	7402-I	4.50/Ea.	20 320	2.12	22 495	5.87		
5070	.23/Ea.	6314	6.40/M	6463	6.95/Gr.	7027	3.50/Ea.	7402-I	4.50/Ea.	22 508	2.23	24 781	7.00		
5071	.30/Ea.	6315	7.40/M	6465	7.75/Gr.	7027-HF	2.50/Ea.	7412	54.00/M	24 806	2.33	26 1212	8.58		
5075	.30/Ea.	6316	10.85/M	6466	8.55/Gr.	7028	5.00/Ea.	7412	54.00/M	26 1280	2.90	28 2958	10.10		
5076	.30/Ea.	6317	11.00/M	6470	2.75/Gr.	7029	10.00/Ea.	7412-I	6.00/Ea.	28 2030	3.07	32 4545	14.88		
5080	.30/Ea.	6318	11.20/M	6471	2.95/Gr.	7030	85.00/Ea.	7418	55.00/M	30 3220	3.50	34 6849	18.55		
5081	.35/Ea.	6319	13.25/M	6472	3.10/Gr.	7031	5.00/Ea.	7418-I	6.10/Ea.	32 5128	3.82	36 10204	28.44		
5083	.30/Ea.	6320	15.00/M	6473	3.25/Gr.	7032	.95/Ea.	7428	85.00/M	34 8150	4.78	38 15082	39.40		
5086	.35/Ea.	6321	6.50/M	6474	3.40/Gr.	7033	5.95/Ea.	7428-I	9.00/Ea.	40 20161	60.00	<b>SOLID TINNED (SOFT DRAWN)</b> 1/4 Lb. Spools			
5090	.30/Ea.	6322	7.00/M	6475	3.60/Gr.	7034	.15/Ea.	7448	129.50/M	12 12	.70	14 19	.73		
5091	.32/Ea.	6323	7.50/M	6476	4.00/Gr.	7035	10.00/C	7448-I	13.50/M	16 31	.78	18 48	.79		
5095	.36/Ea.	6324	8.50/M	6477	4.35/Gr.	7036	10.00/C	R-100	4.50/M	20 78	.87	22 119	.97		
5096	.35/Ea.	6325	8.95/M	6478	3.60/Gr.	7037	9.00/C	T-6	.20/Ea.	24 184	1.13	26 284	1.35		
5105	.35/Ea.	6326	9.60/M	6479	5.50/M	7038	10.00/C	T-8	.40/Ea.	28 284	1.60	30 435	2.60		
5106	.40/Ea.	6327	9.60/M	6480	5.50/M	7039	11.00/C	T-8	.40/Ea.	32 641	1.92	36 807	.97		
5110-5111	.40/Ea.	6328	9.90/M	6480-A	5.50/M	7040	20.00/C	T-9	.15/Ea.	30 976	2.37	32 1282	1.17		
5115	.60/Ea.	6329	11.70/M	6481	6.75/M	7041	15.00/C	T-10	.08/Ea.	34 1365	3.35	36 2037	1.32		
5130 to 5134	.30/Ea.	6330	8.20/M	6482	7.30/M	7042	22.50/C	T-10	.08/Ea.	36 1827	4.55	38 3221	1.54		
5140	.30/Ea.	6331	8.20/M	6483	25.00/M	7043-1"	7.50/C	T-11	.30/Ea.	40 3405	11.50	40 5132	2.65		
5141	.35/Ea.	6332	8.20/M	6484	4.95/M	7043-1 1/2"	7.50/C	T-12	.15/Ea.	12 12	.70	14 19	.73		
5142	.35/Ea.	6333	7.80/M	6485	4.65/M	7043-2"	8.00/C	T-14	.70/Ea.	16 31	.78	18 48	.79		
5143	.40/Ea.	6334	8.70/M	6486	5.20/M	7043-3"	10.00/C	T-14A	.80/Ea.	20 78	.87	22 119	.97		
5160	.23/Ea.	6335	9.60/M	6487	5.20/M	7044	18.00/C	T-15	.25/Ea.	24 184	1.13	26 284	1.35		
5161	.25/Ea.	6336	22.80/M	6488	7.50/M	7045	28.00/C	T-16	.25/Ea.	28 284	1.60	30 435	2.60		
5165-66	.30/Ea.	6337	21.00/M	6491	5.50/M	7046	4.75/Ea.	T-16A	.25/Ea.	32 641	1.92	36 807	.97		
5170	.30/Ea.	6338	30.00/M	6492	5.75/M	7047	2.25/Ea.	T-17	20.00/C	30 976	2.37	32 1282	1.17		
5171	.30/Ea.	6339	30.00/M	6493	7.15/M	7048	25.00/C	T-18	20.00/C	34 1365	3.35	36 2037	1.32		
5180	.25/Ea.	6350	10.00/M	6494	12.65/M	7049	.85/Ea.	T-18-3/4	9.50/C	36 1827	4.55	38 3221	1.54		
5181	.30/Ea.	6350-A	10.00/M	6500	1.70/Gr.	7049-A	.85/Ea.	T-19-I	9.50/C	40 3405	11.50	40 5132	2.65		
5185	.30/Ea.	6351	10.00/M	6501	1.85/Gr.	7049-B	.85/Ea.	T-19-1/2	13.50/C	12 24	1.23	14 39	1.25		
5190	.17/Ea.	6351-A	10.00/M	6502	1.70/Gr.	7050	.90/Ea.	T-20	.80/Ea.	16 62	1.28	18 97	1.42		
5191	.17/Ea.	6352	10.00/M	6503	1.80/Gr.	7050	1.10/Ea.	T-22	7.00/M	20 157	1.58	22 238	1.80		
5195	.30/Ea.	6352-A	10.00/M	6504	2.00/Gr.	7051	1.50/Ea.	T-42	18.00/C	24 369	2.12	26 403	1.35		
5200	.25/Ea.	6353	11.00/M	6505	2.80/Gr.	7052	1.50/Ea.	T-44	28.00/C	28 568	2.53	30 871	3.07		
5201	.25/Ea.	6353-A	11.00/M	6506	2.90/Gr.	7053	1.50/Ea.	T-46	28.00/C	32 1284	3.60	34 1953	4.47		
5202	.25/Ea.	6354	13.00/M	6507	3.25/Gr.	7054	2.75/Ea.	T-48	48.00/C	36 2735	6.30	38 4075	2.07		
5203	.25/Ea.	6355	13.50/M	6510	1.70/Gr.	7055	3.00/Ea.	T-100-1"	.08/Ea.	36 3654	8.72	38 5476	13.09		
5204	.60/Ea.	6355-A	8.25/M	6511	1.80/Gr.	7056	1.55/Ea.	T-100-1 1/2"	.08/Ea.	40 6811	19.80	40 16286	4.85		
5207	.85/Ea.	6356	7.70/M	6512	2.00/Gr.	7057	3.00/Ea.	T-102-1 1/2"	.10/Ea.	12 49	2.23	14 78	2.28		
6104	.85/Ea.	6357	7.70/M	6513	2.00/Gr.	7058	1.40/Ea.	T-102-1 1/2"	.10/Ea.	16 62	1.28	18 97	1.42		

## STERLING CABLE THRU BEAM INSTRUMENTS



Sterling Cable Company manufactures a full range of Electrical, Radio and Television wires and cables which is sold exclusively through Beam Instruments Corporation.

Due to the very large number of different types of wire and cable no attempt is made to list or classify them here.

Substantial stocks of the more popular Television cables are maintained in New York.

*Television Camera Cables*  
300 ohm twin lead.  
4-8 Conductor Antenna Rotator cable  
Coaxial cables  
R.G. 59U (S C 2132)  
R.G. 11 U  
R.G. 5 U, etc., etc.  
*Multi-Conductor Cables (Shielded  
or Unshielded), for Communications  
and Audio, etc., etc.*

PAPER AND CAMBRIC INSULATED  
CABLES HIGH AND LOW TENSION  
LEAD SHEATHED  
STEEL TAPED  
WIRE ARMoured  
RUBBER  
POLYVINYL CHLORIDE INSULATED  
POLYTHENE INSULATED  
RUBBER, PLASTIC, TEXTILE AND  
POLYCHLOROPRENE FINISHES.

*Quotations for special cables and regular types on request.*

Send for fuller information.

# BEAM INSTRUMENTS CORPORATION

350 Fifth Avenue, New York 1, N. Y.



# Rome Hi-Temp . . . . A ROME CABLE PRODUCT

## RUBBER INSULATED HOOK-UP WIRE



The result of extensive laboratory development and proved by a decade of service—Rome Hi-Temp is offered for radio and electronic circuits where resistance to moisture and heat is required.

### SPECIFICATIONS

Conductors: Annealed tinned, solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.

In order to provide maximum flexibility and prevent unraveling of the strands a short lay stranding is used as follows:

- No. 22 Awg. .33 inch max.
- No. 20 Awg. .50 inch max.

Underwriters' approved and labeled\* for 75°C.—300 volts

Insulation: Rome Hi-Temp—a high quality, free-stripping heat-resistant rubber insulation approved by Underwriters' Laboratories.

### Typical Test Results

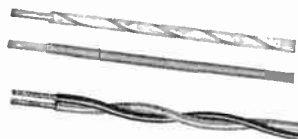
Breakdown Voltage (1/32" Hi-Temp).....10500 volts  
 Insulation Resistance.....Over 10000 megohms feet  
 \*Only factory length reels are furnished with U/L's labels.

Cat. No.	Size No.	Stranding No.	Length	Insulation Thickness	Diameter	List Price Each
901	22	Solid	25 ft. carton	1/32"	.075"	\$0.44
903	22	Solid	100 ft. carton	1/32"		1.65
905	22	Solid	500 ft. spool	1/32"		6.56
907	22	Solid	1000 ft. spool	1/32"		12.70
911	20	Solid	25 ft. carton	1/32"	.086"	.50
913	20	Solid	100 ft. carton	1/32"		1.79
915	20	Solid	500 ft. spool	1/32"		7.40
917	20	Solid	1000 ft. spool	1/32"		14.30
921	22	7 x 30	25 ft. carton	1/32"	.085"	.50
923	22	7 x 30	100 ft. carton	1/32"		1.79
925	22	7 x 30	500 ft. spool	1/32"		7.40
927	22	7 x 30	1000 ft. spool	1/32"		14.30
931	20	10 x 30	25 ft. carton	1/32"	.090"	.62
933	20	10 x 30	100 ft. carton	1/32"		2.04
935	20	10 x 30	500 ft. spool	1/32"		9.07
937	20	10 x 30	1000 ft. spool	1/32"		16.95

U/L Voltage Rating—300 Volts Maximum  
 Colors: Black, Blue, Brown, Green, Orange, Pink, Red, Slate, White, Yellow

# Rome Synthinol . . . . A ROME CABLE PRODUCT

## THERMOPLASTIC INSULATED HOOK-UP WIRE



Rome Synthinol is a polyvinyl chloride type of thermoplastic insulation impervious to oils, acids, alkalies, moisture and flame, and possessing unusually high dielectric strength. Colors are of gem-like permanency.

Approved by Underwriters' Laboratories where exposed to temperatures not exceeding 80° Centigrade or where exposed to oil at temperatures not exceeding 60° Centigrade with ratings at 300 and 600 volts as indicated below. The Underwriters' approval seal appears on every factory length reel of Rome Synthinol.

U/L Voltage Rating—300 Volts Max. Single and Two-Conductor Twisted Cable: Color Coded

Rome Synthinol is specially designed for the chassis and sub-chassis wiring of radio and television receivers and transmitters as well as all other types of electronic equipment. It has physical and electrical characteristics of unusual permanency.

### SPECIFICATIONS

Conductors: Annealed tinned solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.

In order to provide maximum flexibility and prevent unraveling of the strands, a short lay stranding is used as follows:

- No. 22 Awg. .33 inch max.
- No. 20 Awg. .50 inch max.

Insulation: Rome Synthinol—Approved by and conforming to Underwriters' requirements and the performance specifications of A.S.T.M. D 734. Available in solid colors or with a surface applied contrasting colored spiral stripe.

### Typical Test Results

Breakdown Voltage (1/64" Synthinol).....over 10000 volts  
 Breakdown Voltage (1/32" Synthinol).....over 18000 volts  
 Insulation Resistance (1/32" Synthinol).....over 5000 megohms feet

Cat. No.	No. Size Condr.	Stranding No.	Length	Insulation Thickness	Diameter	List Price Each
801	22	Solid	25 ft. carton	.032"	.062"	\$0.44
803	22	Solid	100 ft. carton	.030"		1.65
805	22	Solid	500 ft. spool	.020"		6.56
807	22	Solid	1000 ft. spool	.020"		12.70
811	20	Solid	25 ft. carton	.020"	.092"	.50
813	20	Solid	100 ft. carton	.020"		1.79
815	20	Solid	500 ft. spool	.020"		7.40
817	20	Solid	1000 ft. spool	.020"		14.30
821	22	7 x 30	25 ft. carton	.020"	.064"	.50
823	22	7 x 30	100 ft. carton	.020"		1.79
825	22	7 x 30	500 ft. spool	.020"		7.40
827	22	7 x 30	1000 ft. spool	.020"		14.30
831	20	10 x 30	25 ft. carton	.020"	.095"	.62
833	20	10 x 30	100 ft. carton	.020"		2.04
835	20	10 x 30	500 ft. spool	.020"		9.07
837	20	10 x 30	1000 ft. spool	.020"		16.95
881	20-2	10 x 30	100 ft. coil	.025"	.125"	4.29
882	20-2	10 x 30	500 ft. spool	.025"	.125"	19.82
883	20-2	10 x 30	1000 ft. spool	.025"	.125"	41.40

## FORMVAR WIRE—No. 2000

Covered with the new, tough, abrasion-resisting film. Takes up less space. Has these important qualities: No danger from stretching and bending during assembly. Tough at higher temperature. Resists abrasion better. Stable under heat aging. Does not fail after 2 hours at 105° C. Completely insoluble to petroleum solvents. Adequate acid and alkali resistance. Constant dielectric properties. Infinite resistance to water and moisture.

Use Single Formvar for low voltage coils, Heavy Formvar to replace Enamel Paper, Enamel Cotton, Enamel Silk, Double Cotton and Double Silk.

### ON PROTECTA-SLEEVE SPOOLS.

Single Formvar Magnet Wire			Heavy Formvar Magnet Wire		
Size	1/4 Lb.	1/2 Lb.	1 Lb.	1/4 Lb.	1/2 Lb.
14	\$0.66	\$1.12	\$2.07	\$0.73	\$1.24
15	.66	1.20	2.10	.73	1.34
16	.75	1.25	2.14	.84	1.39
17	.75	1.30	2.15	1.44	2.37
18	.75	1.34	2.17	1.84	2.39
19	.83	1.39	2.23	.92	1.52
20	.83	1.40	2.25	.92	1.54
21	.83	1.42	2.37	.92	1.55
22	.83	1.45	2.36	.92	1.60
23	.89	1.49	2.62	.97	1.64
24	.90	1.50	2.60	1.00	1.65
25	.97	1.65	2.92	1.15	1.97
26	.99	1.65	3.05	1.19	1.98
27	1.05	1.74	3.20	1.25	2.07
28	1.10	1.80	3.37	1.34	2.15
29	1.14	1.87	3.46	1.37	2.24
30	1.20	1.95	3.52	1.44	2.34
31	1.34	2.02	3.67	1.67	2.52
32	1.35	2.10	3.75	1.69	2.63
33	1.42	2.25	3.95	1.77	2.81
34	1.50	2.55	4.12	1.87	3.19
35	1.64	2.81	4.70	2.04	3.46
36	1.92	3.00	5.26	2.39	3.75
37	2.17	3.37	6.00	2.72	4.20
38	2.55	3.75	6.76	3.17	4.69
39	2.80	4.50	7.50	3.50	5.64
40	3.75	5.64	9.00	4.69	7.04

## BARE COPPER WIRE—No. 2000



### ON PROTECTA-SLEEVE SPOOLS

Handy convenient way to stock small quantities of wire. Prevents wire from matting or tangling. Supplied on spools as shown and in heavier weights.

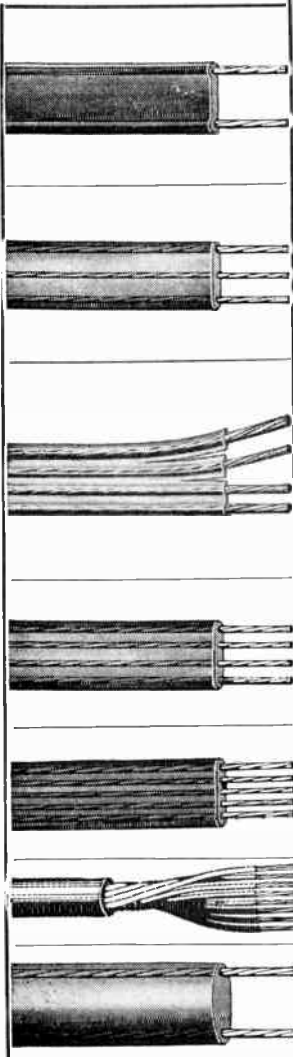
Bare Copper Wire			Tinned Copper Wire		
Size	1/4 Lb.	1/2 Lb.	1 Lb.	Size	1/4 Lb.
14	\$0.53	\$0.97	\$1.54	14	\$0.67
15	.57	1.00	1.60	15	.73
16	.60	1.10	1.83	16	.80
17	.62	1.12	1.87	17	.84
18	.63	1.14	1.90	18	.87
19	.65	1.17	1.95	19	.90
20	.67	1.20	2.00	20	.94
21	.68	1.22	2.07	21	.95
22	.70	1.24	2.14	22	.97
23	.70	1.27	2.17	23	.98
24	.72	1.30	2.20	24	1.00
25	.72	1.30	2.20	25	1.00
26	.73	1.34	2.27	26	1.00
27	.75	1.37	2.30	27	1.05
28	.77	1.40	2.40	28	1.10
29	.77	1.42	2.47	29	1.13
30	.77	1.42	2.47	30	1.17
31	.77	1.44	2.53	31	1.20
32	.77	1.44	2.60	32	1.24
33	.78	1.47	2.68	33	1.27
34	.80	1.50	2.77	34	1.30
35	.82	1.55	2.90	35	1.32
36	.84	1.60	3.04	36	1.34
37	.92	1.75	3.22	37	1.36
38	1.00	1.90	3.40	38	1.42
39	1.02	1.97	3.45	39	1.39
40	1.04	2.04	3.50	40	1.40





# TELEVISION CABLE

No.	Type	Length	Size & Stranding	Specifications and General Applications	Nominal Diam. (in.)	Freq. (mc)	Attenuation Per 100 ft.	Impedance (ohms)	Velocity of Propagation (%)	Capacitance Per Ft. (mmf)	List Price Each
4501	2 cond. Spool	100 ft.	20 7x28	Both conductors bare copper; flexible stranding; conductors parallel; insulated with polyethylene. USE: Receiving antenna at high frequencies.	.072	50	.72	300	85	4.6	\$7.50
					x	100	1.1				
					.400	200	1.7				
						300	2.2				
						400	2.7				
						500	3.1				
4303	2 cond. Spool	500 ft.	20 7x28	Same as 4501	.072 .400	Same 4501	Same 4501	300	85	4.6	35.75
4505	3 cond. Spool	100 ft.	20 7x28	Two bare, one tinned copper conductor; flexible stranding; conductors parallel; polyethylene insulation. USE: Same as 4501, but third conductor may be used for ground or other purposes.	.072 .400	Same 4501	Same 4501	300	85	4.6	7.90
4507	3 cond. Spool	500 ft.	20 7x28	Same as 4505	.072 .400	Same 4501	Same 4501	300	85	4.6	38.40
4508	4 cond. Spool	100 ft.	20 7x28	Same as 4501 except three conductors bare copper, one conductor tinned. Amber polyethylene plastic insulation overall is semi-transparent for easy conductor identification and is grooved between conductors for ease of separation and stripping. USE: Rotor Aerials.	.072 .400	Same 4501	Same 4501	300	85	4.6	8.10
4509	4 cond. Spool	500 ft.	20 7x28	Same as 4508	.072 .400	Same 4501	Same 4501	300	85	4.6	68.75
4511	4 cond. Spool	100 ft.	20 7x28	Three conductors bare copper, one conductor tinned— with heavy wall of polyethylene plastic insulation overall. USE: Rotor Aerials.	.090 .100						8.10
4513	4 cond. Spool	500 ft.	20 7x28	Same as 4511	.090 .400						68.75
4515	5 cond. Spool	100 ft.	20 7x28	Same as 4511 except four conductors bare copper, one conductor tinned copper. USE: Rotor Aerials.	.090 .400						8.35
4517	5 cond. Spool	500 ft.	20 7x28	Same as 4515	.090 .400						40.60
4521	8 cond. Spool	500 ft.	22 7x28	Tinned copper conductors. .010 thermoplastic insulation over each conductor with jacket overall. USE: Rotor Aerials.	.235						47.75
4523	2 cond. Heavy Duty Spool	500 ft.	18 7x26	Conductors bare copper; flexible stranding; conductors run parallel. USE: TV and FM receiving antenna. Especially designed for use in TV fringe areas. Also adapted to use with low-power transmitting antenna.	.200 .520	50 100 200 300 400 500	.70 1.10 1.73 2.28 2.74 3.18	300	82	5.0	83.50



## PROTECTA-SLEEVE SPOOLS

### MAGNET WIRE



Popular, profitable specialty wire packaged for easy selling in radio - electrical, department, specialty and hardware stores. Wide variety of sizes and insulations. Keeps stock in perfect order, always saleable. For all wire pages 16, 17, 18.

Supplied on Spool as Shown and in Heavier Weights.

Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling. The sleeve is accurately made and can be readily slipped out of the way when any length of wire is desired.

DOUBLE COTTON COVERED				PLAIN ENAMEL				SINGLE COTTON ENAMEL				SINGLE SILK ENAMEL			
Size	1/4 lb.	1/2 lb.	1 lb.	Size	1/4 lb.	1/2 lb.	1 lb.	Size	1/4 lb.	1/2 lb.	1 lb.	Size	1/4 lb.	1/2 lb.	1 lb.
14	\$0.55	\$0.95	\$1.87	14	\$0.45	\$0.75	\$1.39	14	\$0.57	\$1.10	\$1.95	14			
15	.58	.98	1.90	15	.45	.80	1.46	15	.58	1.10	2.05	15	\$0.84	\$1.35	\$2.50
16	.60	1.00	1.95	16	.50	.84	1.42	16	.60	1.15	2.05	16	.85	1.45	2.75
17	.60	1.05	2.00	17	.50	.87	1.44	17	.63	1.18	2.09	17	.88	1.50	2.89
18	.60	1.10	2.05	18	.50	.89	1.45	18	.65	1.25	2.10	18	.88	1.50	2.89
19	.65	1.15	2.28	19	.55	.92	1.49	19	.67	1.28	2.14	19	.90	1.60	3.00
20	.65	1.25	2.34	20	.55	.94	1.50	20	.68	1.34	2.19	20	.94	1.65	3.14
21	.77	1.34	2.50	21	.55	.95	1.59	21	.70	1.39	2.20	21	.96	1.70	3.25
22	.82	1.39	2.64	22	.55	.97	1.70	22	.73	1.43	2.30	22	1.00	1.75	3.39
23	.88	1.50	2.75	23	.58	.99	1.75	23	.78	1.50	2.38	23	1.05	1.87	3.50
24	.94	1.60	3.00	24	.60	1.00	1.87	24	.84	1.55	2.50	24	1.10	1.90	3.64
25	.95	1.65	3.14	25	.65	1.10	1.95	25	.85	1.63	2.63	25	1.18	2.00	3.75
26	1.00	1.75	3.39	26	.65	1.10	2.03	26	.90	1.70	2.75	26	1.20	2.20	4.14
27	1.15	1.89	3.64	27	.70	1.15	2.14	27	1.00	1.75	2.89	27	1.30	2.39	4.50
28	1.20	2.14	4.00	28	.73	1.20	2.25	28	1.05	1.80	3.00	28	1.40	2.50	4.67
29	1.30	2.39	4.50	29	.75	1.25	2.30	29	1.10	1.95	3.14	29	1.54	2.89	5.25
30	1.32	2.50	4.75	30	.80	1.30	2.35	30	1.15	2.04	3.39	30	1.65	3.05	5.90
31	1.50	2.75	5.00	31	.89	1.35	2.45	31	1.25	2.25	3.64	31	1.87	3.39	6.65
32	1.75	3.00	5.64	32	.90	1.40	2.50	32	1.39	2.50	4.00	32	2.20	4.00	7.25
33	1.89	3.37	6.25	33	.95	1.50	2.65	33	1.60	3.00	4.50	33	2.50	4.39	8.25
34	2.14	3.89	7.00	34	1.00	1.70	2.75	34	1.80	3.14	5.00	34	2.70	4.89	9.25
35	2.39	4.25	7.50	35	1.09	1.84	3.14	35	2.14	3.64	5.64	35	2.80	5.25	10.00
36	2.75	4.89	8.65	36	1.29	2.00	3.50	36	2.40	4.14	6.50	36	3.14	5.90	11.40
37	2.25	6.25	11.00	37	1.45	2.25	4.00	37	3.20	5.64	10.25	37	3.75	7.15	14.00
38	4.75	8.65	16.50	38	1.70	2.50	4.50	38	4.00	7.25	12.00	38	4.39	8.65	16.00
39	6.00	11.50	20.00	39	1.87	3.00	5.00	39	5.00	8.75	15.25	39	5.39	10.25	20.00
40	8.00	15.00	28.15	40	2.50	3.75	6.00	40	6.41	12.25	19.00	40	6.75	13.00	25.00



### ARMORED SPEAKER CABLE — For severe use, chafing, etc.

SPECIFICATIONS: Flexible copper conductors mounted parallel each covered with cotton serve and 1/64 wall of live rubber; overall wrap of galvanized steel armor



TYPE NO.	LENGTH	SIZE	STRANDING	INSULATION THICKNESS	FINISHED O.D. (Inches)	LIST PRICE EACH
1458	2 Conductors 100 ft.	18	16 x 30	1/64	.235 x .155	\$9.00

### PHONOGRAPH PICK-UP-ARM CABLE

SPECIFICATIONS: Tinned copper; flexible stranding; vinylite plastic insulation—SHIELDED.



TYPE No.	LENGTH	SIZE	STRANDING	INSULATION THICKNESS	FINISHED O.D. (Inches)	LIST PRICE EACH
1470	100 ft.	23	20 x .005	.010	.070	\$3.60



### TELEPHONE AND COMMUNICATION CABLE

#### INTERIOR TYPE—Dry Braid

Consists of solid twisted pair, copper wire, with one wire coded for identification, covered with special rubber insulation and with an overall dry braid covering. Designed for interior use in telephone service, on inter-communicating systems of all kinds, etc.

2 CONDUCTOR		3 CONDUCTOR	
No.	List Price Each	No.	List Price Each
3875—100 ft. coil.....	\$ 5.40	3878—100 ft. coil.....	\$ 8.35
3876—500 ft. coil.....	26.30	3879—500 ft. coil.....	37.00
3877—1000 ft. coil.....	50.00	3880—1000 ft. coil.....	71.80

#### EXTERIOR TYPE—Black Finish

Consists of Solid Copper Coded wire with special cotton serve, rubber insulation and with an overall covering of black weather-proofed braid. Designed for exterior use in intercommunicating and telephone service of all kinds.

2 CONDUCTOR		3 CONDUCTOR	
No.	List Price Each	No.	List Price Each
3881—100 ft. coil.....	\$ 5.00	3884—100 ft. coil.....	\$ 8.10
3882—500 ft. coil.....	24.20	3885—500 ft. coil.....	36.40
3883—1000 ft. coil.....	45.50	3886—1000 ft. coil.....	68.00



### AERIAL KITS for Every Radio Receiver

Consolidated Aerial Kits are made up with the same painstaking care that has always featured our assemblies. All materials and parts are of highest standard and are guaranteed as to Length, Weight, Size and Count as to

Length, Weight, Size and Count as to specified. If your needs are not answered in the stock listings below, write us regarding your special requirements.

#### 50 FOOT SERIES

- No. 506—THE PRICE LEADER  
50 feet 7x26 Bare Copper Aerial Wire; 25 feet No. 16 Rubber Covered Lead-in Wire; 1 Adjustable Ground Clamp; 2 Porcelain Insulators; 2 Porcelain Nail Knobs; 1 Window Lead-in Strip; Installation Instructions. **\$1.37 each**
- No. 507—Contains 1 Underwriter Approved Lightning Arrestor, otherwise same as No. 506. **1.72 each**
- No. 501—A SUPER VALUE  
50 feet 7x26 Bare Copper Aerial Wire; 35 feet No. 16 Rubber Covered Lead-in Wire; 1 Adjustable Ground Clamp; 2 Porcelain Insulators; 2 Porcelain Nail Knobs; 1 Window Lead-in Strip; Installation Instructions. **1.44 each**
- No. 502—Contains 1 Underwriter Approved Lightning Arrestor, otherwise same as No. 501. **1.78 each**
- No. 512—DE LUXE AERIAL  
50 feet 7x22 Enamel Aerial Wire; 35 feet No. 16 Rubber Covered Lead-in Wire; 1 Underwriter Approved Lightning Arrestor; 2 Large Glass Insulators; 1 Shur Grip Ground Clamp; 1 Duo Window Lead-in Strip; 2 Porcelain Nail Knobs; Installation Instructions. **2.62 each**

#### 60 FOOT SERIES

- No. 516—PRICE KIT—Contains 60 feet 7x26 Bare Copper Aerial Wire, otherwise same as No. 501. **1.57 each**
- No. 517—Contains 60 feet 7x26 Bare Copper Aerial Wire, 1 Underwriter Approved Lightning Arrestor, otherwise same as No. 501. **1.94 each**
- No. 518 AERIAL—Contains 60 feet 7x22 Enamel Aerial Wire, otherwise same as No. 512. **2.87 each**

#### 75 FOOT SERIES

- No. 531—75 FOOT SPECIAL  
75 feet 7x26 Bare Copper Aerial Wire; 25 feet No. 16 Rubber Covered Lead-in Wire; 1 Adjustable Ground Clamp; 2 Porcelain Insulators; 2 Porcelain Nail Knobs; 1 Window Lead-in Strip; Installation Instructions. **1.72 each**
- No. 532—Contains 1 Underwriter Approved Lightning Arrestor, otherwise same as No. 531. **2.07 each**
- No. 522—SUPERFINE AERIAL  
75 feet 7x24 Enameled Aerial Wire; 25 feet No. 16 Rubber Covered Lead-in Wire; 1 Underwriter Approved Lightning Arrestor; 2 Large Glass Insulators; 1 Shur Grip Ground Clamp; 1 Duo Window Lead-in Strip; 2 Porcelain Nail Knobs; Installation Instructions. **2.82 each**

#### 100 FOOT SERIES

- No. 541—EXTRA VALUE  
100 feet 7x26 Bare Copper Aerial Wire; 25 feet No. 16 Rubber Covered Lead-in Wire; 1 Adjustable Ground Clamp; 2 Porcelain Insulators; 2 Porcelain Nail Knobs; 1 Window Lead-in Strip; Installation Instructions. **1.87 each**
- No. 542—Contains Underwriter Approved Lightning Arrestor, otherwise same as No. 541. **2.22 each**
- No. 551—Contains 100 feet 7x24 Copper Aerial Wire, otherwise same as No. 541. **2.03 each**
- No. 552—Contains 100 feet 7x24 Aerial Wire; 1 Underwriter Approved Lightning Arrestor, otherwise same as No. 541. **3.20 each**



### RESISTANCE LINE CORDS for AC-DC Radio Sets

The cords have a wide market for replacement on AC-DC radios with worn out cords; also on those formerly having hot resistance. Consists of a 6 foot cord with red and black rubber covered line cord wires and an asbestos covered resistance having separate terminal braid. Consolidated cords have an exclusive tinned copper terminal on the resistance cord that can be soldered. Colored cotton tracer designates ohmage.

#### VOLTAGE DATA

The table and example below indicate tube voltages and how to determine proper cord. Check the voltages of each tube in the voltage table. Add all voltages together, allowing 10% variation, plus or minus.

#### TUBE VOLTAGES

- 6.3 volt tubes: 36, 37, 38, 39, 77, 78, 6B7, KR1, 6D6, 6C6, 6A7, 6F7.
- 12 volt tubes: 12Z3, 12A5.
- 25 volt tubes: 25Z5, 43.

#### EXAMPLE: Radio Contains

1 77 tube—voltage .....	6.3
1 78 tube—voltage .....	6.3
1 43 tube—voltage .....	25.
1 25Z5 tube—voltage .....	25.

Total voltage 62.6  
Radio uses 160 ohm cord.

#### List Price

No. 2401	135 ohms—Blue .....	\$ 1.05 ea.
No. 2413	150 ohms—Blue and Red—Cross tracer.....	1.05 ea.
No. 2402	160 ohms—Red .....	1.05 ea.
No. 2412	180 ohms—Blue and White—Cross tracer.....	1.05 ea.
No. 2411	200 ohms—Red and White—Cross tracer.....	1.05 ea.
No. 2403	220 ohms—Grey .....	1.05 ea.
No. 2410	250 ohms—Red and Green—Cross tracer.....	1.05 ea.
No. 2409	280 ohms—White and Green—Cross tracer.....	1.05 ea.
No. 2404	290 ohms—White .....	1.05 ea.
No. 2408	310 ohms—Yellow and Green—Cross tracer.....	1.05 ea.
No. 2405	330 ohms—Yellow .....	1.05 ea.
No. 2407	350 ohms—Yellow and Red—Cross tracer.....	1.05 ea.
No. 2406	360 ohms—Green .....	1.05 ea.
No. 2414	525 ohms—Grey and White—Cross tracer.....	1.05 ea.
No. 2415	30 ohms Per Ft.—100 Ft. Spools.....	13.75
No. 2421	60 ohms Per Ft.—100 Ft. Spools.....	13.75

### VOLTAGE REDUCER CORD SETS

No. 2451



The Consolidated Voltage Reducer Cord Set can be used anywhere that it is necessary to reduce line voltage from 220 volts to 110 volts for radios, electric clocks, household appliances, electric dry shavers, etc. It has a special built-in resistor which reduces 220 volts AC or DC to 110 volts without any additional devices. It comes as a 6 foot cord with dark brown glazed cotton covering. Packed in attractive two-color box.

No. 2451—American male plug with American female receptacle.....	\$1.90
No. 2452—English male plug with American female receptacle.....	2.40
No. 2453—French male plug with American female receptacle.....	2.40



### STA--PUT PUSHBACK HOOK-UP WIRE

### STRIPS AND REMAINS BACK FOR CLEAN TERMINAL

Seven colors for each: Black, blue, brown, green, red, yellow, white. Be sure to specify color when ordering.

Every unit packaged in handsome 3-color display carton for easy merchandising by dealer.

SPECIFICATIONS: Tinned copper conductor; cotton serve and cotton braid through paraffin impregnation.

TYPE No.	SIZE	LENGTH	STRANDING	FINISHED O.D.	LIST PRICE
1048	18	25 ft. carton	16 x 30	.072	\$0.55 each
1049	18	100 ft. carton	16 x 30	.072	1.90 each
1050	18	1000 ft. spool	16 x 30	.072	19.00 each
1091	22	25 ft. carton	7 x 30	.066	.38 each
1092	22	100 ft. carton	7 x 30	.066	1.20 each
1093	22	1000 ft. spool	7 x 30	.066	11.20 each
1101	20	25 ft. carton	10 x 30	.068	.48 each
1102	20	100 ft. carton	10 x 30	.068	1.67 each
1103	20	1000 ft. spool	10 x 30	.068	13.70 each
1045	18	25 ft. carton	Solid	.070	.47 each
1046	18	100 ft. carton	Solid	.070	1.67 each
1047	18	1000 ft. spool	Solid	.070	16.50 each
1096	22	25 ft. carton	Solid	.065	.37 each
1097	22	100 ft. carton	Solid	.065	1.15 each
1098	22	1000 ft. spool	Solid	.065	10.50 each
1106	20	25 ft. carton	Solid	.067	.45 each
1107	20	100 ft. carton	Solid	.067	1.65 each
1108	20	1000 ft. spool	Solid	.067	12.50 each



### HI-Q LO-LOSS PUSHBACK HOOK-UP WIRE

High efficiency wire ideal for use where high conductivity with negligible loss is essential. 3-color display carton. Real pushback — insulation will not creep. R.M.A. color coded.

SPECIFICATIONS: Tinned pure copper serve of cellulose acetate yarn; cotton braid overall with high gloss lacquer.

1051	22	25 ft. carton	7 x 30	.065	\$1.05 each
1052	22	100 ft. carton	7 x 30	.065	2.75 each
1053	22	1000 ft. spool	7 x 30	.065	12.00 each
1056	20	25 ft. carton	10 x 30	.066	1.07 each
1057	20	100 ft. carton	10 x 30	.066	2.90 each
1058	20	1000 ft. spool	10 x 30	.066	23.65 each
1051	22	25 ft. carton	Solid	.064	.70 each
1062	22	100 ft. carton	Solid	.064	2.47 each
1063	22	1000 ft. spool	Solid	.064	18.40 each
1066	20	25 ft. carton	Solid	.065	.94 each
1067	20	100 ft. carton	Solid	.065	3.20 each
1068	20	1000 ft. spool	Solid	.065	23.50 each



### MICROPHONE CABLE

On 100 ft. spools—Conductor color chart: 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown.

SHIELDED; Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous lengths if desired.)

TYPE No.	TYPE	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	NOMINAL CAPACITY per ft. (mmf)	LIST PRICE
1459	1 conductor	20	Lapel microphone	Tinned copper wire; covered with cotton serve and wall of live colored rubber insulation, then covered with second cotton serve, closely woven tinned copper shield, another cotton serve, and a heavy live rubber overall jacket.	26 x 34	.175	40.	\$10.15 each
1460	1 conductor	20	Crystal microphone	Tinned copper, glass yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall.	26 x 34	.240	33.	10.50 each
1462	2 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.280	63.	11.35 each
1463	3 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.290	.54	12.75 each
1464	4 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.300	.33	16.85 each
1465	5 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.340	.32	19.00 each
1466	6 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.350	.32	24.70 each
1467	7 conductor	20	Carbon microphones	Same as 1549; color coded.	26 x 34	.370	.30	25.90 each





See color chart shown above for coding.

All rubber covered; highly flexible; easy to handle for extensions, etc.; practically wear-proof.

1496	2 conductor	18		Tinned copper wire; heavy live rubber insulating color; color coded.	16 x 30	.280		\$ 7.40 each
1497	3 conductor	18		Same as 1496	16 x 30	.325		12.40 each
1498	4 conductor	18		Same as 1496	16 x 30	.325		14.30 each



**PHONOGRAPH MULTIPLE CABLE**

	TYPE No.	LENGTH	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	LIST PRICE EACH
	5130	500 ft.	2-16 28-22	Connections between commercial electric phonographs (juke boxes) and record selectors.	1 condr. No. 16 gauge bare copper wire with 1/64" black vinylite insulation. 1 condr. No. 16 gauge solid bare copper wire with 1/64" red vinylite insulation. 14 condrs. No. 22 gauge solid bare copper wire with .010" vinylite insulation, all individually color coded. 14 condrs. No. 22 gauge tinned copper wire with a .010" vinylite insulation, all individually color coded. All condrs. grouped into cable form with a tight spiral cotton wrapping and with a heavy black vinylite jacket over-all.	Solid		\$382.00
	5103	1,000 ft.	3-22	Connections for commercial electric phonographs and record selectors.	3 condrs. No. 22 with 1/64" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered.	7 x 30	.125	44.25
	5113	1,000 ft.	2-16 1-18	Connections for commercial electric phonographs and record selectors.	2 condrs. No. 16 1/32" thermoplastic insulation. 1 condr. No. 18 1/32" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated brown cotton braid overall lacquered.	2-26 x 30 1-16 x 30	.165	105.70



**MULTI-COLOR CABLES . . . for intercom and p.a. systems**

**CONDUCTOR COLOR CHART (colored rubber):** 1st—Red; 2nd—Black; 3rd—Blue; 4th—Green; 5th—Brown; 6th—Yellow; 7th—White; 8th—Tan; 9th—Pink; 10th—Gray; 11th—Purple; 12th—Orange.



**FLEXIBLE COTTON BRAIDED** For speakers, testers, battery hook-up, etc. (longer continuous lengths if desired).  
**SPECIFICATION:** Tinned flexible copper; cotton sleeve; live colored rubber insulation; bunched individual conductors; heavy brown cotton braid over-all; color coded.

TYPE No.	TYPE	LENGTH	SIZE	STRANDING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)	LIST PRICE EACH
1481	1 conductor	100 ft.	20	10 x 30	1/64	.150	\$ 4.15
1482	2 conductor	100 ft.	20	10 x 30	1/64	.175	5.60
1483	3 conductor	100 ft.	20	10 x 30	1/64	.200	7.75
1484	4 conductor	100 ft.	20	10 x 30	1/64	.275	9.65
1485	5 conductor	100 ft.	20	10 x 30	1/64	.250	11.60
1486	6 conductor	100 ft.	20	10 x 30	1/64	.260	14.45
1487	7 conductor	100 ft.	20	10 x 30	1/64	.275	16.60
1488	8 conductor	100 ft.	20	10 x 30	1/64	.300	22.45
1489	9 conductor	100 ft.	20	10 x 30	1/64	.310	23.25
1490	10 conductor	100 ft.	20	10 x 30	1/64	.325	25.30
1494	11 conductor	100 ft.	20	10 x 30	1/64	.335	27.20
1495	12 conductor	100 ft.	20	10 x 30	1/64	.350	33.80

**ANALYZER CABLE** SPECIFICATIONS: Extra flexible tinned copper; rubber covered; color coded; Brown cotton braid overall.

TYPE No.	TYPE	LENGTH	SIZE	STRANDING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)	LIST PRICE EACH
1456	8 conductors	100 ft.	2-14 6-18	41 x 30 16 x 30	1/64	.300	\$26.30
1457	9 conductors	100 ft.	2-14 7-18	41 x 30 16 x 30	1/64	.320	27.50



**TINNED COPPER SHIELDED** For radio, auto and electrical work.  
**SPECIFICATIONS:** Extra flexible; tinned copper stranded; cotton serve; live color-coded rubber insulation; cotton serve over all conductors; tinned shielded overall braid.

TYPE No.	TYPE	LENGTH	SIZE	STRANDING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)	LIST PRICE EACH
1471	1 conductor	100 ft.	18	16 x 30	1/64	.110	\$ 6.60
1472	2 conductors	100 ft.	20	10 x 30	1/64	.190	8.50
1473	3 conductors	100 ft.	20	10 x 30	1/64	.200	11.00
1474	4 conductors	100 ft.	20	10 x 30	1/64	.220	14.45
1475	5 conductors	100 ft.	20	10 x 30	1/64	.235	17.05
1476	6 conductors	100 ft.	20	10 x 30	1/64	.250	21.00
1477	7 conductors	100 ft.	20	10 x 30	1/64	.265	25.30



**CONTROL PANEL INTERCOM CABLE**  
**SPECIFICATIONS:** Tinned copper; vinylite plastic insulation; wires twisted together; closely woven braided tinned copper shield.

TYPE No.	TYPE	LENGTH	SIZE	STRANDING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)	LIST PRICE EACH
1468	2 conductors	100 ft.	22	Solid	.010	.110	\$ 5.25
1469	3 conductors	100 ft.	22	Solid	.010	.145	6.70



**LEAD COVERED CABLE** For freedom from interference, corrosion and dampness.  
**SPECIFICATIONS:** Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead sheath.

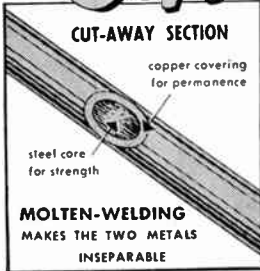
TYPE No.	TYPE	LENGTH	SIZE	STRANDING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)	LIST PRICE EACH
1453	2 conductors	100 ft.	18	Solid	1/32	.240 x .200	\$21.50
1454	3 conductors	100 ft.	18	Solid	1/32	.420	37.50

# PROVED DEPENDABILITY

# Copperweld TRADE MARK NON-RUSTING

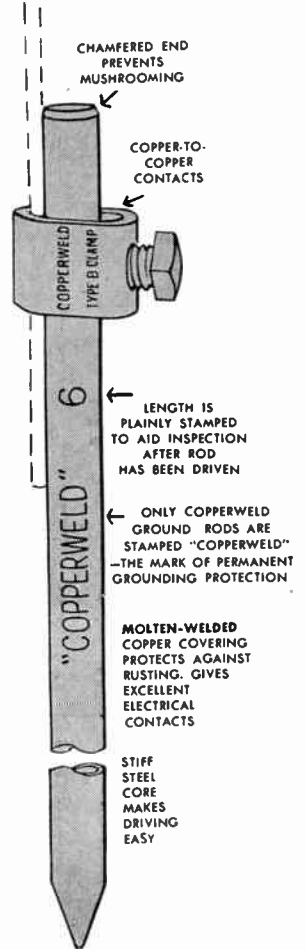
## GROUND RODS and CLAMPS

### FOR RADIO AND TELEVISION

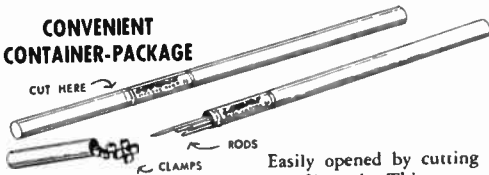


Copperweld Ground Rods and Clamps provide the reliable grounding protection necessary for successful performance, elimination of interference and safe operation of radio and television equipment. The rugged steel core gives the stiffness you need for easy driving. High conductance and lasting protection against corrosion are provided by the heavy molten-welded copper covering.

Millions of Copperweld Ground Rods are rendering permanent grounding protection. You're **SAFE** when you use Copperweld—the only Molten-Welded Ground Rods. They give you **PROVED** dependability — **PROVED** economy — **PROVED** longer service.



#### CONVENIENT CONTAINER-PACKAGE



Easily opened by cutting the heavy fiber tube. This creates a bin for the rods and a convenient container for the clamps.

#### SPECIFICATIONS

Catalog Number	Size	Pounds Per 100 Pcs.	Pcs. Per Package
RT 34	3/8" x 4'	150	25
RT 36	3/8" x 6'	220	25
RT 38	3/8" x 8'	285	20
RT 45	1/2" x 5'	330	10
RT 46	1/2" x 6'	395	10
RT 48	1/2" x 8'	515	10

Above weights include clamps.

#### COPPERWELD GUY STRAND



Ideal for guying radio and television antenna masts and towers. It provides greater safety, permanent high strength and rust proof construction for the life of the antenna. Furnished in three sizes, 3 No. 18 (breaking strength 435 lbs.), 3 No. 14 (breaking strength 1000 lbs.) and 3 No. 12 (breaking strength 2236 lbs.). Lengths of 100', 250', 500' and 1000' are available.

#### COPPERWELD GROUNDING WIRE



Used to connect antenna mast to ground rod. Annealed for easy handling. Available in two sizes, No. 8 Awg and No. 10 Awg. Coils are furnished in various lengths ranging from 50 to 500 ft.

#### COPPERWELD ANTENNA WIRE



Preferred for many years by professionals and amateurs. Because of its high strength, it maintains a fixed length. Furnished in 3 sizes, No. 12 Awg, No. 14 Awg and No. 18 Awg, in coil lengths of 100, 250, 1000 and 3000 feet.

Copperweld is also used for television twin-lead wire, coaxial cable, resistor and condenser pigtails, radio tube parts and various allied components manufactured and sold by other companies.

Additional information available upon request.

**COPPERWELD STEEL COMPANY**  
GLASSPORT, PA.

WIRE BENCHES WITH

# Pierceway

TRADE MARK REG. U.S. PAT. OFF.

## PACKAGED WIRING SYSTEMS

APPROVED BY  
UNDERWRITERS  
LABORATORIES, INC.

The Pierceway Packaged Wiring System shown here assembled is the 4-foot, 6-outlet system with back-feed section in center.



For more convenient  
and efficient use  
of portable power  
tools . . .

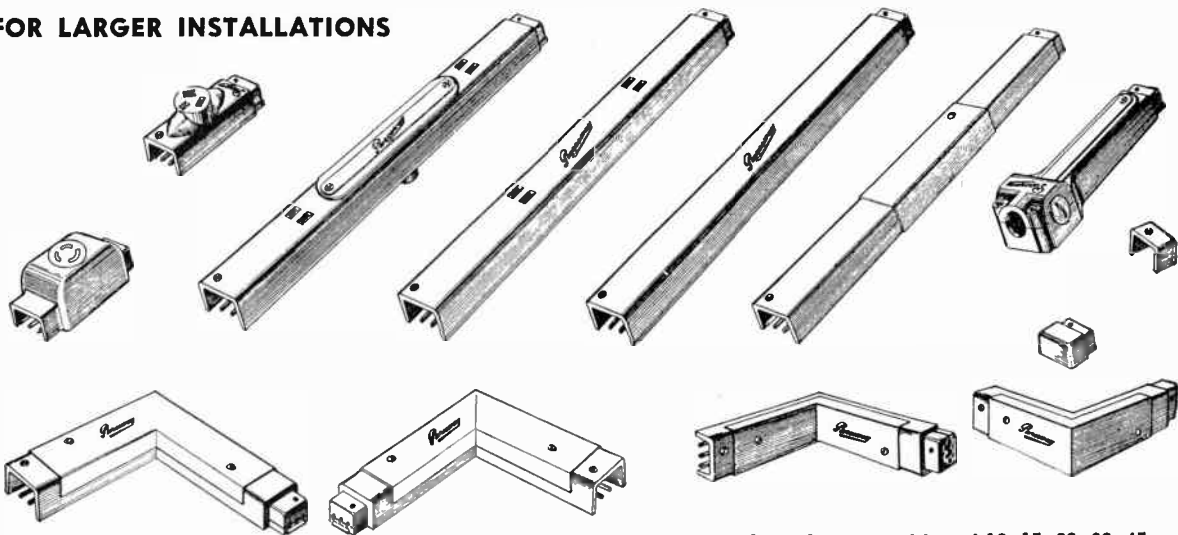
Here is the quick, easy, economical way to get all the outlets you need for efficient use of portable power tools and appliances. With 2 outlets in each section of Pierceway plastic duct, you get an outlet approximately every 8 inches.

Pierceway Packaged Wiring Systems are complete and ready to install, with copper conductors built in as an integral part of each section. These systems are easy to assemble and install—all you need is a screwdriver.

Pierceway Packaged Wiring Systems are available in both 2-wire and 3-wire systems, with a choice of end-feed or back-feed connection. Service is brought into feed section by non-metallic cable through any standard angle or straight 1/2-inch coupler.

Pierceway systems are packaged in 3 lengths: 4-foot system with 6 outlets; 6-foot, 8-inch system with 10 outlets; 9-foot, 4-inch system with 14 outlets.

### FOR LARGER INSTALLATIONS



With the parts shown here, Pierceway systems can be assembled into many types and any size of electrical circuit. They provide an exceptionally flexible installation—if necessary, a Pierceway system can easily and quickly be taken apart and reassembled to meet any change in electrical distribution requirements. All parts are 100% salvable.

Pierceway systems can be provided for voltages of 125 and 250; for all types of 2-wire and 3-wire circuits; for single-phase or 3-phase systems, and for A.C. and D.C.

circuits. Made in bus capacities of 10, 15, 20, 30, 45 and 60 amperes. Available with outlets for 2-wire or 3-wire cord caps; with outlet capacities of 10, 15 and 20 amperes; with standard 2-wire or 3-wire polarized receptacles; with Pierceway Twist-Lock or Twist-Tite receptacles, and with adequate grounding facilities.

**PIERCEWAY DIVISION**  
**CLIFTON CONDUIT COMPANY, INC.**

75 Montgomery Street, Jersey City 2, N. J.

Representatives in Principal Cities

Radio's Master — 17th Edition

S-51

# THE REX CORPORATION

## 51 LANDSDOWNE ST., CAMBRIDGE 39, MASS.

### NONSTRIP\*

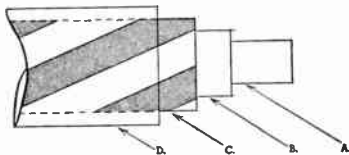
#### 125°C MICROWALL INSULATED WIRE

Rex "Nonstrip" is microwall insulated, multi-color coded, small gauge, copper wires, utilized in both military and commercial services for aircraft, radio, instrument, telephone and miniature component wiring. Rex "Nonstrip" has the distinct advantage of permitting soldering directly without stripping the insulation and without affecting adversely the electrical properties of the soldered joint. Nonstrip

is available in two types: JR for use at 200 VAC and FJR at 1000 VAC. Manufactured on equipment of exclusive design and built solely for the production of microwall insulated conductors, "Nonstrip" is produced under carefully controlled conditions yielding a consistently superior product that is unique in the insulated wire field.

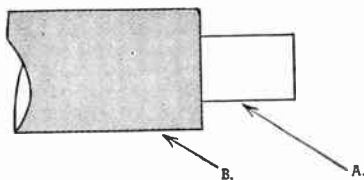


#### NONSTRIP CONSTRUCTION DETAILS



#### Type FJR—1000 Vac Rated

- A. Copper conductor (solid or stranded).
  - B. Extruded synthetic polyamide type thermoplastic insulation.
  - C. Serve of thermoplastic type marker threads (over 300 different color codes available).
  - D. Extruded synthetic polyamide type thermoplastic jacket.
- Diameter of D is 20 mils maximum over diameter of A.



#### Type JR—200 Vac Rated

- A. Copper conductor (solid or stranded).
  - B. Extruded synthetic polyamide type thermoplastic resin.
- Diameter of B is 10 mils maximum over diameter of A.

#### REXTRUDE\* No. 105 ELECTRICAL TUBING

A polyvinyl plastic tubing designed to answer high temperature problems in electronic, electrical and communication fields. Meets Underwriters' Laboratories specifications for 105°C rating. Also listed under the Re-examination Service of Underwriters' Laboratories, Inc.

ASK YOUR JOBBER TO GET  
YOU TEST SAMPLES

#### SPECIFICATION FJR

**GENERAL:** (1.1) Design recommendation for single conductor, small diameter, multi-color coded, extruded synthetic resin insulated, small gauge, light weight wire.

- (1.2) Material quality, manufacturing control, handling, etc., to be consistent with good engineering practice.
- (1.3) Improved abrasion resistance with smaller finished diameters and higher tensile strength.
- (1.4) May be soldered directly without stripping the insulation from the wire without affecting the electrical resistance of the soldered joint.
- (1.5) Designed to withstand action of solvents, mild acids, oils, alkalies, etc.
- (1.6) This specification covers wire to be used in telephone, instrument, aircraft and radio apparatus wherein they are subjected to operating temperatures from  $-50^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

**SIZES:** (2.1) Conductors are #18 AWG Cu Sn to #32 AWG Cu Sn, — Solid or Stranded.  
(2.2) Finished wire diameters to be 20 mils maximum over the bare copper conductor diameter.

**INSULATION:** (3.1) Core dielectric to be an extruded thermoplastic resin

- (3.2) Coding markers may include solid colors or any combination of colors may be specified.
  - (3.3) Jacket to be extruded transparent thermoplastic film.
- CONSTRUCTION:** (4.1) Conductor per ASTM Specification B-33 and as specified in Section 2.1.  
(4.2) Dielectric "NONSTRIP"\* synthetic thermoplastic resin.  
(4.3) Markers for the desired color combination shall be spiralled and sealed within the extruded walls providing a minimum of 90% coverage.  
(4.4) Jacket "NONSTRIP"\* synthetic thermoplastic resin.

**PERFORMANCE:** (5.1) **Thermal Stability**—The finished wire shall be capable of withstanding 120 hours at  $125^{\circ}\text{C}$ , in an air circulated oven, without serious deterioration of the dielectric's physical properties.

- (5.2) **Dielectric Strength**—After 5.1 the wire shall be capable of withstanding 2,000 VAC for 30 seconds after one (1) hour immersion in tap water at room temperature.
- (5.3) **Conductor migration**—A wire specimen shall pass 5.2 after being draped over mandrel 5 times wire diameter, with a one-half lb. weight attached to the bared conductor and held in an air circulated oven at  $125^{\circ}\text{C}$  for 72 hours.
- (5.4) **Insulation Resistance**—After 24 hours at 90% RH at  $30^{\circ}\text{C}$ , a 50 ft. length of twisted pairs shall not have less than 300 megohms after one (1) minute electrification at  $20^{\circ}\text{C}$  with an applied potential of 500 Vdc. An additional dielectric test as in 5.2 shall be applied without failure.
- (5.5) **Chemical Resistance**—This wire shall perform satisfactorily after long exposures to reactive atmospheres, mild acids, solvents, hot oils, etc.
- (5.6) **Flammability**—A wire specimen, horizontally suspended, shall not burn more than six (6) inches upon application of the standard flame test. For smaller sizes, two or more wires may be twisted together to provide sufficient copper for heat dissipation after removal of flame.

#### SPECIFICATION JR

**GENERAL:** (1.1) Design recommendation for single conductor, small diameter, extruded synthetic resin insulated, small gauge, light weight wire.

- (1.2) Material quality, manufacturing control, handling, etc., to be consistent with good engineering practice.
- (1.3) This specification covers wire for use in telephone, instrument, aircraft and radio apparatus wherein they are subjected to operating temperatures from  $-50^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .
- (1.4) Improved abrasion resistance with smaller finished diameters and higher tensile strength.
- (1.5) May be soldered directly without stripping the insulation from the wire without affecting the electrical resistance of the soldered joint.

**SIZES:** (2.1) Conductors are #18 AWG Cu Sn to #32 AWG Cu Sn, — Solid or Stranded.  
(2.2) Finished wire diameters to be 10 mils maximum over the bare copper conductor diameter.

**INSULATION:** (3.1) Dielectric to be an extruded thermoplastic resin.

- (3.2) Available in the following colors: Black, White, Clear, Red, Blue, Orange, Yellow and Green.

**CONSTRUCTION:** (4.1) Conductor per ASTM Specification B-33 and specified in Section 2.1.  
(4.2) Dielectric "NONSTRIP"\* synthetic thermoplastic resin.

**PERFORMANCE:** (5.1) **Thermal Stability**—The finished wire shall be capable of withstanding 120 hours at  $125^{\circ}\text{C}$ , in an air circulated oven, without serious deterioration of the dielectric's physical properties.

- (5.2) **Dielectric Strength**—The wire shall be capable of withstanding 1,400 VAC for 30 seconds, in tap water at room temperature after one (1) hour at  $15.5^{\circ}\text{C}$ .
- (5.3) **Conductor Migration**—A wire specimen shall pass 5.2 at a reduced potential of 700VAC after being draped over mandrel 5 times wire diameter, with a weight attached to the bared conductor and held in an air circulated oven at  $125^{\circ}\text{C}$  for 72 hours.
- (5.4) **Insulation Resistance**—After 1 hour at 90% RH at  $15.5^{\circ}\text{C}$ , a 50 ft. length of twisted pairs shall not have less than 20 megohms after one (1) minute electrification at  $20^{\circ}\text{C}$  with an applied potential of 500 Vdc.
- (5.5) **Chemical Resistance**—This wire shall perform satisfactorily in most oil, gasoline, reactive atmospheres, mild acids and solvents.
- (5.6) **Flammability**—A wire specimen, horizontally suspended, shall not burn more than six (6) inches upon application of the standard flame test.

\*"NONSTRIP" Registered Trademark U. S. Patent Office. †U. S. Patent applied for.  
\*\*"REXTRUDE" Registered Trademark U. S. Patent Office.

# THE REX CORPORATION

## REXOLITE DIVISION — HAYWARD ROAD, ACTON, MASS.

### REXOLITE 1422 U.H.F. INSULATION

COMBINES EVERY DESIREABLE PHYSICAL, CHEMICAL AND ELECTRICAL  
PROPERTY IN ONE INSULATING MATERIAL FOR UHF



- MEETS JAN-P-77 AND MIL-P-77A SPECIFICATIONS.
- SPECIFICALLY DESIGNED TO MEET THE GROWING NEED FOR A UHF INSULATING MATERIAL THAT IS LOW IN COST.
- WITHSTANDS HIGH TEMPERATURE DUE TO ITS THERMOSETTING NATURE.
- HAS OUTSTANDING ELECTRICAL PROPERTIES.
- HAS LOW SPECIFIC GRAVITY—IS STRONG AND RIGID WITH UNUSUALLY HIGH COMPRESSIVE AND TENSILE STRENGTHS.
- HAS EXCELLENT IMPACT STRENGTH AND HARDNESS, ALLOWING ITS USE UNDER HIGHLY ABUSIVE CONDITIONS.
- ITS DIMENSIONAL STABILITY AND UNUSUAL CHEMICAL INERTNESS ALLOW ITS USE WHERE OTHER MATERIALS FAIL.
- READILY MACHINABLE TO EXTREMELY CLOSE TOLERANCES.
- AVAILABLE AS CENTERLESS GROUND RODS IN ANY DIAMETER UP TO 1". ALSO AVAILABLE IN LARGER DIAMETER RODS AND SHEETS.

#### HEAT RESISTANCE

Heat Distortion (ASTM-D648-41T) 105-113°C.

Rexolite #1422 has been specifically formulated to resist high temperature. Having a heat distortion temperature a full 30°C above Polystyrene, it will withstand very high temperatures for short times, and permits the use of high-frequency induction heating for connector assembling. Under load-free conditions Rexolite #1422 maintains its original shape up to temperatures of 200°C (392°F). Even in this range it does not flow but merely becomes flexible, and upon cooling it regains its former rigidity without any dimensional changes. By loading at these high temperatures, Rexolite #1422 will distort and maintain this change if cooled while still under the distorting force. If the load is removed and the part is heated again to its softening point, the distortion vanishes and the piece regains its original form. Rexolite #1422 does not exhibit cold flow.

High frequency insulators and connector beads made from Rexolite #1422 will thus maintain their shape under light load up to 200°C (392°F) and when fully loaded they surpass the highest operating temperatures recommended for RG type coaxial cables.

#### ELECTRICAL PROPERTIES

Dielectric Constant—at 3000 MC 2.4 - 2.5  
Power Factor—at 3000 MC 0.0006 - .0009

The low dielectric constant and power factor exhibited by Rexolite #1422 at ultra-high frequencies—plus its high heat resistance—recommend the use of Rexolite #1422 for UG connector beads, UHF antenna and oscillator coils, stand-off insulators, feeder spreaders, supports for air-wound coils, terminal strips and rigid coaxial spacers.

#### PHYSICAL PROPERTIES

Specific Gravity 1.045 - 1.050

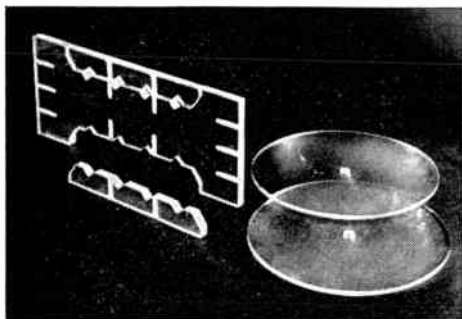
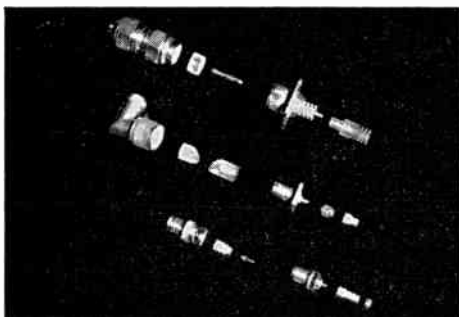
The low specific gravity of Rexolite #1422 permits a greater number of insulator parts to be fabricated per pound of material than is possible with a plastic of higher density. This advantage is reflected in lower cost per finished unit through the use of Rexolite #1422.

Tensile Strength—p.s.i. 8,000 - 10,000  
Flexural Strength—p.s.i.—(ASTM-D638-42T) 15,000 - 18,000  
Modulus of Elasticity in Flexure—p.s.i. 2.9 - 3.3 x 10<sup>6</sup>  
Compressive strength—p.s.i.—  
(ASTM-D649-42T) 18,500 - 19,000  
Impact Strength Izod—ft. lbs. per inch of  
notch (ASTM-D256-43T) 0.25 - .35  
Rockwell Hardness—H scale 68 - 72

The above data indicates that Rexolite #1422 is a strong and rigid material with high tensile and good impact strengths. This makes Rexolite #1422 especially favored for certain applications where the finished article must be able to withstand considerable strains and abuse under severe service conditions.

Coefficient of Linear Thermal Expansion—  
cm./cm./°C. (ASTM-D696-42T) 5.9 - 7.0 x 10<sup>-5</sup>  
Thermal Conductivity—cal./sec./sq. cm./°C./cm. 0.00025

Rexolite #1422 displays extremely low coefficients of thermal expansion. In applications where this plastic is used for high frequency insulation, compensations for dimensional changes with temperature are reduced to a minimum. In the engineering of UG type connectors, for example, closer fits of the beads within the connector are thus possible with minimum allowances for thermal contraction and expansion of the insulators. With proper designing, Rexolite #1422 assures no migration or distortion of the contact points in the temperature range under which the connector must operate.



ASK YOUR JOBBER TO GET YOU COMPLETE  
TECHNICAL INFORMATION AND SAMPLES



# POLYSTYRENE ROD — TUBING — SHEET

For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

## POLYSTYRENE ROD — Transparent

Available in 12" or 48" lengths

Catalog Number	Diameter	Net Price	
		12" lgth.	48" lgth.
JB-100	1/8"	\$ .03	\$ .12
JB-101	3/16"	.06	.24
JB-102	1/4"	.10	.40
JB-103	5/16"	.16	.64
JB-104	3/8"	.21	.84
JB-105	7/16"	.30	1.20
JB-106	1/2"	.40	1.60
JB-107	5/8"	.57	2.28
JB-108	3/4"	.80	3.20
JB-109	7/8"	1.15	4.60
JB-110	1"	1.55	6.20
JB-111	1 1/8"	2.00	8.00
JB-112	1 1/4"	2.30	9.20
JB-113	1 3/8"	3.00	12.00
JB-114	1 1/2"	3.30	13.20
JB-116	1 3/4"	4.50	18.00
JB-118	2"	5.90	23.60

## POLYSTYRENE TUBING — Satin Finish

Available in 12" or 48" lengths.

Catalog Number	O.D.	I.D.	Net Price	
			12" lgth.	48" lgth.
JB-201	1/4"	1/8"	\$ .07	\$ .28
JB-202	5/16"	3/16"	.10	.40
JB-203	3/8"	1/4"	.13	.52
JB-205	1/2"	3/8"	.18	.72
JB-206	5/8"	1/2"	.23	.92
JB-207	3/4"	5/8"	.29	1.16
JB-208	1"	7/8"	.38	1.52
JB-220	1 1/2"	1 1/4"	1.13	4.52
JB-222	2"	1 3/4"	1.50	6.00

## POLYSTYRENE SHEET

The following sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	\$2.50
JB-126	3/32"	12" x 12"	2.75
JB-127	1/8"	12" x 12"	3.00
JB-128	3/16"	12" x 12"	3.75
JB-129	1/4"	12" x 12"	4.60
JB-245	1/16"	12" x 24"	4.90
JB-246	3/32"	12" x 24"	5.25
JB-247	1/8"	12" x 24"	5.90
JB-248	3/16"	12" x 24"	7.25
JB-249	1/4"	12" x 24"	8.25
JB-300	1/32"	20" x 20"	7.75
JB-301	1/16"	24" x 24"	9.50
JB-302	3/32"	24" x 24"	10.25
JB-303	1/8"	24" x 24"	11.75
JB-304	3/16"	24" x 24"	14.00
JB-305	1/4"	24" x 24"	16.00
JB-306	5/16"	20" x 20"	14.50
JB-308	3/8"	20" x 20"	16.00
JB-309	3/8"	24" x 24"	23.75
JB-310	1/2"	20" x 20"	21.50
JB-311	1/2"	24" x 24"	31.88
JB-312	5/8"	20" x 20"	34.50
JB-313	3/4"	20" x 20"	41.00
JB-314	1"	20" x 20"	55.50

SINCE 1910

# JULIUS BLUM & CO., INC.

532-540 West 22nd Street, New York 11, N. Y.  
TELEPHONE: WATKINS 9-7042

# WARD AERIALS

*World's Finest*  
**FOR  
CAR AND HOME**

## SIDE COWL MOUNTS

Two stanchions for sturdy installation. Smartly designed insulators with chrome caps. Conversion kit for torpedo bodies included.

### LONG RANGER

Special sensitivity for low signal strength areas. Two stanchion, triple chrome plated, rattle-proof.

Four sections, extends to 100"  
36" Elektran Cable  
EZ-on installation

Model SC-8—Individually packed, 12 to a master carton, 22 lbs. Individual weight, 1 lb. 10 oz.

### AIR KING

Smartly styled for side mounting. Rugged construction. Finest quality heavy duty brass tubing, with corrosion free triple chrome plate. Rattle-proof.

Three sections, opens to 66"  
36" Elektran Cable  
EZ-on installation

Model SC-6—Individually packed 12 to a master carton, 17 lbs. Individual weight, 1 lb. 5 oz.



World Famous WARD  
Exclusive Patented

## EIGHT-BALL

Non-Disappearing  
TOP COWL OR FENDER MOUNTS



Installed in five minutes . . . at any desired angle. Fits any car. Rugged construction. Completely rattleproof. Smart appearance. The universal, most popular auto aerial.

Three sections; adjustable from 56" to 22"  
36" Elektran Cable

Model TCF-3B—Individually packed, 12 to master carton. 14 lbs. Individual weight 1 lb.

Model TCF-2B—Same as Model TCF-3B with only two sections.

Model TCF-3C—Same as Model TCF-3B with 54" lead.



## DISPLAY WARD AUTO AERIALS



Here is a handsome, colorful display to catch the eye, create interest and make sales . . . on your counter or in your windows. Available at your distributors.

Put this business builder to work for YOU. Identify yourself with the world's oldest, largest, exclusive manufacturer of antennas.

Model WCD-2

## PHANTOM

Disappearing

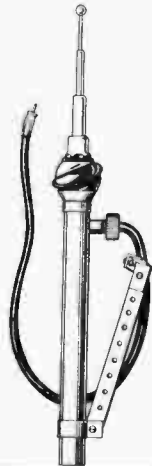
A disappearing antenna — 100% shielded against engine noises. Includes Eight-Ball for easy, smart installation plus popular disappearing feature for attractive built-in appearance.

Three sections, 56" to 3 1/2" when collapsed.  
36" Elektran Cable

Universal mounting bracket for sturdy installation

Model DCF-3—Individually packed, 12 to master carton, 17 lbs. Individual weight 1 lb.

Model DCF-3A—Same as Model DCF-3 with 54" lead.



EACH MODEL COMPLETE WITH A  
WARD ELEKTRAN LEAD CABLE

Made of the finest insulating materials—Polyethylene, wire shield braid, oil and abrasion-proof vinylite.

WARD'S exclusive lead connector fitting provides an easy coaxial connection, 100% shielded. Bayonet adapter for pin plug included so lead will fit every car radio.



Model C-8 (12 inches)  
Model C-9 (18 inches)

Provides additional lead length required for fender installation.

Covered by one or more of the following Patent Numbers:  
104968, 119160, 2152316,  
2251889, 2252671,  
2269947, 2366634.

## WINDOW MAST

3-Section, 8-Foot, Collapsible to 42 inches

FEATURES . . . Simple 3-point, 3-minute installation for apartments, homes, office buildings. Two-way mounting bracket, 12-inch lead-in strap, and heavy, weatherproof cadmium plating.

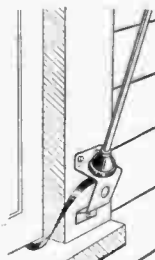
Model WM-3

Individually packed — 12 to a master carton.  
Approx. ind. shipping weight — 1 lb. 2 oz.



ON  
WINDOW  
SILL

ON  
WINDOW  
FRAME



## THE WARD PRODUCTS CORPORATION



# by WARD

## BUILT FOR RIGOROUS SERVICE

### UNIVERSAL SWIVEL MOUNTS

Antennas built for the hardest mobile use. Separate components may be combined to meet any requirements. These rear-mounting Transmitting Antennas are designed for the 25-45 mc. services. Base mounts in such a way as to allow the whip rod to be held vertically regardless of contour of vehicle body.

← SPP-3B

#### SINGLE ROD

Special Alloy Whip Rod of maximum resilience and durability. 84" Single rod for use in the range of 30 to 45 mcs. Non-Corrodng, stainless steel tapered for proper stress distribution. Base Adapter threaded  $\frac{3}{8}$ -24 to permit mounting on SPP-3 Base or SPP-3A Spring.

Individually packed. Approx. wt.:  $2\frac{1}{2}$  lbs.

SPP-12 →

#### ADJUSTABLE 2-SECTION ROD

Adjustable Rod. Telescopes from 85" to 103" and is equipped with a locking device that permits removal of the whip rod and replacement at the exact previous length. Heavy wall, hard drawn brass tubing — threaded  $\frac{3}{8}$ -24 to fit either SPP-3 Base or SPP-3A Spring. See SPP-3B for Rod description.

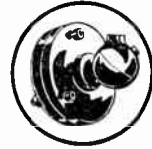
Ind. packed. Approx. weight: 2 lbs. 10 oz.

SPP-3

#### SWIVEL BASE

Swivel base for mounting at any desired point. Half balls of cast aluminum tapped  $\frac{3}{8}$ -24 to accept whip rods and shock springs. Insulator of black bakelite — rubber gaskets — steel back-up plate. All screws are Allen Head type with wrenches supplied.

Individually packed. Approx. wt.: 1 lb. 10 oz.



SPP-3A

#### SHOCK MOUNTING SPRING

This sturdy spring is used to lessen damage to the whip rod. A flexible lead through the center of the spring maintains constant electrical impedance through the spring assembly.  $\frac{3}{8}$ -24 stud on one end —  $\frac{3}{8}$ -24 tapped hole on opposite end — approximately 6" in height — made of oil tempered wire.

Individually packed. Approx. wt.: 2 lbs. 3 oz.



#### ← NEW 10 METER MOBILE TRANSMITTING ANTENNA NEEDS BUT 1 HOLE FOR INSTALLATION!

Ward's SPP-143 transmitting antenna can be installed on cowl, fender or flat rear deck of any automobile without the necessity of drilling a series of unsightly holes. It is developed to use one  $1\frac{5}{16}$ " hole, that can easily be plugged or used to mount a Ward 8-Ball standard broadcast antenna. The short, standard  $5\frac{1}{2}$ " rod reduces damage from overhead constructions.

MODEL SPP-143



#### → NEW POLICE TRANSMITTING ANTENNA GIVES COMPLETE DISGUISE TO DETECTIVE CARS

To any criminal a long whip antenna is a police car giveaway. To achieve complete disguise, Ward engineered a standard automotive aerial to withstand transmitting currents and permanently fix the rod length.

MODEL SPPB-71



#### MOTORCYCLE MOUNTS

These Antennas are designed for use on motorcycles and are built to withstand the rugged service and high vibration of vehicle. Rod is electrically short but can be used on all frequencies. 40" rod of same material as SPP-3B —  $\frac{1}{4}$ -20 mounting stud in insulator for mounting to motorcycle. Flexible base of rubber to allow movement when rod is bent — Model SPP-6 with safety ring tip — Model SPP-6A with stainless steel ball tip — no lead supplied. Individually packed. Approx. weight: 1 lb. 5 oz.

Model SPP-6—Ring Tip (Illustrated)

Model SPP-6A—Ball Tip (Not Shown)



#### ROOF TOP MOUNT

Developed for roof top mountings in 30 to 45 Megacycle range. Advantages of this type of antenna is that directional effects caused by car body shielding of antenna are avoided. Base is designed to be used with the SPP-3B rod which is sold separately. This unit consists of all components of Universal Swivel Mounts except that half-balls are replaced by SPP-3A Spring fastened permanently to insulator. No lead supplied.

Individually packed. Approximate weight: 3 lbs.

Model SPP-26 Base

#### ROOF TOP ANTENNA →

This model is designed for taxicabs, police services, and others using the 140 to 165 Megacycles frequencies. Installed entirely from the outside of vehicle — 12 ft. length of RG-58/U coaxial cable attached permanently to antenna. Whip rod is replaceable.

Individually packed. Approximate weight: 1 lb.

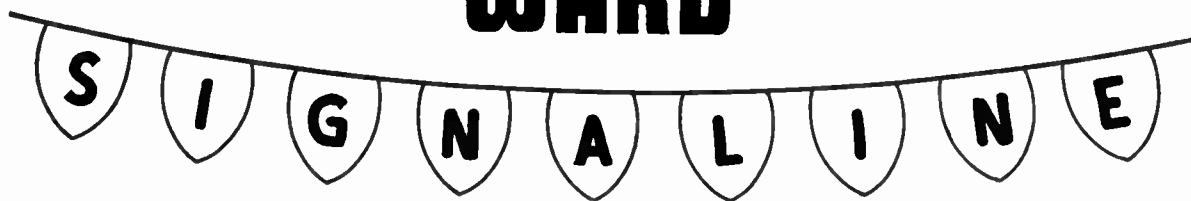
Model SPP-18



Many More Models for Every Need — Write or See Your Distributor for Catalog.

## THE WARD PRODUCTS CORPORATION

# WARD



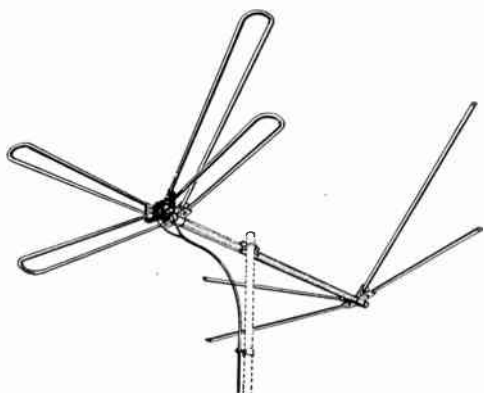
## TV ANTENNAS

1 LUCKY 4  
2 5 STAR  
3 TROMBONE

4 U-VEE  
5 MUSKETEER  
6 ZIP-HI MAST

### LUCKY 4

NEW PRINCIPLE IN CONICAL ANTENNAS



MODEL TV-136

Delivers higher gain with better impedance match, less loss, more signal strength. New design permits extra strength. Plastic pieces have estimated 50% less strain. Lightweight aluminum cuts mast tension. Assures extra performance wherever Conical Antennas are recommended. Completely preassembled.

*A new WARD "Signaline" TV Antenna*

### 5 STAR

DESIGNED FOR FRINGE AREAS . . .  
HAS FIVE OUTSTANDING FEATURES

Extra efficient — with exclusive radar-proved "T" match, exclusive offset elements.

Extra gain, higher front-to-back ratio.

Almost perfect impedance match — to 300 ohm line.

Completely preassembled — installed in seconds.

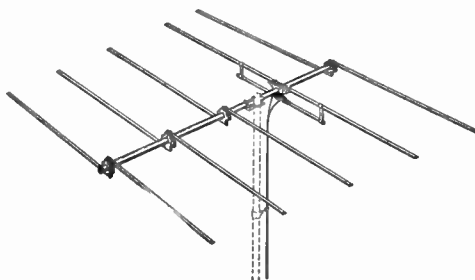
Rugged — light — reliable.

Added Features: All-aluminum doweled elements, aluminum castings, aluminum construction throughout, hi-impact plastic insulator.

Specifications: Gain — 8.5 db.

VSWR — 1.5 to 1

*A new WARD "Signaline" TV Antenna*



MODEL WY5

(Specify channel when ordering)

## THE WARD PRODUCTS CORPORATION

# WARD SIGNALINE TV ANTENNAS

## TROMBONE FOR BOTH UHF and VHF



MODEL TV-132

New high gain, fringe area, all-channel antenna. Designed to deliver high-gain on all channels. Has eight driven elements properly placed in streamlined manner. Equivalent to double and four stack models of some designs. Lightweight for tower mounting. All aluminum construction. Doweled elements. Completely preassembled; goes up in seconds. Wind-proof — vibration proof, as tested in 24 hour shake table test. Electrically engineered for sharp directivity — 300 ohm impedance — close match and low VSWR.

A new WARD "Signaline" TV Antenna

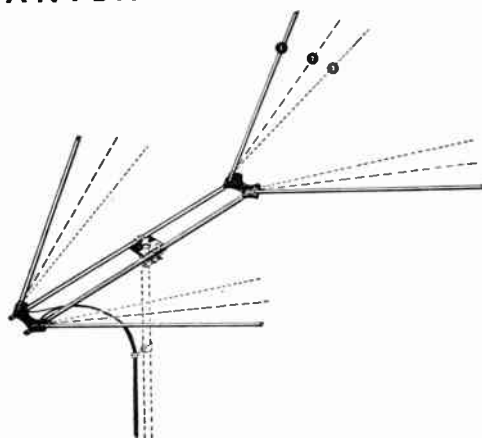
## U-VEE

### VHF and UHF ALL-CHANNEL HIGH GAIN SHARP DIRECTIVITY ANTENNA

First antenna to allow for UHF and still give top performance on VHF. Elements can be assembled at three different angles as shown in sketch. Position 1—VHF only; gains up to 8 db; exceeds most Yagis on high band. Position 2—VHF, UHF gain up to 6 db on VHF; to 12 db on UHF. Position 3—UHF only; gain up to 14 db.

Matches 300 ohm line. Impedance match comparable to commercial antennas. Completely preassembled. All aluminum construction, light, rugged, lasting. Streamlined for less wind resistance. Makes excellent appearance.

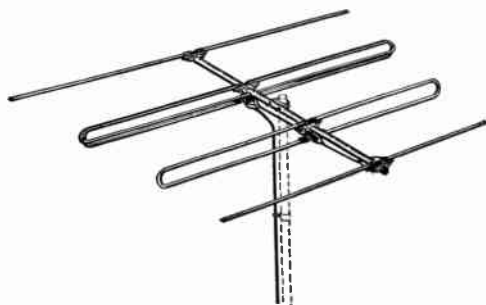
A new WARD "Signaline" TV Antenna



MODEL TV-130

## MUSKETEER

### BROAD BAND YAGI HIGH GAIN ON 3 ADJACENT CHANNELS



MODEL TV-138

Designed to give uniform high gain coverage on channels 4, 5 and 6, it permits one fringe area antenna—only one lead. With three driven elements working together, it has these unique features:

- High gain on channels 4, 5 and 6, plus extra gain on channel 3.
- Highly efficient match to 300 ohm line.
- Exclusive interlocking dipole.

Has all-aluminum doweled elements, corrosion-proof Permatube crossarm. Hi-impact plastic insulator. Preassembled; installs in seconds.

A new WARD "Signaline" TV Antenna

## THE WARD PRODUCTS CORPORATION

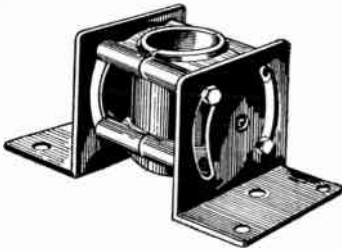
# ZIP-HI MAST

## TELESCOPING MAST IN 2, 3, 4 and 5 SECTIONS EXTENDS QUICKLY AND EASILY

Specially designed for quick, easy, safe, one-man installation, mast is available in 2, 3, 4 and 5 section models for extension to any desired height. Equipped with self-locking guy rings, it cannot collapse during installation. Double-lock prevents pulling sections apart. Does not require matching of fastening holes. Made of rugged electricweld Permatube, its plastic coating permanently resists corrosion, assures long, trouble-free life. Shipped collapsed complete with guy rings and all hardware. Antenna mounts directly on top section.

MODEL	NUMBER OF SECTIONS	DIAMETER OF SECTIONS
ME 20	2	1 1/4" - 1 1/2"
ME 30	3	1 1/4" - 1 1/2" - 1 3/4"
ME 40	4	1 1/4" - 1 1/2" - 1 3/4" - 2"
ME 50	5	1 1/4" - 1 1/2" - 1 3/4" - 2" - 2 1/4"

## ANTENNA ACCESSORIES—TV AND FM



### SELF SUPPORTING BASE—Model C-14

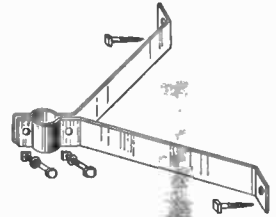
New, heavy, weatherproofed metal base for sturdy installation on any angle. The self-supporting base eliminates the need for guy wire on most installations. Accommodates 1 1/4" O.D. Mast. Ind. packed: six to a master carton. Approx. ind. shipping weight 1 lb. 7 oz. Model C-11—For use with 1" O.D. Mast. Ind. boxed. Approx. ind. shipping weight: 1 1/2 lbs.

### MAST STAND-OFF BRACKET KIT

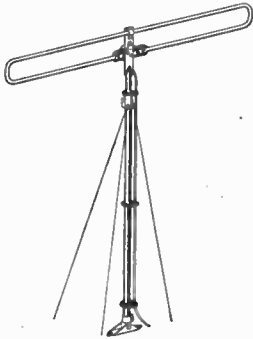
Two pairs of heavy, cadmium-plated steel stand-off brackets, for 1 1/4" O.D., to extend mast from side of house or parapet for clearance of 7" or larger size for clearance of 14". Complete with all necessary mounting hardware.

Model C-16—For 7" clearance. Individually packed: 6 kits to a master carton.

Model C-17—For 14" clearance. Individually packed: 6 kits to a master carton.



## WARD Magic Wand FM ANTENNAS FM MODELS



### FM FOLDED DIPOLE

8i-directional. Matched impedance to 300-ohm line for broad tuning, high signal gain over entire 88-106 mc. band. Adjustable mounting design for greater ease of orienting. Pre-assembly into component parts for quick installation. Contents: Dipole element of 3/8" reinforced aluminum — molded bakelite insulator — 5 ft. 1" O.D. mast and guy wire ring — universal mounting base — conduit clamp—grounding solder lug—Technical Data and Instruction Sheets. Ind. packed: twelve to a master carton. Approx. individ. shipping weight: 5 lbs.

Model FM-55—88-108 mc.

### FM FOLDED TURNSTILE

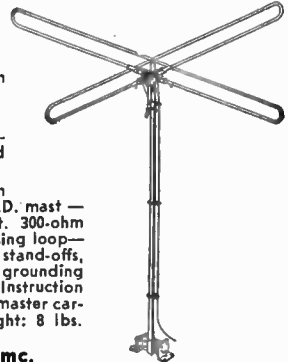
Exceptional high signal gain from All DIRECTIONS.

Does not require orienting.

Packed complete, partially Pre-Assembled components for quick and simple installation.

Contents: 3/8" reinforced aluminum folded dipole elements — 5 ft. 1" O.D. mast — molded bakelite insulators — 60 ft. 300-ohm colinear line and 1/4 wave length phasing loop—rubber stand-off pads — 6 plastic stand-offs, guy wire ring and conduit clamp — grounding solder lug—Technical Data and Instruction Sheets. Individually packed: six to a master carton. Approx. individ. shipping weight: 8 lbs.

Model FMT-56—88-108 mc.



### FM REFLECTOR KIT — Model FMR-63 88-108 mc.

Combines quickly and easily to make high gain directional array with Model FM-55. Increases gain and eliminates reflections. Most effective when transmitting stations are in same general direction. Maximum energy transfer of signal from antenna to set as result of accurately determined spacing and correct reflector length. — Contents: 3/8" reinforced aluminum reflector element—weather-proofed metal cross arm and brackets plus mounting hardware—Technical Data and Instruction Sheets.

Ind. packed: six to a master carton.

Approx. individ. shipping weight: 3 lbs.

← Reflector for use with Folded Dipole

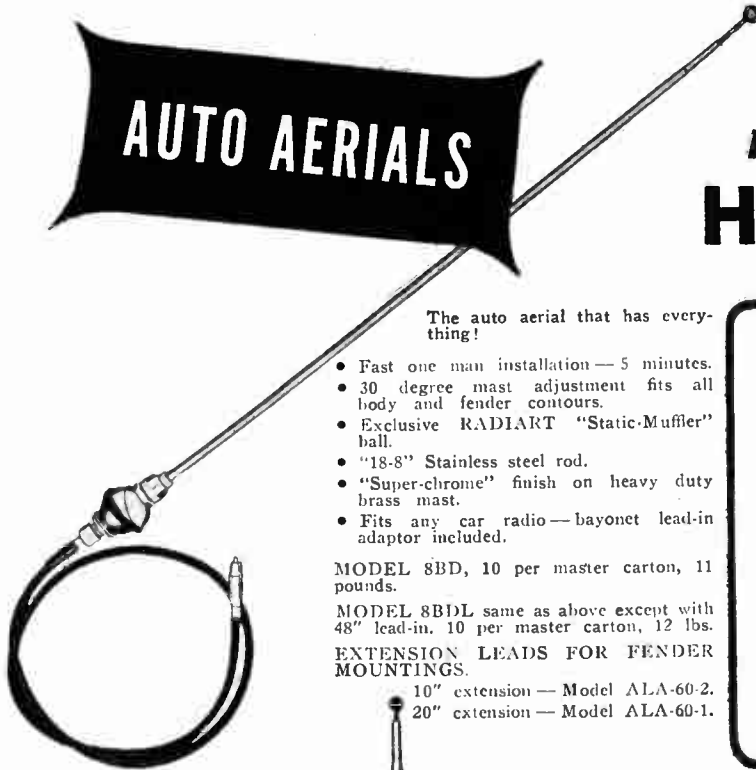
## THE WARD PRODUCTS CORPORATION

- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES



THE **RADIART CORPORATION**  
CLEVELAND 2, OHIO

## AUTO AERIALS



The auto aerial that has everything!

- Fast one man installation — 5 minutes.
- 30 degree mast adjustment fits all body and fender contours.
- Exclusive RADIART "Static-Muffler" ball.
- "18-8" Stainless steel rod.
- "Super-chrome" finish on heavy duty brass mast.
- Fits any car radio — bayonet lead-in adaptor included.

MODEL 8BD, 10 per master carton, 11 pounds.

MODEL 8BDL same as above except with 48" lead-in, 10 per master carton, 12 lbs.

EXTENSION LEADS FOR FENDER MOUNTINGS.

- 10" extension — Model ALA-60-2.
- 20" extension — Model ALA-60-1.

### TWO INSULATOR SIDE MOUNT TYPES

Sturdy high quality construction throughout. Brilliant chromed brass masts with stainless steel rods. Wedge type adaptor furnished, with 36" polyethylene lead-in.

MODEL 2S, 43" extended, 2 sections. 10 per master carton, 9 pounds

MODEL 3S, 63" extended, 3 sections. 10 per master carton, 13 1/4 pounds

MODEL 4S, 92" extended, 3 sections. 10 per master carton, 17 1/2 pounds



### DISAPPEARING MOUNT

A handsome addition to any car collapses to 6 inches and extends to 60 inches. Fits either fender or cowl and features the exclusive "O" ring seal around the mast that prevents water from entering inside the aerial. Only one 3/8" mounting hole required.

MODEL 3D, 60" extended, 3 sections, 2 pounds each

10 per master carton weighing 19 pounds.



### DELUXE MODEL 4BX3

Three section design extends to 59 1/2".

- Brilliant long lasting chrome finished mast and spacer cap
- Full length quality 36" polyethylene water-proof lead-in
- Only one half inch mounting hole required

### SUPERIOR STANDARD MODEL 4BX2

Two section design extends to 43".



## BATTERY POWER

Here is the ideal, compact, efficient unit for testing or demonstrating auto radios. SMOOTH DC POWER, 6 or 12 volts from the 110 volt 60 cycle AC line.

Model No.	Output	Watts	Size	Wt. Lbs.
110BA6	6V DC @ 10A	60	7 3/8 x 12 1/4 x 8 1/2	16
110BA12	6V DC @ 20A 12V DC @ 10A	120	7 3/8 x 13 x 8 1/2	24 1/2



**THE RADIART CORPORATION**  
CLEVELAND 2, OHIO

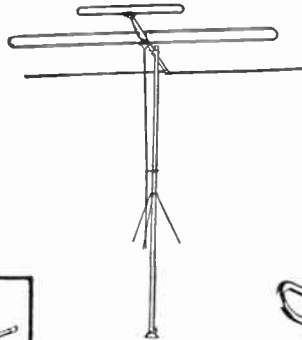


- \* RUIATORS
- \* VIBRATORS
- \* AUTO AERIALS
- \* TV ANTENNAS
- \* POWER SUPPLIES



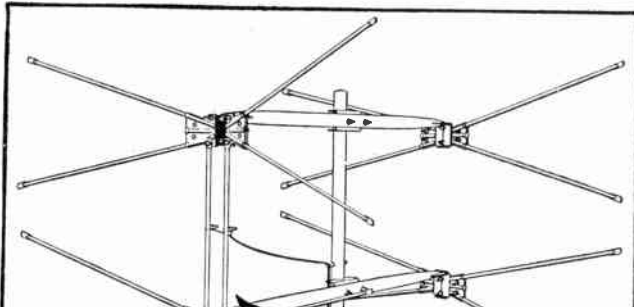
**THE "LOADED X" INDOOR**

The highest rated indoor antenna. This unusual RADIART design delivers peak performance comparing favorably with many outdoor installations.



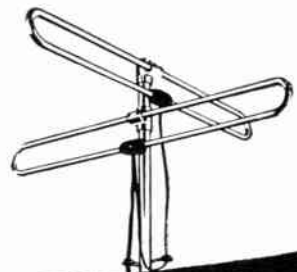
**"STRATE-LINE" ANTENNAS**

Another feature in the complete RADIART line, this STRATE-LINE array is designed for both high and low band uni-directional reception.



**FM ANTENNAS**

High quality FM antennas for peak performance under all conditions. Well designed . . . sturdy . . . easy to install.

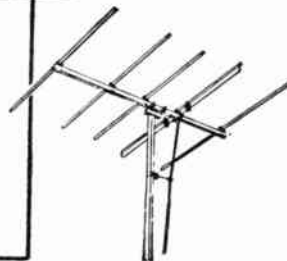


**RADIART TV ANTENNAS**

SUPERIOR DESIGN • QUICKLY INSTALLED • TROUBLE-FREE PERFORMANCE

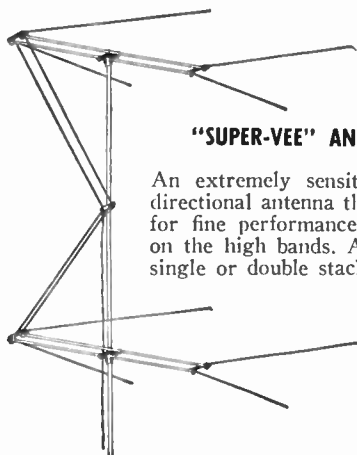
**"LAZY X" CONICALS**

A complete group of conical-type antennas in assortments for single bays, double-stacked and quadruple-stacked arrays. The ideal "all-channel" antenna. Also available in ALL ALUMINUM construction.



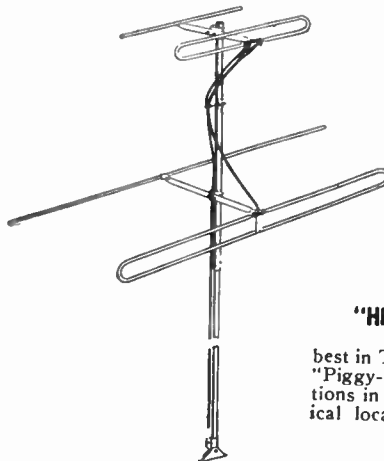
**"YAGI" TV ANTENNAS**

The perfect answer to the demand for maximum signal pick-up in FRINGE areas. Each YAGI is cut for a specific channel . . . in pre-assembled QUICK-FOLD-OUT design for fast installations.



**"SUPER-VEE" ANTENNAS**

An extremely sensitive, highly directional antenna that is noted for fine performance, especially on the high bands. Available in single or double stacked arrays.



**"HI-lo" ANTENNAS**

best in TV reception, where "Piggy-back" style for stations in different geographical locations is indicated.



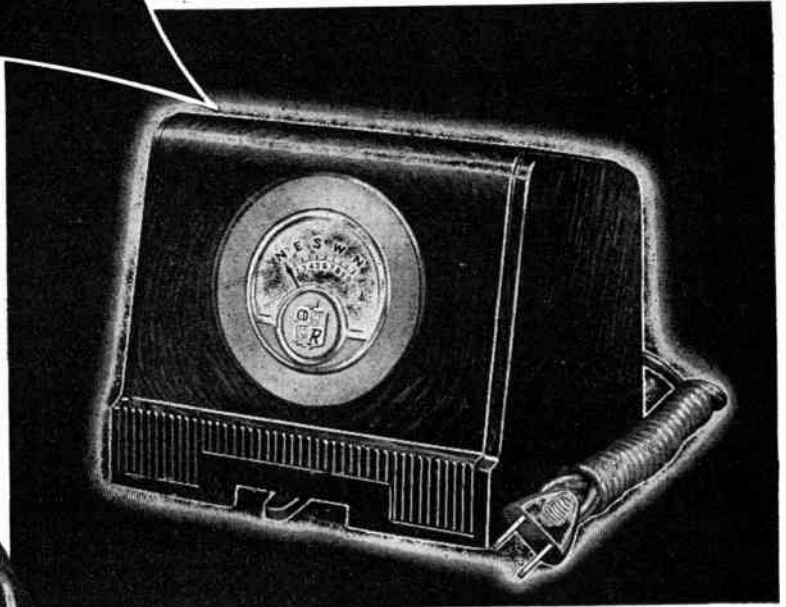
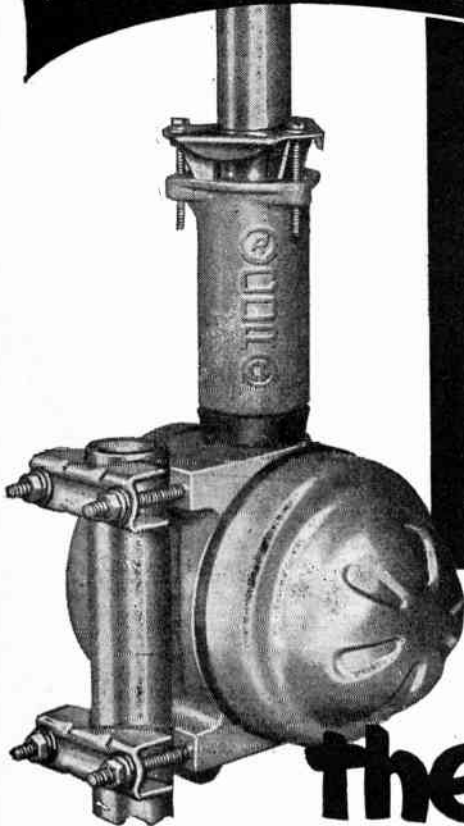
- ROTATORS
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- TV ANTENNAS
- POWER SUPPLIES



THE **RADIART CORPORATION**  
CLEVELAND 2, OHIO

**IT'S ALL NEW**

**the Rotor of Tomorrow  
HERE TODAY!**



**the**  **Rotor**

**The NO. 1 ALL-PURPOSE ROTOR *That Has Everything!***

Designed to give the trade everything they've asked for. To do this, it's taken time . . . lots of time and money and engineering skill . . . and **NOW WE HAVE IT . . .** the best possible **ALL-PURPOSE ROTOR!** It's **TOPS!** Order them at your jobber **NOW . . .** be the **FIRST** with the **BEST** in your area!

**MODEL TR-11** Complete rotor with handsome modern design plastic cabinet and illuminated meter control dial . . . fingertip lever . . . using 4-wire cable . . . \$44.95

- ★ Quick Mounting Antenna Mast Collet
- ★ Speedy Installation — No Loose Ports to Assemble
- ★ Takes Antenna Masts up to 1½" OD
- ★ High Torque
- ★ Instant Locking — will not drift
- ★ Instantly Reversible — makes complete revolution in 45 seconds
- ★ Completely Weather-proofed — Thoroughly Water-proofed
- ★ Less wind resistance
- ★ High strength with low weight
- ★ Fits standard towers

# PREMAX

# Telescoping and Whip Antennas

## PREMAX ALUMINUM ANTENNAS FOR LIGHT-WEIGHT VERTICALS

Premax Telescoping Adjustable Aluminum Antennas have light weight, corrosion resistance and adequate strength to meet needs for marine, mobile and commercial installations where convenience in erecting and dependable performance are essential. They are built up of specially-drawn, seamless, tempered aluminum tubing engineered to withstand wind velocities up to 60 m.p.h. Positive locking device is provided on each section.

### SPECIFICATIONS

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. Lbs.
AL-312	2-Sec. Tele.	12'4"	6'4"	.500"	.334"	1 1/2
AL-518	3-Sec. Tele.	18'5"	6'1"	.750"	.584"	3
AL-324	4-Sec. Tele.	24'4"	6'1"	1.000"	.834"	5
AL-530	5-Sec. Tele.	30'0"	6'5"	1.250"	1.084"	7
AL-535	6-Sec. Tele.	35'8"	6'5"	1.500"	1.310"	12

## STEEL ANTENNAS FOR LOW COST VERTICAL INSTALLATIONS

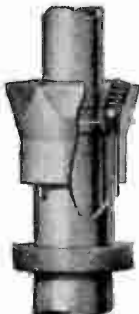
### SPECIFICATIONS

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. ea. lbs.
112-M	2-Sec. Tele.	11'8"	6'1"	.656"	.556"	4
318-M	3-Sec. Tele.	17'3"	6'2"	.875"	.775"	7
224-M	4-Sec. Tele.	22'9"	6'3"	1.063"	.963"	11
130-M	5-Sec. Tele.	28'3"	6'4"	1.250"	1.150"	15
136-M	6-Sec. Tele.	33'9"	6'5"	1.500"	1.400"	20

Low-cost, satisfactory, adjustable Steel Antennas for commercial, municipal, amateur, civil defense and other installations are made of high-tensile, copper-nickel steel tubing, heavily cadmium-plated and highly resistant to corrosion. They are fully telescoping and adjustable to any height by means of a positive locking device that also provides efficient electrical contact between the sections. We recommend the guying of all vertical antennas or supporting them by stand-off insulators against abnormal winds or severe strains. Steel antennas NOT recommended for marine use on salt water.

(For Base Insulators and Mountings, See Page S-65)

## PREMAX STAINLESS STEEL AUTO-MANIC MARINE ANTENNA



A Marine Antenna that can be raised or lowered with one hand when passing under bridges or other obstructions. It's the Premax "Auto-Manic" which has a locking device on each of its telescoping sections which allows free movement when the sliding sections are raised inches at a time with one hand, and locks them securely at any point when reverse pressure is applied. At full extension of each section, a positive locking action occurs which is proof against severe strains and vibrations. To lower the antenna, the touch of a finger raises a special ring on the base section, which releases the lower lock and the entire antenna, section by section, telescopes to its minimum 6 to 7-foot collapsed length. This "Auto-Manic" Antenna is made up of 3 to 5 sections of a special grade of stainless steel tubing, hard-drawn to an extremely high tensile and yield strength. Standard Premax Mountings and Insulators will fit these antennas. "Auto-Manic" Stainless Steel Antennas are currently available only for military use.

### SPECIFICATIONS

No.	Description	Ext'd Lgth.	Col'd Lgth.	Base O.D.	Base I.D.	Wgt. Lbs.
SS-1016	3-Sec. Tele.	16'0"	6'0"	1.000"	.900"	6 1/2
SS-1022	4-Sec. Tele.	22'0"	6'6"	1.250"	1.120"	12
SS-1028	5-Sec. Tele.	28'0"	7'0"	1.500"	1.370"	18

## ONE-PIECE SOLID GROUND TAPER WHIPS—TYPE E

One-Hand Operation—Up or Down

Type E Antennas are designed for maximum strength with extreme flexibility and are available in two grades. Base diameter 1/4" tapering to 3/8" tip. Easily cut to exact frequency as base requires no extra fittings for use with any Premax Mounting.

Chrome Silicon Steel Grade has exceptionally high tensile strength and uniformity of temper. Special heat treatment to insure high fatigue values. Cadmium-plated finish.

Stainless Steel Grade in a special formula which compares with spring steel in hardness and temper. Polished finish.

### SPECIFICATIONS

Length Overall	Chrome-Silicon Steel	Stainless Steel
60"	EC-660	ES-760
72"	EC-672	ES-772
84"	EC-684	ES-784
96"	EC-696	ES-796

## SOLID JOINTED STEP-TAPER WHIPS—TYPE A

Length Overall	Stainless Steel	Cad. Plated Steel
60"	AS-160	AC-160
72"	AS-172	AC-172
84"	AS-184	AC-184
96"	AS-196	AC-196

Type A Rods are made up of sections of varying diameters, joined securely and permanently into a solid step-tapered Antenna with 1/4" base diameter, 1/8" tip, fitting all Premax Mobile Mountings. Two styles: An extremely high carbon content steel, heat-treated and oil-tempered, with heavy cadmium-plated finish; and in polished hard-drawn stainless steel, highly corrosion-resistant.

## VHF ANTENNAS FOR 100 TO 250 Mc. OPERATION

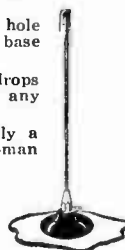
CD-11, 100 to 230 mc. Rooftop Antenna—Requires single 1/2" hole for mounting. High-tensile spring-steel wire whip, cadmium-plated.

CD-21, Temporary 100 to 300 mc. Rooftop Antenna—No hole needed! Heavy-duty suction cup holds indefinitely. Lug at base for co-ax. Easy to attach in emergency.

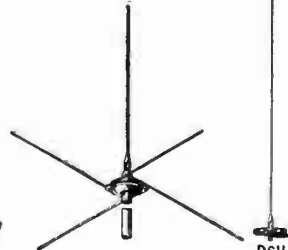
GP-31, 100 to 230 mc. Fixed Ground Plane Antenna—Cable drops down from waterproof housing through 1/2" standard pipe of any height. Skirt wires can be bent to match co-ax.

DSH-118, a 152-162 mc. Rooftop Antenna that requires only a single small hole in car-top, which is sealed. Positively one-man installation.

2-Meter Frequency	Aircraft Frequency	Police-Taxi Frequency	152-162 mc. Frequency
CD-114	CD-112	CD-115	—
CD-214	CD-212	CD-215	—
GP-314	GP-312	GP-315	—
—	—	—	DSH-118



CD-21



GP-31



DSH-118

CD-11

All Premax Whip Antennas can be supplied with Base Adaptors to fit competitive mounts. For 1/8"-18 thread specify TYPE L ADAPTOR; for 3/8"-24 thread specify TYPE W ADAPTOR.



Type E Type A

PREMAX PRODUCTS, DIV. OF CHISHOLM-RYDER CO., INC., 5107 HIGHLAND, NIAGARA FALLS, N. Y.

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Radio's Master—17th Edition

S-63

## SERIES C TELESCOPING MARINE ANTENNA—2 TO 3 MEG.

### SPECIFICATIONS

No.	Type	Base O.D.	Base I.D.	Weight Lbs.
CLA-619	Aluminum	1.000"	.834"	5
CLM-519	Monel	.893"	.799"	7
CLS-1019	Stainless	1.000"	.902"	7

For Mountings see Page S-65

A Center-Loaded Collapsible Type Antenna for marine use which provides a remarkable gain over the signal produced by a straight vertical where the loading coil is housed in the transmitter cabinet. At the high-frequency end of its 2 to 3 meg. range it gives a measured effective signal power gain of 6 db., equivalent to quadrupling transmitter power output. The base presents such a low impedance that little loss is experienced due to icing, wet weather or water spray. The line feeding the base is a low impedance line and is not critical as to length and body-capacity effects.

The Antenna consists of two telescoping adjustable base sections of seamless aluminum, monel or stainless steel tubing on which the loading coil is mounted, with a top whip section, giving a total extended length of about 17 ft. The antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 ft. The coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof varnish. Monel and stainless steel types are currently available only for military use.



Type C Center-Loaded Antenna 2 to 3 Mc.



Type B25-SL



Type B25-SV

## SERIES B LOW-COST CENTER-LOADED ANTENNAS

To meet the need for low-cost center loaded antennas which are now a "must" for mobile and marine communications between 2 and 8 mc., Premax has developed an outstanding series of Antennas that have won wide acclaim. They consist of a 6 ft. tapered whip of hi-carbon heat-treated steel mounted above a loading coil and a special base rod 24" long, with couplings to fit any standard Premax Mobile Mounting, making a 9½ ft. overall height. The coil is wound on a treated wood form, then weather-proofed with low-loss insulation varnish. With these Premax Center Loaded Antennas a gain of 8 db. or more can be secured over conventional whip types, equivalent to multiplying the power by 6.3 times—a most inexpensive way of extending both transmitting and receiving range. In cases where it is impossible to use the 9½ ft. height, the 24" base section may be omitted, which reduces the effective gain to about 6 db., still equal to quadrupling the power over a straight vertical antenna.

## SERIES B MARINE ANTENNA

The Series B Marine Antenna for 2000 to 3000 ky., as described above, comes complete with either the XL or V Type mounting, or you can, at a small additional cost, include the Spring Mounting which is very effective in counteracting pitching or shock. Stainless Steel Whip and Base Section.

Cat. No.  
B25-SL  
B25-SLS  
B-25-SV  
B25-SVS

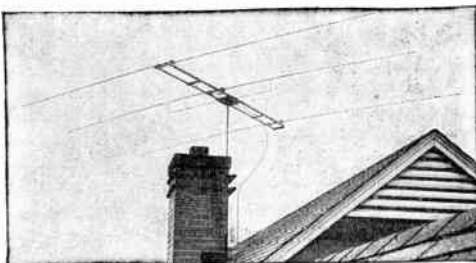
Mounting Included  
Type XL only  
Type XL and spring  
Type V only  
Type V and spring

## SERIES B COVERING AMATEUR "75", 14 AND 10 METERS, C.A.P., AIRPORT AND PUBLIC SERVICE FREQUENCIES, 2 TO 8 MC.

The basic 75 meter Antenna covers the entire mobile phone band. It may also be used for multi-band amateur operation by shorting out turns (approximately 75% on 14 Mc.) or by completely jumpering out the coil to make an efficient quarter-wave antenna on 10 meters. Can be used with any standard Premax Mounting shown on page S-65. Also available for the 2374 Ky. C.A.P. band and the 3105 Ky. Airport band. Coils for other frequencies on special order.

Frequency	Cadmium Plated Whip	Stainless Whip	Type	Height	Mounting
75 Meters	BXC-386	BXS-386	Center Loaded	9½ ft.	Not
75 Meters	BLC-386	BLS-386	Base Loaded	8 ft.	included,
3105 Ky.	BXC-316	BXS-316	Center Loaded	9½ ft.	See Page
2374 Ky.	BXC-236	BXS-236	Center Loaded	9½ ft.	S-65.

## PREMAX ROTARY BEAM KIT—6, 10 AND 11 METERS



A Rotary Beam Kit with braced frame of heavy-duty aluminum angle and solid bakelite insulation blocks that will not crack or snap under vibration and shock make this 20-pound Beam for 6, 10 and 11 meters popular with amateurs. Each telescoping element can be tightly clamped to provide positive adjustment. Parasitic elements may be left open at the center with tuning hairpins inserted or may be used as six elements on 6 meters. The RB-6309 Kit includes frame and three pairs of elements with necessary insulators and hardware, including T-match accessories but without transmission line. Complete in a single carton with assembly instructions.

Type BX With RS Mount

PREMAX PRODUCTS, DIV. OF CHISHOLM-RYDER CO., INC., 5107 HIGHLAND, NIAGARA FALLS, N. Y.

# PREMAX

# Mountings-Insulators-Accessories



### TYPE 1 BASE INSULATOR

Heavy - duty type with compression rating up to 10,000 lbs. Galvanized malleable iron or chrome-plated bronze. Rigid or hinged post. Height to post base, 7" to 9". Wt. 8 lbs.



Rigid Post		Hinged Post		Dia. Post in 32nds
Galv.	Bronze	Galv.	Bronze	
1PG-24	1PB-24	1HG-24	1HB-24	24
1PG-25	1PB-25	1HG-25	1HB-25	25
1PG-26	1PB-26	1HG-26	1HB-26	26
1PG-28	1PB-28	1HG-28	1HB-28	28
1PG-30	1PB-30	1HG-30	1HB-30	30
1PG-34	1PB-34	1HG-34	1HB-34	34
1PG-35	1PB-35	1HG-35	1HB-35	35
1PG-41	—	1HG-41	—	41
1PG-43	1PB-43	1HG-43	1HB-43	43
1PG-44	—	1HG-44	—	44



### TYPE IX—SOCKET- TOP INSULATOR

Same as Type 1 except without post; top tapped  $\frac{3}{8}$ "-16 thread. Weight 7 lbs.

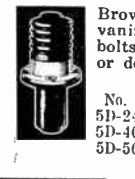
No. 1-XG—Galvanized  
No. 1-XB—Bronze



### TYPE 2 BASE INSULATOR

Light design for masts, guyed or supported by standoff insulators. Brown-glazed porcelain with removable top post and base support cemented into insulator. Height to post base 6". Wt. 4 lbs.

No.	Post Diameter
2P-24	$\frac{3}{4}$ "
2P-25	$\frac{7}{8}$ "
2P-26	1"



### DECK BUSHING

Brown glazed porcelain with galvanized malleable flange which bolts thru rubber gasket to roof or deck. Weight 2 to 5 lbs.

No.	I.D.	Total Lgth.	Above Deck	Flange Diam.
5D-24	$\frac{3}{4}$ "	6"	3"	4"
5D-40	$1\frac{1}{4}$ "	8"	4 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "
5D-56	$1\frac{3}{4}$ "	8 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	5 $\frac{3}{8}$ "



### TYPE 6 BASE INSULATOR

For marine, tower platform or roof. Lead-thru construction permits antenna connections below roof or deck. Flanges 6" in diameter with studs and bolts for  $\frac{1}{2}$ " to 3" deck. In galvanized malleable iron or chrome-plated bronze. Height to post base 3" to 5"; weight 11 $\frac{1}{2}$  lbs.

Rigid Post		Hinged Post		Dia. Post in 32nds
Galv.	Bronze	Galv.	Bronze	
6PG-24	6PB-24	6HG-24	6HB-24	24
6PG-25	6PB-25	6HG-25	6HB-25	25
6PG-26	6PB-26	6HG-26	6HB-26	26
6PG-28	6PB-28	6HG-28	6HB-28	28
6PG-30	6PB-30	6HG-30	6HB-30	30
6PG-34	6PB-34	6HG-34	6HB-34	34
6PG-35	6PB-35	6HG-35	6HB-35	35
6PG-41	—	6HG-41	—	41
6PG-43	6PB-43	6HG-43	6HB-43	43
6PG-44	—	6HG-44	—	44



### TYPE 10-S STANDOFF

Heavy-duty Insulator with chrome-plated bronze base and head-caps, brown-glaze porcelain insulator with solid or hinged clamp. Height to center about 4 $\frac{1}{2}$ "; wt. 3 lbs.

Solid		Hinged		Fits Tube O.D.
10S-2832	—	10SH-2832	—	
10S-3236	—	10SH-3236	—	1" to 1 $\frac{1}{4}$ "
10S-3642	—	10SH-3642	—	1 $\frac{1}{4}$ " to 1 $\frac{1}{2}$ "



### TYPE 13-S STANDOFF INSULATOR SOLID OR HINGED TYPE

Fits all sizes of Premax Antennas. Heavy, rugged cast caps and base plates, aluminum or chrome-plated bronze; brown glaze porcelain insulator, 3" diameter. Height to center 4 $\frac{3}{4}$ "; weight about 2 $\frac{1}{2}$  lbs.

Solid Cap		Hinged Cap		Fits O.D.
Alum.	Brass	Alum.	Brass	
13SA-24	13SC-24	13HA-24	13HC-24	$\frac{3}{4}$ "
13SA-28	13SC-28	13HA-28	13HC-28	$\frac{7}{8}$ "
13SA-32	13SC-32	13HA-32	13HC-32	1"
13SA-34	13SC-34	13HA-34	13HC-34	1 $\frac{1}{8}$ "
13SA-40	13SC-40	13HA-40	13HC-40	1 $\frac{1}{4}$ "
13SA-48	13SC-48	13HA-48	13HC-48	1 $\frac{1}{2}$ "



### TYPE 3 STANDOFF INSULATOR

Galvanized iron or bronze with porcelain body, 3" in diameter. Height to center about 4 $\frac{1}{4}$ "; weight about 2 lbs.

Available only in limited sizes. Details on request.



### TYPE 8-C MOUNTING CLAMP

For horizontal or verticals. Galvanized malleable iron frame, white porcelain split bushing. Overall width 3 $\frac{1}{2}$ "; height to center 1 $\frac{1}{2}$ "; weight 1 lb.

No.	Fits Tube O.D.	No.	Fits Tube O.D.
8C-20	$\frac{5}{8}$ "	8C-28	$\frac{7}{8}$ "
8C-24	$\frac{3}{4}$ "	8C-32	1"



### TYPE 9-C MOUNTING CLAMP

Compact mounting for horizontal or verticals. Gray galvanized iron frame, white porcelain split bushing. Height to center 2"; weight 1 lb.

No.	Fits Tube O.D.	No.	Fits Tube O.D.
9C-20	$\frac{5}{8}$ "	9C-28	$\frac{7}{8}$ "
9C-24	$\frac{3}{4}$ "	9C-32	1"



### TYPE 9C MOUNTING CLAMP

Similar to Type 9-C but more compact, lighter weight. Stamped steel electro-plated frame. Height to center 2"; weight  $\frac{3}{4}$  lb.

No.	Fits Tube O.D.	No.	Fits Tube O.D.
10C-20	$\frac{5}{8}$ "	10C-28	$\frac{7}{8}$ "
10C-24	$\frac{3}{4}$ "	10C-32	1"



### PREMAX GROUND RODS

Copper-plated steel rods, pointed for driving. Screw type clamp (J and G) takes No. 4 to 14 conductor. Other styles as illustrated. Order by number. Packed 25 per bundle.

Size	Screw Clamp	Hole	Pigtail	Plain
$\frac{3}{8}$ "x4'	J-64	—	—	—
$\frac{3}{8}$ "x6'	J-66	—	—	—
$\frac{1}{2}$ "x5'	G-85	H-85	P-85	X-85
$\frac{1}{2}$ "x6'	G-86	H-86	P-86	X-86
$\frac{1}{2}$ "x8'	G-88	H-88	P-88	X-88
$\frac{5}{8}$ "x6'	G-106	H-106	P-106	X-106
$\frac{5}{8}$ "x8'	G-108	H-108	P-108	X-108

### Type R



### MOBILE MOUNTINGS

TYPE R Universal Mounting consists of solid aluminum split-ball fixture which can be adjusted to any angle. Attaches thru heavy plastic insulation disc fitted with waterproof gasket. New type backplate provides positive ground and shielding for co-ax connector. Fits any  $\frac{1}{4}$ " dia. antenna.

### Type RS



TYPE RS Universal Mounting is similar to above but with spring as detailed under Type S.

### Type F



TYPE F 30° Adjustable Mounting for fender, cowl or gravel pan. Chrome-plated brass with heavy bakelite insulation. Replaces any existing fender or cowl antenna without new holes. Fits  $\frac{1}{4}$ " whip.

### Type SA



TYPE S Spring Mounting for roof or horizontal surface. Heavy-duty spring with bakelite insulation, rubber gasket and steel backplate. Compression type clamp fits any  $\frac{1}{4}$ " whip. Overall height about 5"; base diameter 3".

### Type S



TYPE SA Spring Adaptor, a supplemental mounting similar to Type S which can be attached to Type K, L, TA or NA to convert to spring mountings. Height 4 $\frac{3}{4}$ ", diameter 1 $\frac{1}{4}$ ".

### Type L



TYPE L Bumper Mounting permits 10" adjustment in antenna height. Has two pairs of ceramic insulators spaced 6" apart. Compression clamp for any  $\frac{1}{4}$ " whip. Bracket parts cadmium-plated.

### Type XL



TYPE XL Panel Mounting, similar to Type L except it does not have steel bumper bracket.

### Type K



TYPE K Bumper Mounting permits 10" maximum height adjustment of antenna. Heavy-duty glazed ceramic cones, heavily cadmium-plated steel bracket. Compression clamp fits any  $\frac{1}{4}$ " whip.

### Type TA



TYPE TA Trunk or Panel Mounting fits any contour of surface. White glazed ceramic cone insulators, lower support a solid brass rod joined to 12" brass tube with locking device at top; upper support 24" brass rod adjustable at any height on tube. Antenna tube provides 10" maximum height adjustment. Compression clamp fits any  $\frac{1}{4}$ " whip. All metal parts heavily cadmium-plated.

### Type NA



TYPE NA Bumper Mounting permits attachment by means of two heavy bolts and steel backplate. Special heavy duty glazed ceramic cone with compression clamp that fits any  $\frac{1}{4}$ " whip.

### Type V



TYPE V Thru-Deck Mounting for B-25 or similar antennas. White porcelain cones, brass stud threaded  $\frac{1}{8}$ "-24. Maximum opening 1 $\frac{1}{2}$ " between cones.

PREMAX PRODUCTS, DIV. OF CHISHOLM-RYDER CO., INC., 5107 HIGHLAND, NIAGARA FALLS, N. Y.

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Radio's Master — 17th Edition

S-65

# WALSCO products

Help The Radio Man

WALTER L. SCHOTT COMPANY, LOS ANGELES 18, CALIF.

## WALSCO SILICONE COMPOUND

For treating TV and amateur antenna lead wires, insulators and terminals to prevent impedance changes due to moisture conditions. Effective even in seacoast and marine locations.

This compound also prevents high voltage breakdown and arcing under humid conditions since it forms a moisture-repellent high-dielectric seal. WALSCO Silicone is very effective in waterproofing and preserving automobile and aircraft spark plugs and ignition systems.



Cat. No. List Price  
24 — 1 oz. tube ..... \$ 2.00  
24D — Display of 12 1 oz. tubes ..... 24.00

## WALSCO TWIN-LEAD CONNECTOR



For quickly connecting and disconnecting Twin-Lead. Molded low-loss shells and precision machined contacts.

Cat. No. List Price  
1580 — Pair of Connectors ..... \$ 1.40  
1580D — Display of 20 pairs ..... 28.00

## WALSCO SPAGHETTI BARGAIN ASSORTMENT



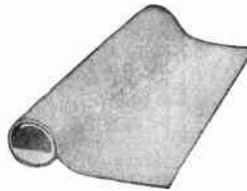
Twenty-four 8 inch lengths of durable varnished tubing. Comes in assorted sizes and bright colors. Useful for all connections in electronic devices. Special low price.

Cat. No. List Price  
644 ..... \$0.49  
644-D — Display of 25 No. 644 ..... 12.25

## INSULATING TUBING SPECIALTY ITEMS

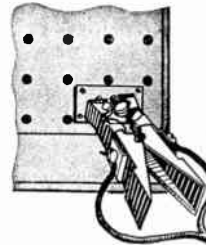
### WALSCO INSULATING CAMBRIC

High-voltage (5000-v.) insulating material for repairing transformers, field coils, solenoids, relays, etc. Yellow color; very flexible and durable.  
Cat. No. List Price  
645 — Roll of approx. 210 sq. in. .... \$0.85  
645-D — Display of 10 No. 645 rolls ..... 8.50



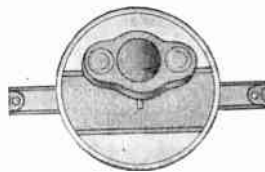
### WALSCO QUIK-KLIP

A quick method of attaching lead-in wires to TV sets. Used in service shops, demonstrating rooms, etc. Made of high impact polystyrene. Can't short out. Rugged construction. Works in any position. Free display with order of 50 units.



Cat. No. List Price  
1525 — Qwik-Klip ..... \$0.50  
1525-D — Display of 50 No. 1525 ..... 25.00

### WALSCO TWIN-LEAD WIRING NAILS



Designed for attaching 300-ohm leads to walls, moldings, etc. Ornamental head greatly improves the appearance of the installation. WALSCO nails have no appreciable effect on the impedance of the line as the heads consist almost entirely of insulating material.

Cat. No. Approx. Quant. List Price  
†2552 — 35 Per Pkg. \$0.45  
2552-99 — 200 1.80  
2552-BU — Bulk 7.70 per M

## WALSCO INSULATING TUBING (SPAGHETTI)

### WALSCO FLEXITUBE

A high-grade synthetic extruded vinylite tubing for electronic and electrical insulation. Extremely flexible and resistant to abrasion. High dielectric strength (average 12,000-volt). Resistant to cold or heat from minus 65°F to plus 185°F. (Minus 54°C to 85°C). This tubing is impervious to water, oil, alcohol and most acids and alkalis.

List Price, per pkg. .... \$1.00

Cat. No.	Size B & S Gauge No.	Approx. I.D. inch mm	Quantity per pkg.*
600	18	.042 1	20 ft.
601	16	.053 1.4	20 ft.
602	14	.066 1.6	18 ft.
603	12	.085 2	16 ft.
604	10	.106 2.7	14 ft.
605	8	.133 3.5	12 ft.
606	6	.166 4	10 ft.
607	4	.208 5	6 ft.
608	2	.263 6.5	6 ft.

Color: Clear will be supplied unless order specifies color. Black, Green or Red available subject to stock on hand.



\*For larger quantities, write for quotation.

### WALSCO RAYOFLEX

A new type "spaghetti tubing" made of heavily lacquered rayon braid. More flexible and superior in many other respects to the conventional varnished tubing. Good dielectric strength (4,000 to 5,000 volts). RAYOFLEX has a smooth and tough surface inside and out. Meets ASTM and VTA Specifications #B2. Sizes up to #6 are packed in handy boxes.

Cat. No.	Size B & S Gauge No.	Approx. I.D. inch	Quantity per pkg.*	List Price per pkg.
630	18	.042	10 ft.	\$1.05
631	15	.059	10 ft.	1.05
632	12	.085	8 ft.	1.05
633	9	.118	5 ft.	1.05
634	6	.166	5 ft.	1.05
635	2	3/4"	30 in.	0.60
636	0	1 1/8"	30 in.	0.70
637	00	3/8"	30 in.	0.75
638	0000	1/2"	30 in.	1.25

Available in: Black, Blue, Red, Yellow. Please specify color when ordering.

### WALSCO FLEXITUBE (Twin-Lead Size)



Special clear, vinylite tubing, weather-resistant. Slips easily over standard 300-ohm twin-lead. Prevents deterioration of lead-in under adverse climatic conditions. Also used as protection when installing lead close to walls, over metal gutters, etc.

Cat. No. List Price  
609-75 — 75 ft. Hank ..... \$6.50/hank  
(Standard Pack: 12 hanks)

### HANDY ASSORTMENTS

Cat. No.	FLEXITUBE	List Price
620	— 20 ft. of Assorted sizes and colors, from size 18 to 10.	\$ 1.00
620-D	— 36 Assortments of No. 620 in one Display Box	36.00
621	— 12 ft. of Assorted sizes and colors, from size 10 to 2.	1.00
621-D	— 24 Assortments of No. 621 in one Display Box	24.00

Cat. No.	RAYOFLEX	List Price
640	— 12 ft. of Assorted sizes and colors, from size 18 to 9.	\$ 1.00
640-D	— 36 Assortments of No. 640 in one Display Box	36.00
641	— 6 ft. of Assorted sizes and colors, from size 9 to 1/2"	1.00
641-D	— 24 Assortments of No. 641 in one Display Box	24.00

### WALSCO TELEVISION ANTENNAS

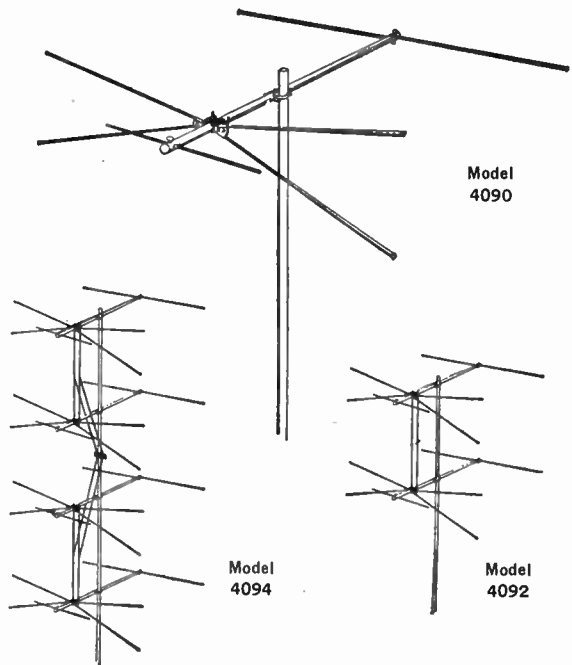
Exclusive advantages available in WALSCO Antennas assures outstanding performance in any climate . . . anywhere. All WALSCO antennas are unconditionally guaranteed for one full year. WALSCO originated the high tensile butt-seamed tubing in order to provide greater flexibility. It will not bend or break under adverse weather conditions. As a result of the exclusive U-bolt design, using hardened, serrated steel clamps, turning or slipping of the antenna on the mast is positively prevented. Antenna elements are made of special chromium - magnesium - aluminum alloy which has a 94% higher tensile strength than regular aluminum generally used for antennas. Special fold-over terminals with built-in strain relief are supplied with all WALSCO antennas and stacking bars. Stacking Kits are precision engineered for each antenna model and are formed to provide for an exact match to the transmission line. This guarantees maximum performance on stacked arrays.

#### WALSCO SIGNAL KING ANTENNA

The one antenna that does more to guarantee outstanding reception, trouble-free performance even in the fringe areas. The WALSCO Signal King, with its amazing new patented design, assures longer, dependable service under the most adverse weather conditions.

##### IMPORTANT FEATURES OF THE NEW SIGNAL KING ANTENNA

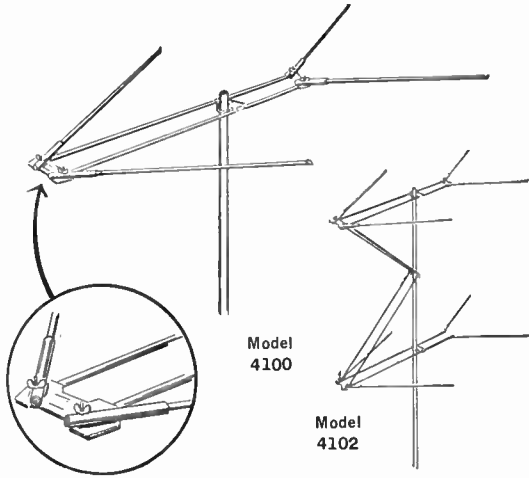
- High gain on all channels—no weak spots. Readily stacked for fringe area reception.
- Radically new insulator design (Patent Pending). Guaranteed unbreakable—outstanding and lasting dielectric properties, under all climatic conditions. Nothing like it anywhere.
- Marine type aluminum alloy elements. One end reinforced, other end sealed.
- Hi-Speed assembly—two nuts, three thumbscrews—takes less than two minutes. No loose hardware or parts.



Cat. No.	List Price
4090—Single Bay, no mast.....	\$ 9.25
4092—Dual Stack, no mast.....	19.85
4094—4-Bay Stack, no mast.....	44.50

#### STACKING KITS

Cat. No.	List Price
4005-7—To convert 2 single bays to one dual stack.....	\$1.50
4005-8—To convert 2 dual stacks to one 4-bay stack.....	5.60



"TWINTUBE" elements have double wall, reinforced ends.

Cat. No.	List Price
4100—Single Bay, no mast.....	\$ 7.50
4102—Dual Stack, no mast.....	17.75

### STACKING KIT

4005-9—To convert 2 Single Bays to one Dual Stack	\$ 2.90
---	---------

### WALSCO "DOUBLE-VEE" ANTENNA\*

A new engineering idea in a Double-Vee Antenna . . . "TWINTUBE" element construction eliminates sag and makes breakage impossible; keeps elements in perfect alignment for lasting high-gain performance.

\*Licensed under patents of the Workshop Assoc., Inc.

#### OUTSTANDING FEATURES OF THE WALSCO "DOUBLE-VEE" ANTENNA

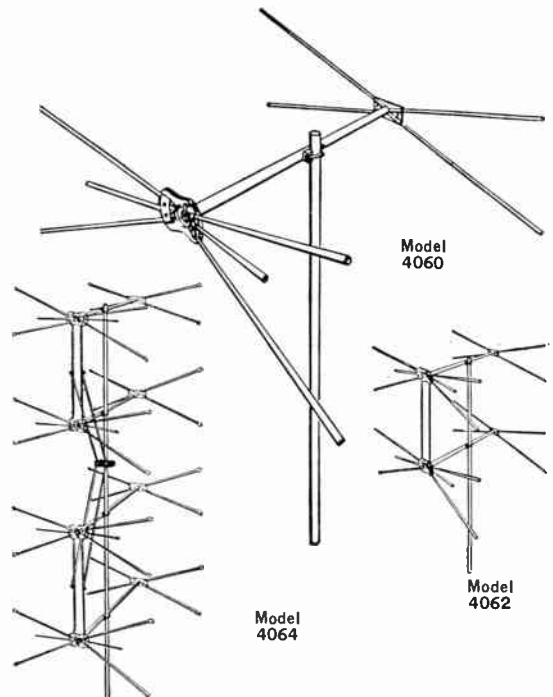
- Extra-high gain on all channels.
- Highly directive—eliminates or reduces ghosts and interference.
- Completely assembled—no loose parts—ready in less than 30 seconds.
- "Twinlube" elements eliminate mechanical failure—even under severe weather conditions.
- New molded insulators guaranteed unbreakable—outstanding and lasting dielectric properties—nothing like it anywhere.
- Marine-type, chromium-aluminum alloy elements—closed outer ends.

### WALSCO V-KING

A quality conical antenna embodying many outstanding and unique features, improved mechanical design and excellent gain characteristics over entire TV spectrum. Readily stacked for fringe area reception.

#### WALSCO V-KING . . . The Quality Antenna

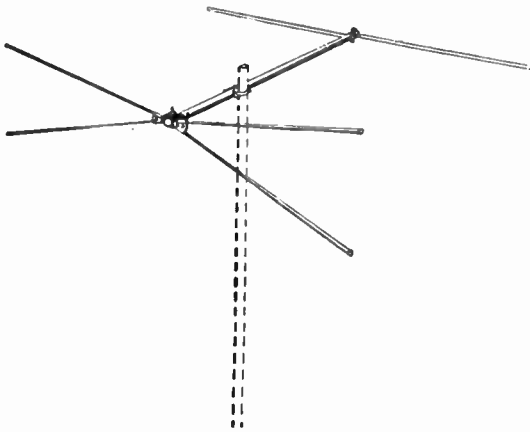
- New unbreakable high-impact styron insulator—silicone treated. Ideal for industrial or beach locations where soot or salt deposits are encountered.
- High tensile aluminum alloy element. Reinforced on clamped end—sealed on outer end to prevent wind noise or breakage.
- Weather-proof . . . corrosion-resistant alloys and A.N. specification plated hardware used exclusively.
- Fast assembly—Readily stacked.



Cat. No.	List Price
4060—Single Bay, no mast.....	\$ 9.25
4062—Dual Stack, no mast.....	19.85
4064—4-Bay Stack, no mast.....	44.50

### STACKING KITS

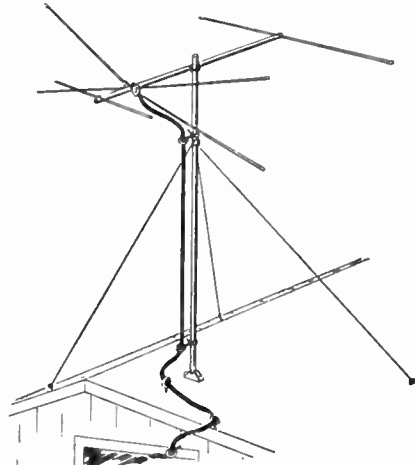
Cat. No.	List Price
4005-6—To convert 2 Single Bays to one Dual Stack.....	\$1.50
4005-5—To convert 2 Dual Stacks to one 4-Bay Stack.....	5.60



### WALSCO ECON ANTENNA

A new, quality conical antenna at a very low price. Quick assembly, no loose hardware. High gain conical array; readily stacked for fringe area reception. All-aluminum elements—one end reinforced, other end sealed. Sturdy "Galvaneal" crossarm full 1" O.D.

Cat. No.	Model	Per Carton	List Price
4050	Single Bay	6	\$ 5.95
4052	Dual Stack	3	13.10



### WALSCO U-INSTALL ANTENNA KIT

Contains everything for the average home installation: 1 Complete Antenna • 1 Mast • 1 Mast Base • 1 Guy Wire Ring • 40 Ft. Guy Wire • 50 Ft. 300 Ohm Lead-in • 3 Screw Eyes • 2 Mast Stand-off Insulators • 3 Wood Screw Stand-off Insulators. (Also available at same prices with Chimney Mount in place of Guy Wire, Base, Ring and Screw Eyes. Add "CM" to part number.) Choose any one of 3 famous WalSCO Models to best suit your area.

Cat. No.	Model	List Price
4066	V-King	\$14.25
4096	Signal King	14.25
4106	Double-Vee	12.50

### REPLACEMENT ELEMENTS FOR CONICAL ANTENNAS

$\frac{3}{8}$ " Diameter elements made of butt-seamed high-strength chromium-aluminum alloy. One end reinforced, other end crimped, on 44", 48" and 50" length.

Cat. No.	Length	List Price
4004-20	—20" long, each	\$0.22
4004-44A	—44" long, each	0.60
4004-48A	—48" long, each	0.65
4004-26A	—26" long, each	0.30
4004-50A	—50" long, each	0.65

### WALSCO MAGNESIUM LADDER for Antenna Installation

"The World's Finest Ladder"

Strong, safe, light-weight magnesium ladders that will not crack, splinter, or rot. Easy to carry and load on truck or car. (20-ft. ladder weighs only approximately 23 lbs.) Weighs much less than wooden ladders and outlasts them three to one.

Cat. No.	Dealer's Net
1600—20 ft. Magnesium extension ladder	\$53.40
1602—28 ft. Magnesium extension ladder	75.90
1603—40 ft. Magnesium extension ladder	125.70
1605—Pivoted Safety Shoes for above ladder, per pair	4.68

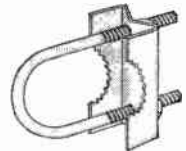


### U-BOLT BRACKET ASSEMBLY

Made of serrated steel, cadmium-plated with cadmium-plated steel U-bolts; fits masts up to 1 $\frac{1}{2}$ ". Grips mast tightly, will not slip or turn.

Cat. No.	List Price
4005-20	\$0.60

(Standard Pack: 25)



### MAST SWIVEL BASE

Heavy all-angle cadmium-plated steel base. Accommodates to any pitch roof. Allows orientation of mast AFTER installing antenna.



Cat. No.	List Price
4005-2 —For 1" Diameter Masts	\$0.85
4005-27—For 1 $\frac{1}{4}$ " Diameter Masts	0.95

(Standard Pack: 25)

### WALSCO GUY-WIRE RING

Made of aluminum-alloy. Very strong and highly corrosion-resistant.

Cat. No.	List Price
4005-1 —For 1" Diameter Masts	\$0.45
4005-26—For 1 $\frac{1}{4}$ " Diameter Masts	0.50

(Standard Pack: 25)



### WALSCO GROUND CLAMP

Made of heavily plated steel. Provides excellent contact even on rusty pipes and rods. Adjustable for  $\frac{3}{8}$ " to 1 $\frac{1}{4}$ " pipe sizes. Finest clamp made.



Cat. No.	List Price
4005-10	\$0.20

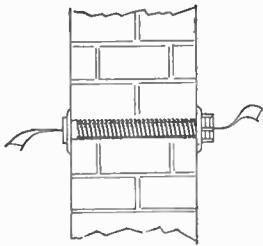
(Standard Pack: 25 units)



### WALSCO FEED-THROUGH BUSHING FOR 300-OHM TWIN-LEAD (Patent Pending)



The ideal method for bringing TV and FM antenna Twin-Lead into the house. Weather-tight installation is now possible. Eliminates bringing the wire under the window. Attractive professional appearance on inside and outside of house. Supplied in 8 5/8" length to fit most walls. Easy to cut off for thinner walls. Low-loss polystyrene holds line securely but will not change line impedance.



Cat. No.	List Price
1550 (Old No. 4011)—Feed-through Bushing .....	\$ 1.10
1550-D (Old No. 4011-D)—Display of 12 Bushings.....	13.20

### WALSCO ALUMINUM GROUND WIRE



High-conductivity, solid aluminum ground wire. Very soft and easy to install. 1/8" thick (No. 8 B & S gauge). For grounding of antennas.

Cat. No.	List Price
1500—100-ft. coil .....	\$ 2.75
1505—500-ft. coil .....	12.80

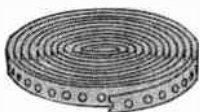
### WALSCO GUY WIRE

High-grade galvanized steel stranded Guy Wire, fully rust-resistant, excellent for masts and towers. Put up in 200-ft. continuous lengths, wired off into four 50-ft. coils.



Cat. No.	List Price
1510—4 Strand No. 20; 3/32" diam.....	\$1.45 per C ft.
1512—6 Strand No. 20; 1/8" diam.....	1.90 per C ft.
(Standard Pack: 1200 ft.)	

### WALSCO PERFORATED STEEL STRAP



3/4" wide, galvanized strapping for fastening masts to chimneys, vent-pipes, etc. Flexible and strong. 1/4" diam. holes punched 3/4" apart.

Cat. No.	List Price
1518—10-ft. coil .....	\$0.70
(Standard Pack: 25 rolls)	

### WALSCO STAND-OFF INSULATORS

Made of high-grade polyethylene insulator, precision molded for easy insertion of Twin-Lead or RG-59/U co-ax. Rust-resistant galvanized steel screw eyes.



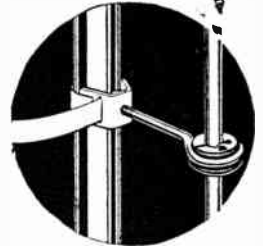
#### Wood Screw Type

Cat. No.	Length	List Price
1560-1	3 1/2"	\$0.07
1560-3	7 1/2"	0.09

#### Most Type

(Fits any size mast to 2 1/2" O.D.)

1565-1	3 1/2"	\$0.21
1565-3	7 1/2"	0.29
(Standard Pack: 100)		



BULK QUANTITY PRICES ON REQUEST

### ANTENNA INSULATOR ASSEMBLY

Complete insulator with holding straps, clamps, screws, nuts and lugs for the V-King Antennas.

Cat. No.	List Price
4005-11A .....	\$1.75

### WALSCO TURNBUCKLES

Strong and rustproof. Indispensable for high mast and tower installations.

Cat. No.	Length Open	Length Closed	List Price
1533	4 1/4"	3"	\$0.30
1535	7 1/2"	5 1/2"	0.40
1537	10 1/2"	7 1/2"	0.95
(Standard Pack: 1 Dozen)			



### WALSCO SCREW EYES



Heavy steel cadmium-plated screw eyes for securing of guy wires.

Cat.No.	Each	Per Gross	List Price
1540—Over-all length 2".....	\$0.05		\$5.40
1542—Over-all length 3".....	0.08		8.25
(Standard Pack: 144)			

### WALSCO ROOF PATCHING COMPOUND

For waterproofing around mast-bases, screw-eyes or wherever roof is punctured. Made of highest quality asphalt base with fibred asbestos. Easy to apply with applicators furnished with each can.



Cat. No.	List Price
1548—16 oz. can.....	\$1.00
(Standard Pack: 24)	

### WALSCO T-VIEW LAMP

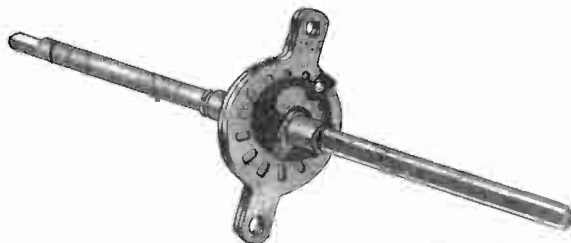
*natural,  
glare-free lighting  
... properly balanced  
for clearer T-V reception*

A beautiful, hand-painted television lamp that actually improves the TV picture. The new WALSCO T-VIEW Lamp provides a subdued, indirect illumination of any size room. Gives a proper balance of soft, glare-free, natural light for sharper, brighter TV reception.



The new T-VIEW Lamp eliminates eye-strain by preventing glare or reflections on the television screen.

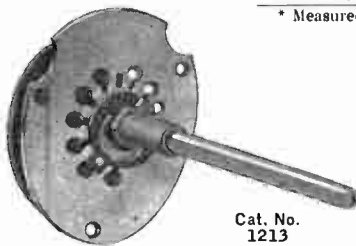
Cat. No.		List Price
TVL	Black .....	\$6.95
TVL	Chartreuse .....	6.95
TVL	Maroon .....	6.95



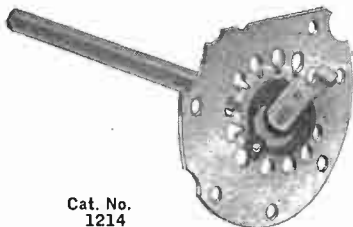
SHAFT LENGTH\*

Cat. No.	Brass	Phenolic
1210	2 1/8"	3 3/4"
1211	3 1/8"	3 3/4"
1212	4 1/8"	3 3/4"

\* Measured from "C" Washer



Cat. No. 1213



Cat. No. 1214

### WALSCO T-V TUNER DETENTS

Three point ball-bearing suspension for smooth, positive tuning. Phosphor-bronze spring for longer lasting, dependable performance. Linen base phenolic shafts are rigid, precise, non-warping.

- Part No. 1210 replaces RCA part 71463
- Part No. 1211 replaces RCA part 72743
- Part No. 1212 replaces RCA part 201E1 for use with Tuner No. 71531
- Part No. 1213 replaces RCA part 73440
- Part No. 1214 replaces RCA part 75162

Cat. No.	List Price
1210 .....	\$2.80
1211 .....	3.15
1212 .....	4.15
1213 .....	4.75
1214 .....	4.00

# Monitor

## TOWERS FOR TELEVISION



**MODEL 40 TK** Complete 40' installation including 010 TK and 30 AM, described below. Tower 10' high with especially designed 30' telescoping mast allows for simple one man erection of antenna 40' over a roof. Includes base to fit all roofs, self contained permanent ladder, two sturdy cast iron mast clamps adjustable for mast diameter 1" to 2", and guy washers. Exclusive built-in mast joint is simple, rigid. Safety catch holds mast during erection, installer has hands free. Heavily galvanized, built to withstand 80 mile wind. Shipped flat with major assembly done at factory.

Tower No.	Height	Wt. Lbs.	List Price	Net Dealer Price
40 TK	40' (10' Tower & 30' mast)	80	\$54.60	\$32.76

### MODEL 30 AM

Economical 30' three-section telescoping steel mast for simple, one man straight-up vertical erection, eliminating cumbersome tip-ups and high climbing. Special hardware makes tight rigid joints, and holds mast during erection, installer has hands free. Light and sturdy—will withstand 80 mile wind.

No.	Height	Wt. Lbs.	List Price	Dealer
30 AM	30' Mast	30	\$24.15	\$14.49
31 AM	Roof Mount with 30' Telescoping Mast	39	\$31.95	19.17

### MODEL 20 AM

A two-section 20' telescoping mast built the same as the 30 AM mast described above.

No.	Height	Wt. Lbs.	List Price	Dealer
20 AM	20' Mast	20	\$15.50	\$9.30

### MODEL 10 AM

10' sections of sturdy 1 1/4" O.D. 18 gauge tubing with special Baker joint for stacking. The sections are rust proofed with Perma-tube coating inside and out.

No.	Height	Wt. Lbs.	List Price	Dealer
10 AM	10' Mast	8	\$3.80	\$2.28

### ROOF MOUNT

Fits any roof. Sturdy casting and two U bolts clamp firmly to base of mast, diameter 1" to 2". Mount pivots in 2 directions to allow double tip-up. Built strong enough to support mast temporarily without guys during erection.

No.	Wt. Lbs.	List Price	Dealer
1 FM	9 1/4	\$7.95	\$4.77

### MODEL 010 TK

Self supporting steel tower 10' high. Includes base to fit all roofs, self contained permanent ladder, and two sturdy mast clamps, spaced 16" apart, adjustable for mast diameter 1" to 2". Folded flat for shipment. Heavily galvanized.

Tower No.	Height	Wt. Lbs.	List Price	Dealer
010 TK	10' Tower	50	\$36.49	\$21.89



PATENT APPLIED FOR

PATENT APPLIED FOR

**BAKER MANUFACTURING COMPANY** EVANSVILLE, WISCONSIN

Prices, F.O.B., Evansville, Wisconsin. Prices and specifications subject to change without notice.

# RCA ELECTRONIC COMPONENTS



## TELEVISION ANTENNAS

**COMPLETELY NEW DESIGN — BUILT TO LAST**  
**RCA 12-CHANNEL TELEVISION ANTENNA —**  
**TYPE 215A1**

**BASED UPON YEARS OF FIELD EXPERIENCE**  
 • Easily Assembled • Ruggedly Constructed • Uni-Directional

Here's an RCA "Leader" to meet the majority of your everyday antenna needs. Engineered and developed by RCA for plus-value service, RCA-215A1 is intended for use in most receiver locations where both high and low-frequency stations are in the same general direction. Unique RCA "V" attachments provide uniform directional characteristics for all 12 channels.

RCA-215A1 12-Channel Television Antenna is simple in design and appearance. Sturdily built of aluminum, it will withstand high winds, sleet, and ice. Designed for use with 300-ohm transmission line, the 215A1 rates "A" for antenna achievement: — for over-all performance and unusually flat response over each of the two television bands.

Supplied with all necessary hardware but less mast. Completely illustrated instructions for installation are included.



215A1

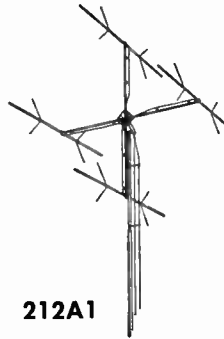
**\$13.50**  
**Suggested**  
**List Price**

### THE RCA REVERSIBLE-BEAM TV ANTENNA ARRAY — TYPE 212A1

**For Locations with Co-channel Interference**

The RCA Reversible-Beam TV Antenna Array receives signals from only one direction at a time; eliminates co-channel interference where stations are approximately 180° apart. It also eliminates adjacent-channel interference where the receiver lacks selectivity. RCA-developed "V" attachments provide uniform directional characteristics for all twelve channels. A high overall front-to-back ratio is achieved through the use of driven elements, instead of parasitic elements. This design also makes possible the unique feature of lobe switching.

Sturdily built throughout of high-quality aluminum, the RCA Reversible-Beam Antenna consists of an array of four eight-foot dipoles in the form of a square. A dual transmission line connects the horizontal and vertical dipoles to an attractively packaged diplexing network located at the rear of the receiver. By the mere flick of a switch on the diplexer, antenna directivity can be reversed.

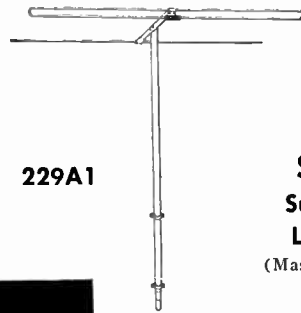


212A1

**\$59.50**  
**Suggested**  
**List Price**

### RCA FM FOLDED-DIPOLE ANTENNA AND REFLECTOR

Engineered by RCA for use with FM receivers having a 300-ohm input, the RCA 229A1 has an unusually flat signal response providing efficient coverage of the entire FM band from 88 Mc to 108 Mc. Excellent for use in fringe area installations, the 229A1 has high uni-directional gain—maximum interference rejection in opposite direction—requires no adjustment of elements, and is easily oriented for maximum signal. Constructed of lightweight aluminum elements for greater durability . . . easy to install, no special tools needed. Complete with all hardware.



229A1

**\$7.60**  
**Suggested**  
**List Price**  
 (Mast not included)

## ANTENNA ACCESSORIES

### Antenna Mounting Brackets

Readily adjustable to permit mounting on any roof—regardless of overhang. Can be attached to brick, stone or wood. Entire bracket is plated with bright zinc, preventing rusting and subsequent staining of building surfaces. Special angular supports eliminate sagging. Stock No. 227A1. Sugg'd List Price: \$6.75 per pair.

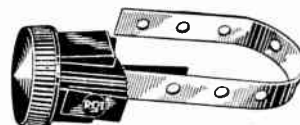


227A1

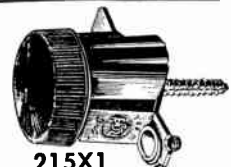
### Twin-Lead Lightning Arrester

For use with FM and TV antennas. Easy to install—cutting or stripping of transmission line is unnecessary. Fits any 1/2"-2" pipe. Continually dissipates static surges. Does not unbalance line. Brown plastic case. Stock No. 214X1. Sugg'd List Price: \$1.10.

New outdoor type arrester—wood screw firmly secured in body—no special tools needed. Stock No. 215X1. Sugg'd List Price: \$1.25



214X1



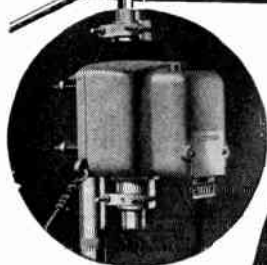
215X1

All prices in effect 3/1/51.

# ALLIANCE TV PRODUCTS—Antenna Rotators • Boosters

## ALLIANCE TENNA-ROTOR—3 MODELS

### ALLIANCE TENNA-SCOPE—NEW BOOSTER



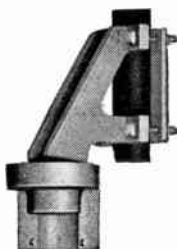
**SEALED ROTATOR**  
works in all weather  
—guaranteed one  
year—UL approved.

**DELUXE MODEL HIR**  
Directional Fully  
Automatic Rotator!  
"Just set it and forget  
it!" List . . . \$44.95



**MODEL DIR** has  
N—E—W—S direc-  
tion indicator dial!  
Especially noted for  
its extreme accuracy.  
UL approved!  
List . . . \$44.95

**MODEL ATR**—this standard  
model with illuminated screen.  
Shows when limit of travel  
in either direction is reached.  
One year guarantee—UL  
approved! List . . . \$34.95



**THRUST BEARING BRACKET** — (Model  
TBB) new design, recommended for  
the heavier installations, transfers antenna  
weight from rotor through mast to ground.  
Also, recommended with rotator for most  
3-element manufactured 10 meter beams.  
List . . . \$7.95

**ALLIANCE TENNA-SCOPE  
BOOSTER**—unusually high  
gain—one simple control  
—interference-rejecting—  
automatic on-off switch—  
performs on all channels.  
List . . . \$29.95



## National TV Advertising Assures Consumer Acceptance!

● **MODEL HIR**—the ultimate, fully automatic Alliance Tenna-Rotor. Simply set pointer—antenna turns to that point and stops. Light moves along dial—shows antenna position while rotating. No fumbling or "hunting" for direction—eraseable dial provides directional marking. Quickly accessible connections on control box make for fast installation. N—E—W—S directions shown. By far the most practical and convenient rotator!

● **MODEL DIR**—provides positive accurate instant control of rotation—has direction indicator dial.

● **ALLIANCE TENNA-SCOPE**—new Alliance Booster with two tubes offers electronic features for maximum reception in both fringe and primary TV areas. Features exceptional high channel reception; uniformity of picture and sound. Superbly styled walnut plastic case blends with all furniture. Brings in more stations, clearer, brighter images, stronger signals—works with indoor or outdoor antenna. Low noise factor.

● Special Alliance 4-conductor "ZIP" cable can be used with all Alliance Tenna-Rotors to speed installation. Alliance TV products are backed by more national advertising than any other TV accessories! Alliance Tenna-Rotor is the universal rotator!

FOR COMPLETE DETAILED SPECIFICATIONS,  
BOTH ELECTRICAL AND MECHANICAL, ON  
EACH ALLIANCE PRODUCT—WRITE THE  
FACTORY FOR CATALOG SHEETS.

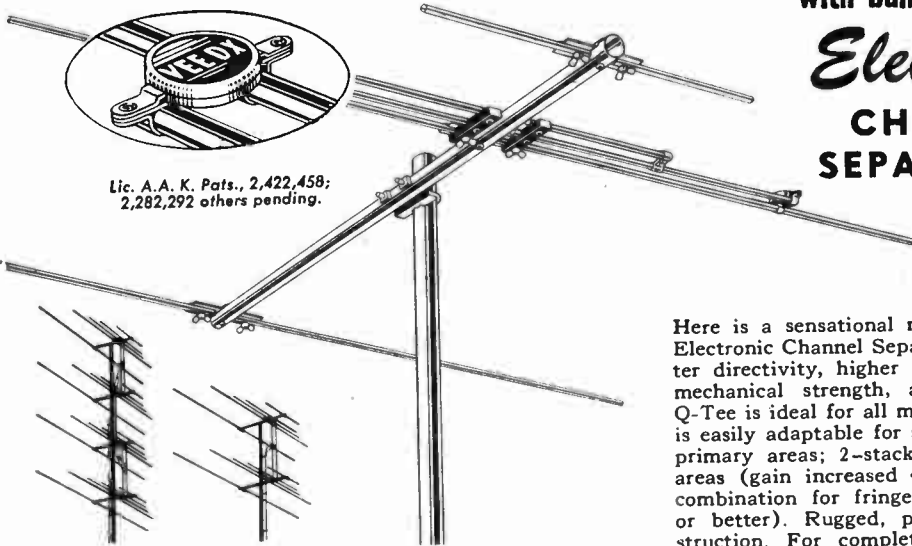
**ALLIANCE MANUFACTURING COMPANY**  
ALLIANCE, OHIO

# VEE-D-X

Builders of The World's Most Powerful Antennas

## New! VEE-D-X All-Channel Q-Tee

with built-in patented  
*Electronic*  
**CHANNEL  
SEPARATORS**



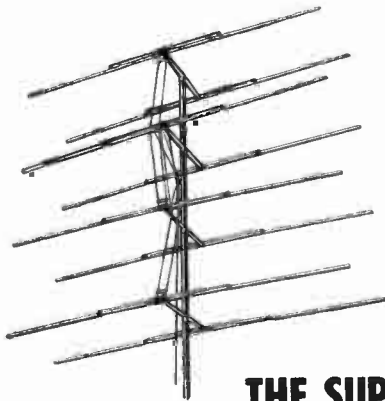
Lic. A. A. K. Pats., 2,422,458;  
2,282,292 others pending.

Here is a sensational new all-channel antenna with Electronic Channel Separators for increased gain, better directivity, higher front-to-back ratio, increased mechanical strength, and better appearance. The Q-Tee is ideal for all multi-channel requirements and is easily adaptable for stacked arrays—single bay for primary areas; 2-stack combination for near fringe areas (gain increased 40% or better); and 4-stack combination for fringe areas (gain increased 100% or better). Rugged, pre-assembled VEE-D-X construction. For complete technical information and prices, write for bulletin on the Q-Tee.

4-stacked for fringe areas

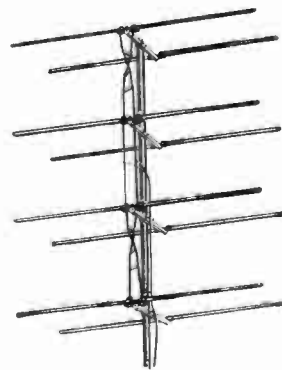
2-stacked for near fringe areas

single bay for primary areas



### THE SUPER MODEL RD-13A

Highest gain and most powerful all-channel television antenna ever manufactured. Holds every record for long distance reception. The Super is a four-bay, full wave, 32 element stacked array of extra heavy construction. Sharp beam angle minimizes ghosts, noise and co-channel interference. **\$129.50 list.**



### COLINEAR

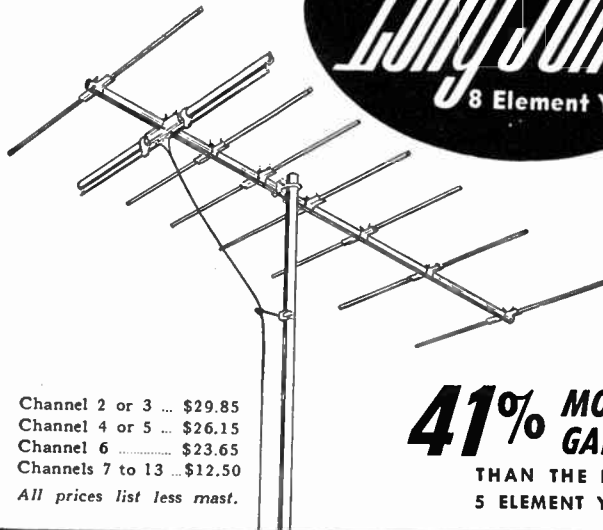
Here is the lowest priced four-bay array ever manufactured. High gain all-channel performance. Pre-assembled construction. The ideal antenna where powerful multi-channel reception is required. Complete with attached phasing harness, less mast. **\$26.13 list**

**THE LaPOINTE-PLASCOMOLD CORPORATION, ROCKVILLE, CONNECTICUT**

# VEE-D-X

## Builders of The World's Most Powerful Antennas

### Now! EXTRA POWER for single channel reception . . .



Channel 2 or 3 ... \$29.85  
 Channel 4 or 5 ... \$26.15  
 Channel 6 ..... \$23.65  
 Channels 7 to 13 ... \$12.50  
 All prices list less mast.

**41% MORE GAIN**  
 THAN THE BEST  
 5 ELEMENT YAGI

### THE GREAT NEW FRINGE AREA ANTENNA

VEE-D-X engineers have perfected this entirely new 8 element Yagi to meet the increasing demands throughout the trade for a single bay antenna that produces as much gain as a stacked Yagi array, yet lower in cost, easier to install, and better in appearance. Long John is the answer.

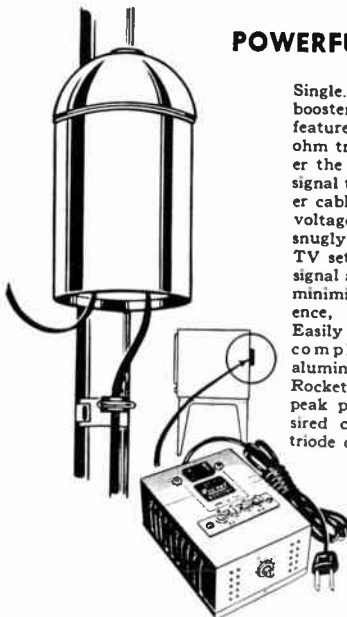
- Costs less than a double-stacked array
- Faster, easier to install than stacked arrays
- Better roof-top appearance
- Higher front-to-back ratio—eliminates co-channel interference
- Full 6 megacycle band width
- Rugged, pre-assembled construction

SPECIAL PHASING HARNESS PRODUCES 50% MORE GAIN IN DOUBLE-STACKED LONG JOHN THAN IN SINGLE LJ

## NEW ROCKET BOOSTER

PRE-AMPLIFIES SIGNAL AT ANTENNA HEIGHT

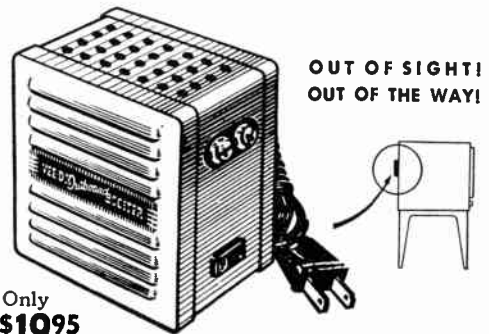
POWERFUL 18 db GAIN



Single channel mast-mounted booster with exclusive new features. Uses only one 300 ohm transmission line to power the booster unit and bring signal to set. No separate power cable. Control unit has line voltage compensator and fits snugly against back of any TV set. The Rocket amplifies signal at antenna height which minimizes line noise, interference, and signal instability. Easily installed mast unit has completely weather-proof aluminum case, *not steel*. The Rocket is factory pre-set for peak performance on any desired channel. Push-pull 6J6 triode circuit.

ONLY  
**\$34<sup>95</sup>** LIST  
 COMPLETE WITH  
 POWER UNIT

## OUTBOARD BOOSTER



OUT OF SIGHT!  
OUT OF THE WAY!

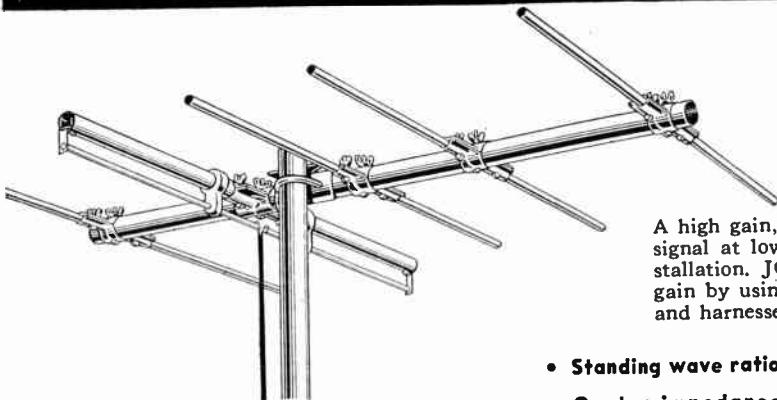
Only  
**\$19<sup>95</sup>** list

Powerful set-mounted single channel booster. Pre-set for any desired channel, the VEE-D-X Outboard costs much less than any tuned booster, yet delivers 18 db gain with full 5 megacycle band width. Individual slug tuned grid and plate coils assure perfect alignment—6J6 push-pull cross-neutralized amplifier will not oscillate—unique RF assembly is compact and precision engineered. Prevents re-radiation. No special tuning tool required.

## THE LaPOINTE-PLASCOMOLD CORPORATION, ROCKVILLE, CONNECTICUT

# VEE-D-X

Builders of The World's Most Powerful Antennas



## JC YAGI

### SINGLE BAY 5 ELEMENT

A high gain, 5 element Yagi that provides powerful signal at low cost. Pre-assembled for fast, easy installation. JC Yagis may be stacked for additional gain by using VEE-D-X phasing harness. Antennas and harnesses are ordered by channel number.

### WORLD'S MOST POPULAR YAGI

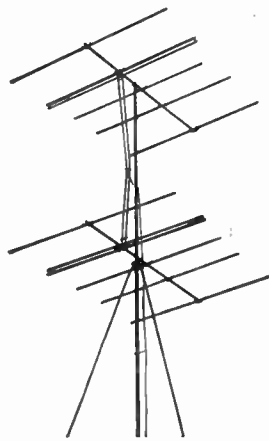
The VEE-D-X JC is by far the most popular Yagi for performance, construction and ease of installation. Perfected by VEE-D-X engineers in collaboration with a foremost authority on wave propagation, these stacked arrays make a world of difference in picture quality. Choice of array depends on area terrain and reception conditions.

- Standing wave ratio 1.28
- Center impedance 317 ohms
- Supplied with mast clamp
- Excellent signal-to-noise ratio
- Most compact five element beam on the market
- High forward gain
- All screws and miscellaneous hardware cadmium-plated to prevent electrolysis and rusting

JC—Low Channels.....	\$17.60 list
JC—High Channels.....	\$ 9.57 list

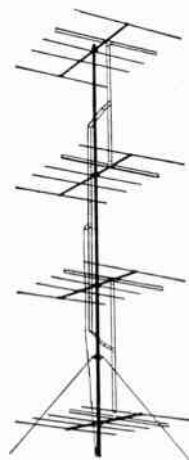
## STACKED ARRAYS FOR EXTRA POWER

### FOR SINGLE CHANNEL PERFORMANCE



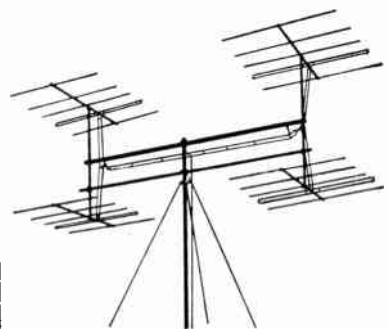
Double-stacked JC array with half-wave spacing. Provides added gain and better signal-to-noise ratio.

*JH Harness	
High Channel .....	\$1.45 list
Low Channel .....	\$2.30 list



Four-stacked vertical JC array provides extremely high gain and excellent improvement of signal-to-noise ratio. Ideal for long distance reception areas with relatively flat terrain.

*JMVA Vertical Harness	
High Channel .....	\$ 7.05 list
Low Channel .....	\$10.35 list



Four-stacked side-by-side array. Ideal for powerful long distance reception in hilly and mountainous terrain.

*JHHA Horizontal Harness	
High Channel .....	\$16.75 list
Low Channel .....	\$20.05 list

### SHARP, CLEAR PICTURES

The new vertical and horizontal four-stacked JC Yagis have produced sharp, clear pictures at amazing distances. Four JC antennas stacked provide 55% more gain than the double-stacked. They were developed to reduce noise interference to a minimum and provide still higher gain in difficult reception areas. Choice of array depends on area terrain and conditions.

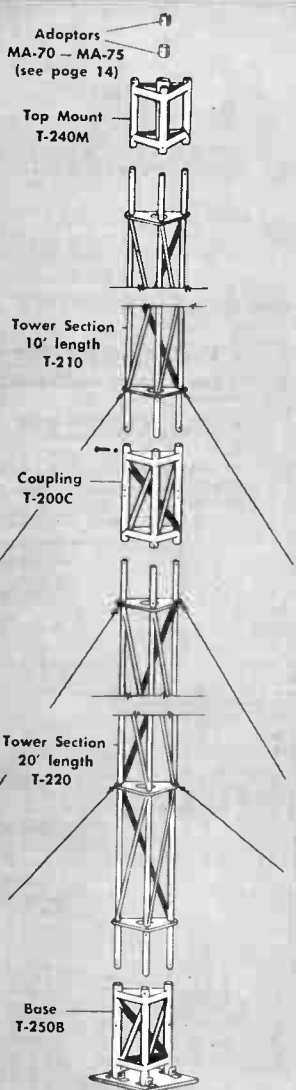
\*Be sure to specify Channel Number when ordering harness.

## THE LaPOINTE-PLASCOMOLD CORPORATION, ROCKVILLE, CONNECTICUT



# VEE-D-X

Builders of The World's Most Powerful Antennas



## VEE-D-X SECTIONAL TOWER

For Microwave — Communications — TV & FM — Radar

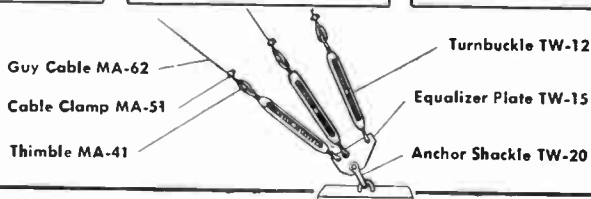
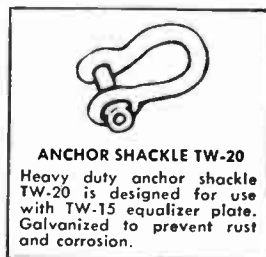
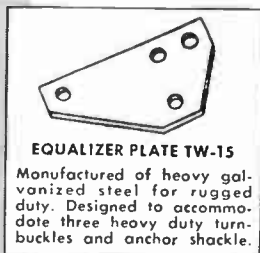
VEE-D-X towers are designed for use at any height from 10 to 200 feet, depending on load. They are self-supporting up to 20 feet and, where space is limited, semi-guyed\* type installations may be used at 30, 40, and 50 foot heights. To facilitate erection of tower, the base mount is hinged so that several sections may be assembled on the ground and swung into position. VEE-D-X towers may be ordered by separate components or as a complete package for a specific height. (Either guyed or semi-guyed.)

\* Semi-guyed towers employ one set of guy cables attached at a height of 10 ft. up the tower and anchored at a 6 ft. radius from the base.

- Rugged, all-welded construction diagonally laced with angle iron for maximum rigidity.
- Can be erected on ground or on flat or peaked roof.
- Patented plate spaced at two foot intervals twisting and affords rigidity found in no other tower.
- Safe and easy to climb.
- Completely galvanized, light weight tubular steel . . . 20 ft. section 80 lbs.

Write for additional engineering and construction data.

### ACCESSORIES FOR GUYING VEE-D-X TOWER



TOWER COMPONENTS			PACKAGED TOWERS			PACKAGED TOWERS		
		List	(Normally Equipped with T-240M)			(Semi-guyed Type)		
T-200C	Coupling	\$9.55	PTG-10	10' Tower	\$63.35	PTS-30	30' Tower	\$163.25
T-210	Tower Section 10' length	36.75	PTG-20	20' Tower	100.25	PTS-40	40' Tower	200.15
T-220	Tower Section 20' length	73.65	PTG-30	30' Tower	146.55	PTS-50	50' Tower	246.50
T-240M	Top Mount for 2" OD Mast	9.85	PTG-40	40' Tower	183.45	<b>TOWER GUY ACCESSORIES</b>		
T-424M	Top Mount for 2 1/4" OD Mast	10.55	PTG-50	50' Tower	229.75	TW 12	1/2" x 6" Heavy Duty Forged Turnbuckle	4.30
T-428M	Top Mount for MA-120 Rotator Adaptor	14.55	PTG-60	60' Tower	266.65	TW-15	3-Guy Equalizer Plate	3.35
T-434M	Top Mount for 2 1/2" OD Mast	11.55	PTG-70	70' Tower	312.95	TW-20	1/2" Anchor Shackle (round pin)	2.50
T-250B	Base	16.75	PTG-80	80' Tower	349.85	MA-41	1/4" Thimble	14.00/C
			PTG-90	90' Tower	396.15	MA-51	1/4" Cable Clamp	30.00/C
			PTG-100	100' Tower	433.05	MA-62	1/4" Guy Cable	67.50/M

PRICES ON TOWER ERECTION COMPONENTS (Packaged Guy Equipment) AVAILABLE UPON REQUEST.

**THE LaPOINTE-PLASCOMOLD CORPORATION, ROCKVILLE, CONNECTICUT**

# VEE-D-X

## Builders of The World's Most Powerful Antennas

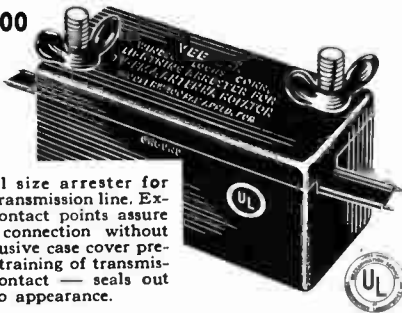
### FOR POSITIVE PROTECTION...equip every TV installation with a VEE-D-X Lightning Arrester

These are the finest, safest lightning arresters made for TV and FM, offering unmatched value and protection. Full size—no midgets trying to do a giant's job. Fast, easy line connections. All arresters UL approved.

#### MODEL RW-200

**\$125**  
LIST

UL Approved

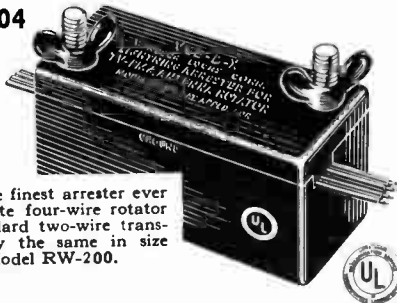


Most popular full size arrester for standard two-wire transmission line. Exclusive saw-tooth contact points assure positive electrical connection without wire stripping. Exclusive case cover prevents pulling and straining of transmission line against contact — seals out moisture — adds to appearance.

#### MODEL RW-204

**\$150**  
LIST

UL Approved

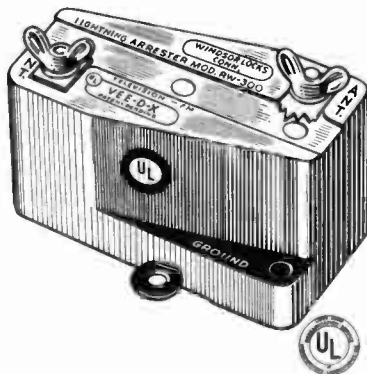


The first and still the finest arrester ever made to accommodate four-wire rotator line as well as standard two-wire transmission line. Exactly the same in size and appearance as Model RW-200.

#### MODEL RW-300

**\$200**  
LIST

UL Approved



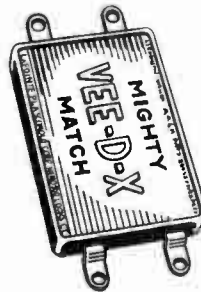
For extra heavy duty. First arrester to be introduced to the television trade. It is the time-accepted standard with TV installation men everywhere. Air gap plus resistors provide double protection.

Models RW-200 and RW-204 available with strap for mast or pipe mounting as well as standard models for wall or window ledge. No wire stripping required on any VEE-D-X arrester.

#### 3-WAY ANTENNA SWITCH



3-way switch for stacked arrays or multiple antennas. Instant changeover to each antenna. Attractive mahogany plastic case. **\$4.95** list



### New! Improved MIGHTY MATCH

Lic. A. A. K. Pats., 2,422,458; 2,282,292 others pending.

Here it is! The new, improved MIGHTY MATCH that permits the use of a single 300 ohm transmission line between separate high and low channel antennas mounted on the same mast. Saves transmission line — saves installation time and money — saves extra accessory costs. Now, a compact single unit, 3 1/4 inches long, 2 1/4 inches wide, and 1/4 inch thick, replaces the former four cartridge style. Firehouse-red, weather-proof polystyrene case houses die stamped circuit.

## THE LaPOINTE-PLASCOMOLD CORPORATION, ROCKVILLE, CONNECTICUT



# TELEVISION BRACKETS & ACCESSORIES

## JFD JUMBO LIGHTNING ARRESTERS

UL Approved



For use either indoors or outdoors. Universal mounting. With 4" aluminum ground wire and hanger strap.

No.	List
AT102	\$2.25
(for ribbon twin lead)	
AT103	\$2.25
(oval jumbo & tubular twin lead)	

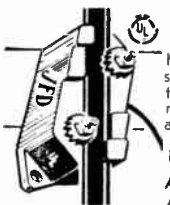
## JFD 4-WIRE 8-CONTACT LIGHTNING ARRESTERS



Especially designed for antenna rotator installations. No wire cutting or stripping. High dielectric plastic.

No.	List
AT104	\$1.50
AT104S (with strap)	1.75

## JFD "LITTLE GIANT" LIGHTNING ARRESTERS

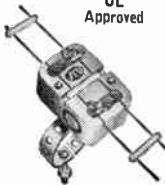


Mounts anywhere. Compact yet superbly efficient. High dielectric plastic. Features patented retaining flange. For ribbon and oval jumbo twin lead.

No.	List
AT105	\$1.25
AT105S (with strap)	1.50

## JFD OPEN WIRE LIGHTNING ARRESTER

UL Approved



Especially developed for open wire installation. Patented strain-relief design. Universal Mounting. Complete with hanger and 4' aluminum ground wire.

No.	List
AT107	\$3.50

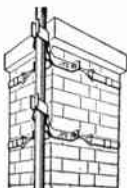
## JFD DOUBLE LIGHTNING ARRESTER



Fits most types of radio and TV lead-ins. Especially designed to match all antennas. Quick, very easy installation. Non-hydroscopic porcelain construction.

No.	List
403	\$0.75

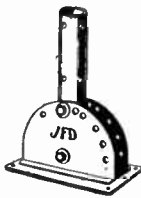
## JFD SNAP-FIT CHIMNEY MOUNT



Snap the mast in place for instant set-up. Made of heavy gauge steel. Supports all masts up to 1 3/4" OD. Complete with two 12" mounting straps and all necessary hardware.

No.	List
BR6	\$3.95

## JFD ANTENNA BASE MOUNT



Mounts masts anywhere. Permits mast setting at any angle. Heavy gauge, galvanized steel.

No.	List
BR8	\$7.50
(up to 1 1/8" Masts)	
BR8-2/4	8.50
(up to 2 1/4" Masts)	

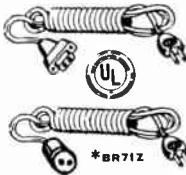
## JFD ADJUSTABLE WALL MOUNT



Ideal for clearing eaves and other projections. Anchors 7/8" to 1 1/8" masts securely. Heavy gauge, rust resistant steel.

No.	List
BR11	\$7.50
(6" to 15" wall clearance)	
BR11X	3.00
(extension for 15"-24" clearance)	

## JFD AC SAFETY CORD



Cuts off line voltage when TV receiver is opened. For use with the JFD Interlock Plug No. BR75.

No.	List
BR71-6 (6')	\$0.75
BR71-9 (9')	1.01
BR71-12 (12')	1.22
BR71-15 (15')	1.43
BR71Z (Spec. Zenith)	1.00

## JFD No. 8 ALUMINUM GROUND WIRE



Ductile solid aluminum wire for grounding. Approved by National Electrical Code.

No.	List
BR79-100 (100 ft.)	\$ 3.00
BR79-500 (500 ft.)	14.00
BR79-3000 (3000 ft.)	26.00 per M ft.

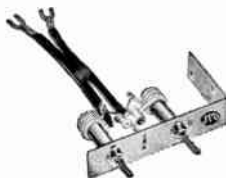
## JFD PLATED GROUND ROD



Required by National Electrical Code. Made of copper-plated heavy gauge steel 3/8" OD.

No.	List
BR80-4 (4 ft.)	\$1.50
BR80-6 (6 ft.)	2.25
BR80-8	4.25
(8 ft. 1/2" OD)	

## JFD TV WAVE TRAPS



BR106-10-30 Traps out amateur Harmonic Interference. BR106-80-110 Traps out FM Image Interference.

BR106-30-60 Traps out 30-60 mc. amateur Harmonic Interference.	
BR106-60-90 Traps out 60-90 mc. Diathermy Interference.	
List Price	\$2.75

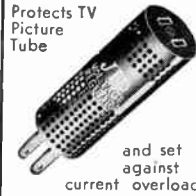
## JFD PICTURE CLARIFIER



Filters out annoying TV interference.

No.	List
BR120-10-30 (14-28 mc. Band Interf.)	\$2.75
BR120-80-110 (FM Image Interf.)	2.75
BR120-30-60 (30-60 mc. Interf.)	2.75
BR120-60-90 (60-90 mc. Interf.)	2.75

## JFD TV VOLTAGE REGULATORS



Protects TV Picture Tube

Produces steadier TV pictures despite line voltage changes. Operates on 110V AC or DC.

No.	Watts	TV-Set	List
94-4	200	7"	\$2.85
94-5	250	9"-10"	2.85
93-7	300	12"-16"	2.85
93-8	375	16"-24"	2.85

Use the Ballast the Manufacturers Use in their Original Equipment

## JFD TV BALLAST

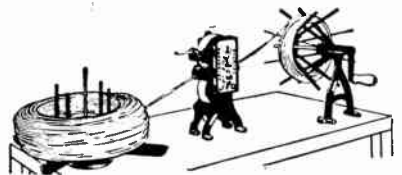


List ea. \$2.25

Emerson: 397021, 397022, 397023, 571,606, \*397036.  
 Telephone: TBR102D, TBR103D, TBR104D.  
 Stewart-Warner: SW-507300. Pilot: 35-37.  
 Electromatic: 408100.  
 Motorola: 17A470303, 17A-485459.  
 Raytheon-Belmont: B9M16534, B9M15822, B9M16067, B9M17571, B9M18941.  
 Emerson: No. 397036 Only (\$1.25)

## JFD WIRE MEASURING OUTFIT

Save Wire . . . Work . . . Time



Complete with Reel, Measuring Machine, Wire Winder. Measures accurately. Sets up in no time at all. Operates simply, smoothly and silently.

No.	List
66C (Complete)	\$125.00
66M (With Metric Scale for Foreign Use)	175.00

## JFD "REPAIRACK"

Not a Gadget, But a Sturdy Serviceman's Tool!

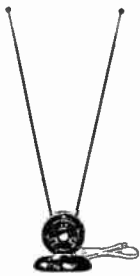


Holds television, FM, radio and phono turntable chassis securely in position. Rotates freely and permits access to remotest corners of set. Rigidly supports up to 200 lbs. in weight.

No.	List
79-3	\$28.00



# TELEVISION BRACKETS & ACCESSORIES



## JFD "PANORAMA" INDOOR TV ANTENNAS

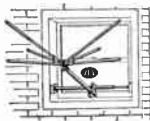
**Absolutely Tip-Proof!**

Strikingly attractive! All-channel reception. 3 Section triple chrome plated dipoles.

No.	List
TA135 Deluxe	\$6.95
TA136 Standard	5.95
TA138 Economy	5.50

## JFD "QUIK-RIG" WINDOW CONICAL

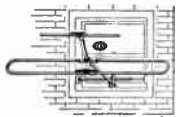
Simple installation! Immediate operation! Delivers fine all channel reception.



No.	List
C119	\$12.35
EX119	2.50
(Extension for 5' windows)	
EX30	3.50
(Extension for 6' windows)	

## JFD HI-LOW WINDOW ANTENNA

Delivers excellent reception on all 12 channels. Hi-band dipoles adjustable to conical V pattern.



No.	List
C120	\$12.35
EX119	2.50
(Extension for 5' windows)	
EX30	3.50
(Extension for 6' windows)	

## JFD "NUT" UNIVERSAL STAND-OFF

**IT'S THE NUT THAT COUNTS!**



Makes all other screw-eyes obsolete! Six — count 'em — six cleanly machined threads. Beveled Arch-Bridge construction. Bright zinc-coated steel. Galvanized steel strap.

For Single Twin Lead		
No.	List	
NUT350 (3 1/2")	\$ .19	
NUT550 (5 1/2")	.24	
NUT750 (7 1/2")	.25	
NUT1200 (12")	.46	



For Dual Twin Lead		
No.	List	
DNUT350 (3 1/2")	.35	
DNUT550 (5 1/2")	.39	
DNUT750 (7 1/2")	.40	
DNUT1200 (12")	.55	

For Coaxial Cable, Substitute R for T in No.

## JFD TELE-TWIN SET COUPLER

Couples two sets to one antenna. Strong signal reception. Simple to set up. 72 or 300 ohm input and either two 300 ohm outputs or four 72 ohm outputs.



No.	List
TT2-300	\$5.95

## JFD 'VB' SINGLE CHANNEL TUCK-AWAY TV BOOSTER



Pre-tuned for up to 20 db gain. Best single channel booster buy.

No.	List
VB2, VB3, VB4, VB4-5	\$19.95
VB5, VB6	
VB7, VB8	
VB9, VB10	
VB11, VB12, VB13	

## JFD 'SW' SINGLE CHANNEL TUCK-AWAY TV BOOSTER



Up to 20 db gain. Single channel booster with By-Pass switch for use in all areas, including Multi-Channel locations.

No.	List
SW2, SW3	\$23.95
SW4, SW4-5	
SW5, SW6	
SW7, SW8	
SW9, SW10	
SW11, SW12, SW13	

## JFD TELEPLEX 2 SET COUPLER



Instantly hooks up two TV sets for operation from single 300 ohm antenna. No loss in signal strength. Built-in lightning arrester, too. Complete with connectors.

No.	List
TC2L-300	\$11.95

## JFD TELEPLEX 4-SET COUPLER



Provides reception on four sets from single antenna. Lightning arrester built in. Complete with connectors.

No.	List
TC4L-300 (300 ohm)	\$12.95
TC4L-72 (72 ohm)	12.95

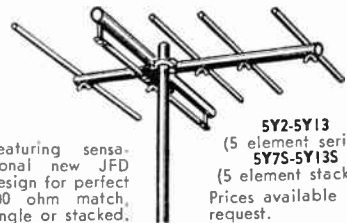
## JFD ANTENNA SELECTOR



Offers maximum use of multiple antenna installations. Quick, easy, low-loss switching.

No.	List
AS3	4.95
(For 3 Antennas)	
AS4	5.95
(For 4 Antennas)	

## JFD "CORSAIR" 5 & 4 Element Yagis



Featuring sensational new JFD design for perfect 300 ohm match, single or stacked.

No.	List
5Y2-5Y13 (5 element series)	
5Y7S-5Y13S (5 element stacked)	
Prices available upon request.	

## JFD "ZOOM-UP" TELESCOPING MAST

Get Antennas Up — High as 50 Feet!

Section 1. (16 Gauge) 10 ft. 1 1/4" OD — .065 Wall

Section 2. (16 Gauge) 10 ft. 1 1/2" OD — .065 Wall

Section 3. (16 Gauge) 10 ft. 1 3/4" OD — .065 Wall

Section 4. (16 Gauge) 10 ft. 2" OD — .065 Wall

Section 5. (16 Gauge) 10 ft. 2 1/4" OD — .065 Wall

Rigid, Strong, Secure. Comes to you collapsed, all welded nuts in position. Complete with heavy duty supporting bolts and hardware. Insures permanent antenna installation.



No.	Sections	List
ZU12-20	1 and 2 (20 ft.)	\$12.50
ZU23-20	2 and 3 (20 ft.)	15.28
ZU34-20	3 and 4 (20 ft.)	22.08
ZU123-30	1, 2 and 3 (30 ft.)	29.03
ZU234-30	2, 3 and 4 (30 ft.)	29.03
ZU1234-40	1, 2, 3 and 4 (40 ft.)	34.72
*ZU12345-50	1, 2, 3, 4 and 5 (50 ft.)	52.78

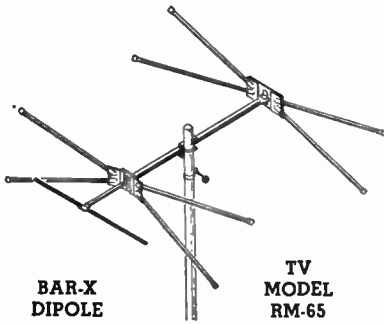
\*Complete with Combination Base and Peak Roof Mount Model ZUB2/4.

## JFD MAST COUPLERS

Cast aluminum. Will securely join two mast sections of either same or different diameters.



No.	Mast Size	List
MC1	1" EMT to 1" EMT	\$2.25
MC2	1 1/4" OD to 1 1/4" OD	2.25
MC3	1 1/4" OD to 1 1/2" OD	2.75
MC4	1 1/4" EMT to 1 1/2" EMT	2.75
MC5	1" EMT to 1 1/4" EMT	2.50



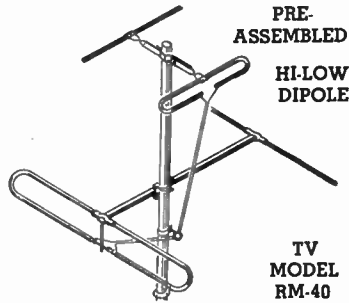
**BAR-X  
DIPOLE**

**TV  
MODEL  
RM-65**

**NOW PREASSEMBLED!**

Vastly superior to ordinary conicals! Director Bar in front of receiving dipole greatly increases signal strength on high channels. Rugged 1 1/4" galvanized steel mast with 1" cross boom. Heavy duty construction throughout. Aluminum elements specially engineered to reduce vibration and noise. Accessories consist of swivel base, guy ring and clamp-type standoff insulator.

Model	List	Description
RM-65	\$10.95	10' mast and accessories.
RM-65S	8.95	5' mast only.
RM-652	19.25	2 bays, 10' mast and acc.
RS-751	7.45	Single array only.
RS-752	15.75	2 bays, jumper bars.



**PRE-  
ASSEMBLED  
HI-LOW  
DIPOLE**

**TV  
MODEL  
RM-40**

A fine general purpose antenna for local and near fringe reception. Ruggedly constructed with 1 1/4" galvanized steel mast and heavy duty 1" galvanized steel cross boom.

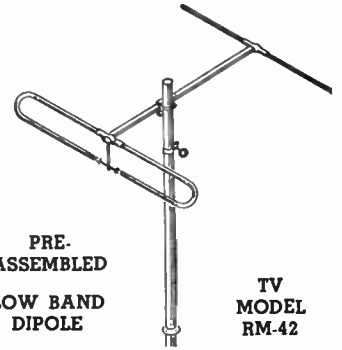
Model RM-40 includes two 5-ft. sections of 1 1/4" mast, swivel base, guy ring, clamp-type standoff insulator, jumper cable and arrays.

Model RM-40S includes high and low channel arrays and 5-ft. mast only.

Model	List	Ship. Wt.
RM-40	\$10.95	9.2 lbs.
RM-40S	8.95	7.5 lbs.

**HIGH BAND ARRAY ONLY**

Model	List	Freq.	Ship. Wt.
RT-51	\$2.50	74-216 mc.	1.3 lbs.



**PRE-  
ASSEMBLED  
LOW BAND  
DIPOLE**

**TV  
MODEL  
RM-42**

Ideal for local and near fringe areas where only low channels are operating. Add RT-51 array for high channel reception. Same rugged construction as RM-40.

Model RM-42 includes two 5-ft. sections of 1 1/4" galvanized steel mast, swivel base, guy ring, clamp-type standoff insulator and low channel array.

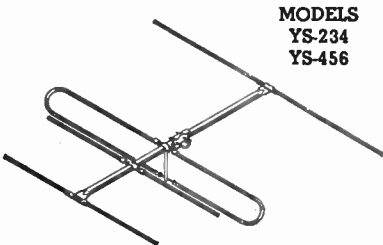
Model RM-42S includes low channel array and 5-ft. mast only.

Model	List	Ship. Wt.
RM-42	\$8.95	8.8 lbs.
RM-42S	7.45	6.2 lbs.

**LOW BAND ARRAY ONLY**

Model	List	Freq.	Ship. Wt.
RS-52	\$5.95	54-88 mc.	4.5 lbs.

**RADELCO TRI-CHANNEL YAGI  
COVERS THREE CHANNELS  
INSTEAD OF ONLY ONE!**



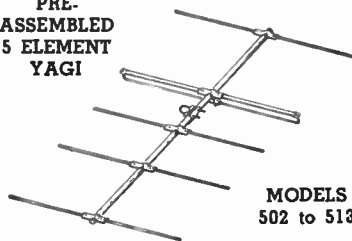
**MODELS  
YS-234  
YS-456**

**NOW PREASSEMBLED!**

Radelco Tri-Channel Yagi covers 3 channels instead of only one! High gain with flat response across 3 channels instead of high gain at the center of one channel only. Guaranteed to absolutely show no side band cutting. Impedance is practically constant at 300 ohms across the full three channel coverage. Ideally suited for stacking. In many cities the Tri-Channel Yagi will do the work of two antennas.

Model	List	MC.	Channels	Wt.
YS-234	\$11.45	54-72	2-3-4	6.1 lbs.
YS-456	10.45	66-88	4-5-6	5.5 lbs.

**PRE-  
ASSEMBLED  
5 ELEMENT  
YAGI**

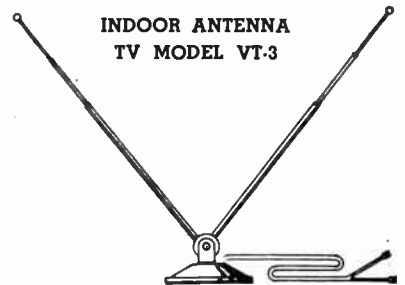


**MODELS  
502 to 513**

The ideal aerial for extreme fringe areas. Custom cut. Five heavy-duty aluminum elements pre-assembled on 1" steel boom. U-bolt mounting assembly accommodates up to 1 1/2" mast.

Model	Chan.	Mc.	List
YS-502	2	54-60	\$13.50
YS-503	3	60-66	12.75
YS-504	4	66-72	12.00
YS-505	5	76-82	11.25
YS-506	6	82-88	10.50
YS-507	7	174-180	7.00
YS-508	8	180-186	7.00
YS-509	9	186-192	7.00
YS-510	10	192-198	7.00
YS-511	11	198-204	7.00
YS-512	12	204-210	7.00
YS-513	13	210-216	7.00

**INDOOR ANTENNA  
TV MODEL VT-3**



The Radelco VT-3 is a high quality antenna made with three sections of chrome-plated seamless brass tubing to provide excellent indoor reception.

The VT-3 has a heavily weighted mahogany lacquered base and is smartly designed to harmonize with all furnishings. The VT-3 is equipped with 5-ft. lead and is individually packed in a corrugated carton.

Attractively priced at the low list of \$4.25 . . . makes it one of the finest values today in indoor antennas.

Model	List	Ship. Wt.
VT-3	\$4.25	1.4 lbs.



**MONARCH  
Cowl-Fender**

Model MH-3—Ball-joint metal mounting base, adjustable from flat to 30°. Base sufficiently large to cover largest holes. Lovely chrome finish. Waterproof construction. Holds angular adjustment permanently. 36" cable.

Model	Sec.	List
MH-3	3-57"	\$5.65
MH-3A	3-70"	6.25



**ROTOLOK  
Cowl-Fender**

Model CO-3A — Easy mounting, all tightening outside. Half-inch mounting hole. Chrome-plated mounting base. Exclusive VISE-LOCK eliminates clumsy braces. Fits any fender or top cowl. 36" Radar type cable.

Model	Sec.	List
CO-3A	3-57"	\$5.15



**CHAMPION  
Side Cowl**

Model CS-3 — A competitively priced aerial built to RADELCO's high quality standard. Chrome-plated brass tubing. Shielded polyethylene cable with black cover. Screw-on connector and chrome capped insulators.

Model	Sec.	List
CS-3	3-60'	\$3.85



**CONCEALED  
Cowl-Fender**

Model FD-3, 3A — Chrome-plated all-metal adjustable mounting base. Strong, non-crushable! Waterproof, electrically efficient, guaranteed trouble free. 48" Radar cable.

Model	Sec.	List
FD-3	3-4"-55"	\$7.45
FD-3A	3-9"-68"	\$7.95



**"SCREW BALL"  
Cowl-Fender**

New, entirely different! Installed entirely from outside by only one man. The screw portion of the assembly assures quick and economical installation. The ball portion provides angular adjustment for every type of fender or cowl contour.

Model	Sec.	List
EZ-3	3-57"	\$4.95



**DELUXE  
Side Cowl**

Model RAD-3, 4, 5 — Built to superior quality standards. Automotive specification chrome-plate. Low loss 100% shielded 36" Radar cable with screw-on connectors.

Model	Sec.	List
RAD-3	3-70"	\$5.15
RAD-4	4-92"	\$6.25
RAD-5	5-112"	\$7.25



**COMMUNICATION  
Antenna**

Built for the hardest mobile use.

<b>SWIVEL BASE</b>		
MB-1		List \$5.00
<b>SWIVEL BASE AND SPRING</b>		
MB-2		List \$7.25
<b>STEEL MASTS</b>		
MM-60		List \$5.75
MM-72		List \$5.75
MM-84		List \$6.00
MM-96		List \$6.75
<b>BASE SPRINGS</b>		
Regular		
MBS-1		List \$2.25
Heavy Duty		List \$3.25
MBS-2		List \$3.25



**ROOF TOP  
Communication**

Quick mounting roof top antenna, embodying the exclusive "Screw-ball" feature for ease of installation. Installed entirely from the outside. Complete with 11' of coaxial cable.

Model	Freq.	List
MR-1	152-163 mc.	\$4.95

**F-254 FORD REPLACEMENT MAST**

For 1941-42-46-47 Ford-Mercury Roof Antenna that operates behind windshield center post.

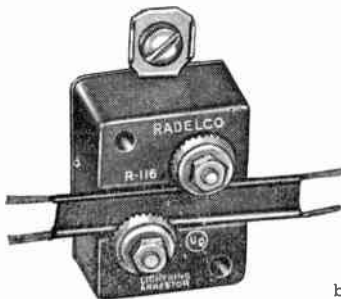
F-254	List \$2.25	2 Sec.	54"
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**B-448 BUICK REPLACEMENT MAST**

Replacement mast for roof aerials on all Buicks 1940 to present.

B-448	List \$2.75	4 Sec.	45"
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★ ★ ★ **RADELCO TV & FM ITEMS** ★ ★ ★



**RADELCO  
LIGHTNING  
ARRESTOR  
R-116**

List \$ .90

Combination resistance bleeder and gap-type arrester. Small and compact for easy wall installation. Arrester network is completely enclosed in molded Bakelite housing. No stripping of insulation . . . positive piercing contacts provide perfect electrical path, regardless of variation in width or thickness of insulation. Does not disturb impedance of twin line. Improves both picture and sound by carrying off small static charges. Ground terminal accommodates up to .125" wire. Complete with wood screws. Individually packaged, 50 to master carton.

**MAST EXTENSIONS**

Heavily galvanized, internal lock-seam steel tube with swaged end and key way lock.

ME-48	List \$1.35	1" Dia. x 4' long
ME-60	List \$1.50	1 1/4" Dia. x 5' long

**STANDOFF INSULATOR**

Clamp-type for masts from 1" to 1 1/4"

R-102	List \$ .20
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**TERMINAL BLOCK**

Mast mounting terminal block for coupling phasing bars to lead cable.

R-111	List \$ .75
-------	-------------

**CHIMNEY MOUNT**

Bracket arms of double strength. Complete with four adjusting eyebolts and extra thick 3/4" steel strap, heavily galvanized for long, dependable service.

R-105	List \$2.45	Ship. Wt. 3.3 lbs.
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**WALL MOUNT**

Exclusive design with double strength brackets allowing 5" clearance from wall. Large bearing plate with four mounting holes; suitable for wood siding or masonry walls. Adjustable for 1" to 1 1/2" masts.

R-106	List \$1.60	Ship. Wt. 2.5 lbs.
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**JUMPER AND PHASING BARS**

Jumper bars are used to connect two arrays into a double stack. Phasing bars are used to connect two double stack arrays to a terminal block on the mast forming a quad stack.

RQ-42	JUMPER BAR	List \$5.50 ea.
RQ-45	PHASING BAR	List .70 ea.

**QUAD STACK PHASING KITS**

Four phasing bars RQ-45 plus one R-111 Terminal Block. Couples two double stack arrays into a quad stack.

R-114	List \$3.50
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**GROUND ROD**

Four-foot copper coated ground rod complete with terminal bolt.

R-110	List \$ .95
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**SWIVEL MOUNTING BASE**

Type R-107 is for 1 1/4" mast. One-inch mast uses Type R-104.

R-107	List \$ .50	R-104	List \$ .40
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*Spico*

# INDOOR ALL-CHANNEL TELEVISION & FM ANTENNAS

## REVOLUTIONARY NEW "Adjusta-knob" Super-Phantom

MODEL TV-503

Provides better reception over greater distances than any other indoor TV Antenna!

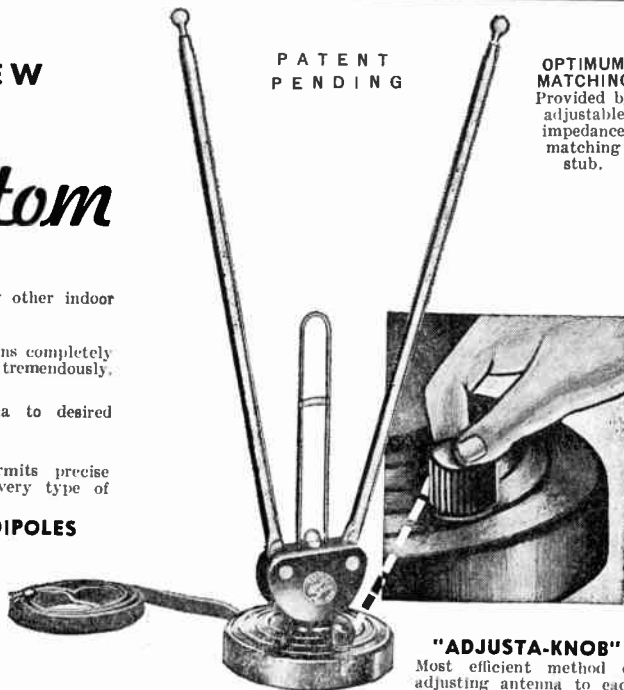
EXHAUSTIVE TESTS PROVE:

"SUPER-PHANTOM" sharply reduces, and in many locations completely eliminates ghosts and interference, improving reception tremendously.

- **ADJUSTA-KNOB**  
New "fingertip" tuning control adjusts antenna to desired channel.
- **OPTIMUM MATCHING**  
New designed adjustable "Matching Stub" permits precise Optimum Impedance Matching of antenna to every type of Television Set.
- **TELESCOPING 3-SECTION PLATED BRASS DIPOLES**  
To provide greatly increased gain.

PATENT  
PENDING

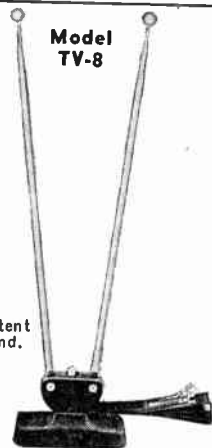
OPTIMUM  
MATCHING  
Provided by  
adjustable  
impedance  
matching  
stub.



**"ADJUSTA-KNOB"**  
Most efficient method of adjusting antenna to each channel by "fingertip" tuning, assuring peak TV signal.

### "Spico" SUPER-PHANTOM

MODEL TV-503 Shipping Wt. 1 1/2 lbs. Individually boxed and packed 25 to master carton. List Price..... **\$7.95**



Model  
TV-8

Patent  
Pend.

Lowest Price Ever!  
"Spico"

### Indoor-Tenna UNCONDITIONALLY GUARANTEED

- UNBREAKABLE
- RUSTPROOF
- TILTPROOF

ECONOMY MODEL

Written "Unconditional Guarantee" with each unit:

UNBREAKABLE: Will not break when dropped from heights of 6 feet. Top plates are made of solid bakelite securely mounted on a heavy metal base.

RUSTPROOF: Triple-section brass telescopic dipoles (not steel) will not rust, assuring permanent contact and easy telescopic adjustment.

TILTPROOF: Heavy base prevents tipping with any combination of extended elements.

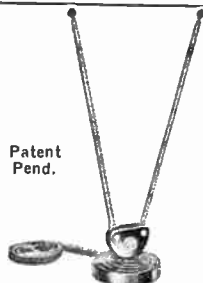
All channel reception—concealed wiring—felt padding. Gleaming bakelite plates on matching crackle finished metal base, makes Indoor-Tenna a most attractive unit.

Individually packed in an attractive 2-color carton. Shipped 25 to a master carton. Weighs 1 1/2 lbs., measures 18" (closed) x 2" x 4".

Model TV-8.....Competitively Priced for Volume Sales  
All Spico TV and FM Indoor Antennas feature:

- Plated brass tubing or unplated
- All concealed wiring
- Non-scratch pad
- No lugs or solder shown
- Complete with 300 ohm wire.

Spico, the TV and FM Indoor Antenna line carried by leading jobbers as one of their fastest selling—most profitable lines.



Patent  
Pend.

"Spico"

### Masterette Model TV16 or TV-6A

Sturdy construction, plated brass tuning throughout to insure permanent rust-free contacts, three section dipoles.

A handsome, efficient model that's always in demand—always a leading seller.

Model TV-6A, same as TV-6 except tubing is unplated. Packed 2 to a box; 50 to a master carton.

MODEL TV-6  
List Price..... **\$4.95**

### "Spico" "Tenna-Master" MODEL TV93B

U.S. Patent No. 156379

An engineering job that gives peak mechanical performance and outstanding reception. Tenna-Master is superbly designed to blend with and add to the beauty of the most tastefully furnished home.

Exclusive patented feature of LOCK-NOTCH VERTICAL ORIENTATION assures permanent non-skid automatic positioning, eliminates tightening or loosening of dipole elements.

Tenna-Master is one of the most popular models in the Spico line—many thousands sold to date!

MODEL TV93B



**\$6.95**  
List Price

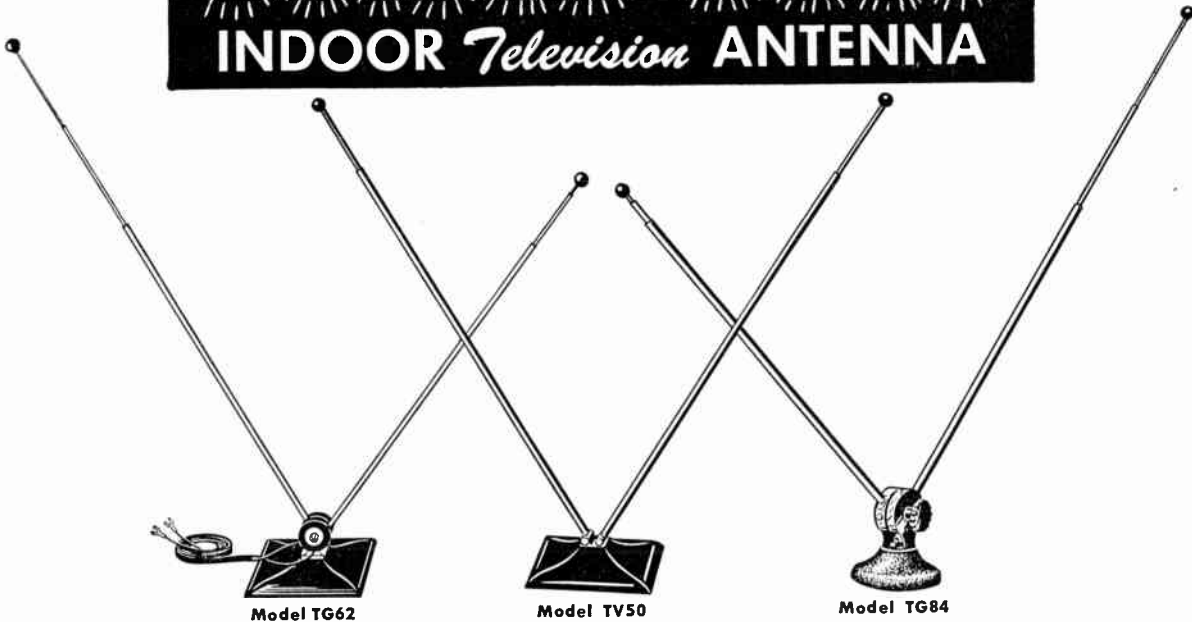
Engineer-approved and sold by nationally known TV set manufacturers. Distributed thru jobbers only.

# SPIRLING PRODUCTS CO., INC., New York 13, N. Y.

"ONE OF AMERICA'S LEADING MANUFACTURERS OF TV & FM INDOOR ANTENNAS"

# GOLDEN WAND

## INDOOR Television ANTENNA



### SUPERIOR PERFORMANCE AT LOW COST

The strength of an incoming TV signal picked up by your antenna is infinitesimal. Only an efficiently designed antenna can preserve its strength and make it available to your receiver. GOLDEN WAND Indoor TV Antennas are engineered to deliver to your receiver all the strength of the TV signal without losses. Because of their superior design, better materials and skilled craftsmanship, GOLDEN WAND Antennas bring you a clearer, brighter picture on your screen. They offer full 12-channel reception plus FM.

### PORTABLE, IDEAL FOR DEMONSTRATIONS

GOLDEN WAND TV Antennas are extremely portable; can be carried into the house and from room to room without effort. That's why servicemen use GOLDEN WAND in making home demonstrations. That's the reason why many TV owners use GOLDEN WAND to make TV reception available in every room of the house.

### WHERE ROOF ANTENNAS ARE TABOO

Restrictions against roof antennas by landlords need not worry you. GOLDEN WAND will bring you excellent reception in areas where indoor antennas can be used without the erection of an outdoor antenna.

### THREE MODELS

GOLDEN WAND Indoor Television Antennas are offered in three designs to suit all tastes. All are attractive in appearance, well built and will last a lifetime. All models are tip-proof.

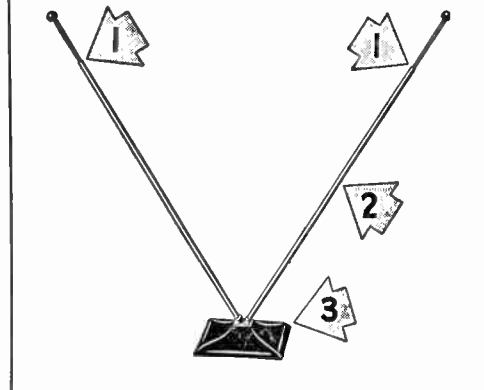
**Model TG62** — Three-section satin finish Admiralty brass dipoles. Constant tension at all telescopic joints provides perfect electrical contact and velvety smooth jamless telescopic action. Base is of walnut-mahogany polystyrene heavily weighted and padded. Slot in base is provided for mounting on wall, window frame or ceiling. Harmonizes with any room or furniture. Furnished with 300-ohm twin lead. List price, \$5.95

**Model TG50** — Two-section polished finish Admiralty brass dipoles. Unique design at all telescopic joints provides perfect electrical contact and jamless, smooth telescopic action. Base is of walnut-mahogany polystyrene heavily weighted and padded. Slot in base is provided for mounting on wall, window frame or ceiling. Harmonizes with any home decoration. Furnished with 300-ohm twin lead. List price, \$3.95

**Model TG84** — Three-section satin finish Admiralty brass dipoles. Constant tension at all electrical joints provides perfect electrical contact and velvety smooth jamless telescopic action. Base is heavily weighted and padded and finished in gold. Harmonizes with any room or furnishings. Furnished with 300-ohm twin lead. List price, \$6.95

### Exclusive Features

1. Unique design at all joints gives perfect electrical contact and smooth, jamless telescopic action.
2. Admiralty brass dipoles provide maximum electrical conductivity and eliminate internal corrosion and need for oil.
3. Polystyrene base and insulators give better insulation to prevent losses. Terminals completely enclosed. Built-in strain suppressor relieves strain at terminals and prevents breakage.



# PEERLESS PRODUCTS INDUSTRIES

812 N. PULASKI RD. • CHICAGO 51, ILLINOIS



ANTENNA  
DESIGN ENGINEERS  
SINCE 1921

Telephone—ASBURY PARK 2-7252

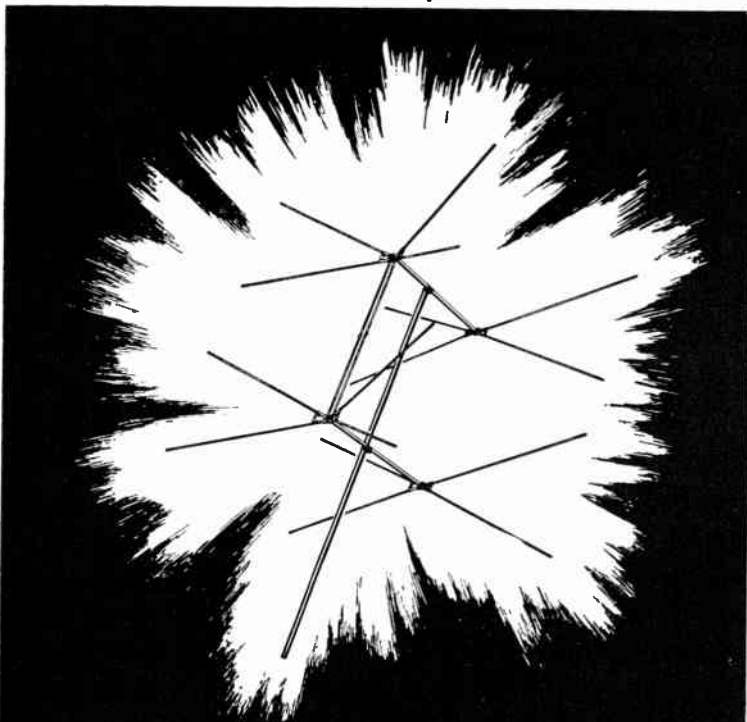
*Telrex* INC.

ANTENNA  
DEVELOPMENT  
MANUFACTURING

ASBURY PARK 1, N.J.

## "CONICAL-V-BEAMS"

The only antenna array that produces **FULL TONE, Full Video Band Pass and High Signal to Noise ratio on all Frequencies.**



America's Standard of Comparison

### No Other Antenna Type Can Have All These Features.

- ★ All-Station Reception. 10 to 11 db gain
- ★ FULL audio and Video Response
- ★ Maximum signal to noise ratio
- ★ Better than 12 db Front to Back Ratio on all Frequencies
- ★ The only antenna that will produce gain and bandwidth on the new UHF
- ★ A Model for every reception area — primary to extreme fringe.
- ★ "Conical-V-Beams" are produced under Re-issue Patent No. 23,346

Other U.S. and Foreign patents pending

### THE BEST MONEY CAN BUY!

#### AMERICA'S FINEST ANTENNA

Combines the outstanding electrical constructional features of the famous DeLuxe Series with the unusual versatility and selective channel emphasis of the Telrex Universal Series.

Available with doweled dural tubing or Solid Dural Rod.

Supplied with eight elements per bay.

Extra elements are available.

#### MONARCH-DeLuxe Series With Hi-V-Reflector

**2X-TV** — Single bay, uni-directional "Conical-V-Beam" with reflectors. Finest quality materials — fine performer.

Standard Pack .....1/carton  
Shipping wgt. ....5 lbs.  
List Price .....\$12.60

**4X-TV** — 2 bay, stacked, uni-directional "Conical-V-Beam" with reflectors. America's outstanding TV antenna. 10 to 12 db gain.

Standard Pack .....1/carton  
Shipping wgt. ....9 lbs.  
List Price .....\$25.21

**4X-TVS** — (4X-TV ½ wave) 2 bay, stacked, uni-directional "Conical-V-Beam" with reflectors. ½-wave transmission line bars, full wave spacing at Channel 6, 30% more gain performance on Channels 2 to 6.

Standard Pack .....1/carton  
Shipping wgt. ....10 lbs.  
List Price .....\$28.80

#### UNIVERSAL SERIES WITH HI-V-REFLECTOR

**U2X-TV** — Single bay, uni-directional "Conical-V-Beam" with reflectors; modified for selective channel emphasis.

Standard Pack .....3/carton  
Shipping wgt. ....12 lbs.  
List Price .....\$9.30

**U4X-TV** — 2 bay, stacked, uni-directional "Conical-V-Beam" with reflectors; modified for selective channel emphasis. 10 to 12 db gain.

Standard Pack .....3/carton  
Shipping wgt. ....24 lbs.  
List Price .....\$19.94

ORIGINATORS • PATENTEES • MANUFACTURERS OF "CONICAL-V-BEAMS"

**ANTENNA  
DESIGN ENGINEERS  
SINCE 1921**

Telephone—ASBURY PARK 2-7252

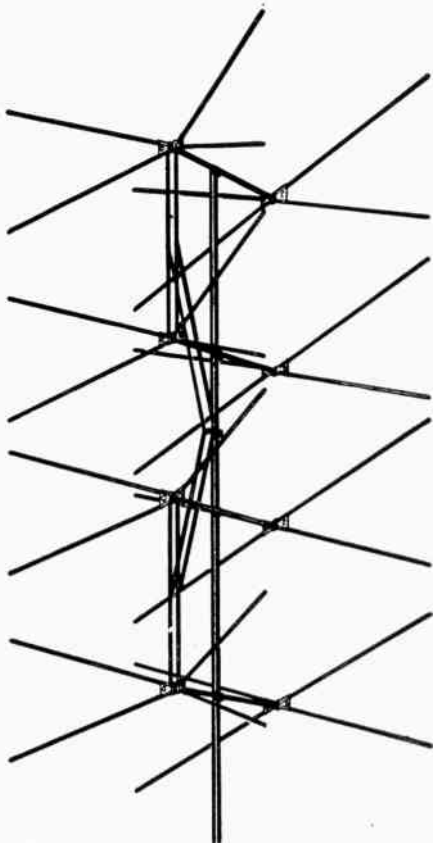
*Telrex* INC.

**ANTENNA  
DEVELOPMENT  
MANUFACTURING**

ASBURY PARK 1, N. J.

# "CONICAL-V-BEAMS"

The only Antenna producing FULL TONE, FULL VIDEO and Highest Signal to Noise ratio on all Frequencies with one transmission line.



The Ultimate in Multi-Station Long Distance Arrays. Gains up to 16DB.

The Telrex MONARCH DELUXE 8X-TV will outperform Any antenna or Combination of cut-to-frequency antennas. UNEQUALLED for LONG Distance reception up to 200 miles. "If the 8X-TV does not provide a useable signal, TV reception is impossible or impractical."

MONARCH Deluxe 8X-TV With Hi-V-Reflector Uni-directional. 4 Bay, Conical-V-Beam.

Standard Pack .....	1/carton
Shipping wgt. ....	18 lbs.
List Price .....	\$53.11

## UNIVERSAL ECONOMY MODEL U8X-TV WITH HI-V-REFLECTOR

Uni-directional, 4-bay "Conical V-Beam" modified for selective channel emphasis.

Standard Pack .....	1/carton
Shipping wgt. ....	16 lbs.
List Price .....	\$43.89

## TECHNICAL NOTES

Telrex "Conical-V-Beams" technically and practically assume characteristics similar to solid cones, giving broad band and high gain response with full audio and video band pass over the entire television frequency range. Therefore, "Conical-V-Beams" outperform any other television antenna.

Nominal center impedance is 150 ohms and non-varying due to conical configuration. The dipoles are tilted forward presenting a "V" to the incoming wave, forcing the forward lobe to remain in line irrespective of channel being received. Thus the Telrex dipole is an effective 1/2 wave element on channel 2, increasing to 3/4 wavelength on channel 3, and increasing in effective "V" beam action to channel 13 where it becomes a full wavelength on each leg with the maximum receiving lobe being in line. The reflectors are effective at all frequencies with a front to back ratio of better than 12 DB on all frequencies. The "Conical-V-Beam" is the only antenna which can produce in this manner.

Unlike other methods of covering both bands, Telrex "Conical-V-Beams" do not introduce phase shift or favor one band versus the other, and, only one transmission line is used. Where stations are displaced beyond the normal acceptance lobe of a single "Conical-V-Beam" or array, the DO-X (Duo Orienting) array is recommended. This permits separate orientation of two groups of stations at any angle. Only one transmission line is needed due to the unique Telrex coupling line and phasing loop.

When the stations are within a 5 to 15 degree sector, the Telrex "Conical-V-Beam" used for maximum efficiency at low frequencies becomes a much more efficient antenna on the high frequencies than a separate cut-to-frequency stacked antenna.

The 150 ohm non-varying center impedance makes it possible to use any of the commercially available transmission lines from 75 ohm coaxial, to 300 ohm ribbon, with a standing wave ratio never exceeding 1.6 to 1 on any channel. Standing waves cause excessive phase-shift, blurred pictures, multiple images and decreased sensitivity.

**An 8X-TV "Conical-V-Beam" will outperform any cut-to-frequency antenna on the market.**

You are invited to consult our engineering staff on any unusual antenna problems.

**"Conical-V-Beams" are produced under RE-issue Patent No. 23,346.**

**"LONG DISTANCE ALL-STATION CHAMPION"**

**"UNEQUALLED FOR PERFORMANCE AND DURABILITY"**

**AMERICA'S LARGEST MANUFACTURER OF "CONICAL-V-BEAMS"**

# " CONICAL-V-BEAMS "

## Custom-Designed Antennas

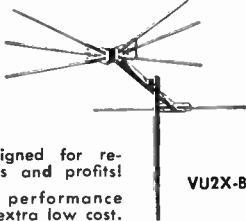
— at mass production prices!

Another Telrex first in superior antenna service. Conical-V-Beams custom designed for best results in your particular area. Regular list prices prevail, meaning you get better performance, value and more

satisfied customers. Your selling territory for TV receivers is increased tremendously. Installing customized Telrex antennas is insurance against callbacks due to antenno adjustments and you enjoy the added protection of Telrex super-durable, all-weather construction. Just specify the installation area when ordering. Telrex will supply your antennas cut-to-area for the finest pictures ever!

— for superior reception on TV, FM, and UHF.

### VANGUARD SERIES "Conical-V-Beams" The New Economy Line



VU2X-B

- Designed for re-sults and profits!
- Top performance at extra low cost.
- The Vanguard will outperform and outsell any comparably priced TV Antenna.

**Model VM2X-6**  
(single bay) ..... \$ 7.22 List

**Model VM4X-12**  
(2 bay stacked)..... \$15.28 List

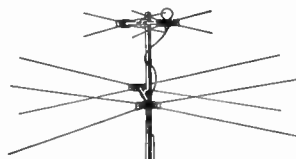
**Model VU2X-8**  
(single bay) ..... \$ 7.92 List

**Model VU4X-16**  
(2 bay stacked)..... \$16.83 List

Vanguard Series Bulk Packed

### DUO-ORIENTING "Conical-V-Beam"

Designed to receive any combination of stations displaced by any angle:



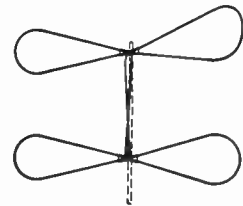
**FOR  
PRIMARY  
AREAS**

- **D-OX**
- Duo-orienting, uni-directional "Conical-V-Beams" with reflectors.
- Top bay for Hi frequency — lower bay for Hi-Low frequency reception.
- Complete with phasing loop, coupling line and solid hi-strength aluminum elements.
- An all-station duo-orienting array, superior to any Hi-Low type.

Standard Pack ..... 1/carton  
Shipping wgt. .... 6 lbs.  
List Price ..... \$13.75

### CLOVER-V-BEAM "E-Z RIG"

A high gain, compact indoor or outdoor array for TV, FM and UHF.



featuring:

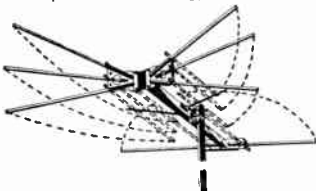
- HIGH SENSITIVITY AND COMPACT CONFIGURATION.
- ROOF, ATTIC, WINDOW MOUNTING.
- EASE OF INSTALLATION.
- ICE LOADING NIL, LOW WIND RESISTANCE.

The efficient transposed collinear closed loop CONICAL-V-BEAM providing resonant conical dipole sensitivity on low channels with hi-gain V-Beam operation on the high channels.

Standard Pack ..... 4/carton  
Shipping wgt. .... 8 lbs.  
List Price ..... \$4.75

### "METEOR" CONICAL-V-BEAM E-Z-RIG

TELREX "METEOR," the CONICAL-V-BEAM with E-Z-RIG assembly. A complete E-Z-RIG assembly with no separate parts to assemble.



- WITH "HI-V" REFLECTOR.
- SOLID, HIGH TENSILE STRENGTH, ALUMINUM ELEMENTS.
- RECORD BREAKING ALL CHANNEL GAIN.
- ICE LOADING NIL, LOW WIND RESISTANCE.

Standard Pack ..... 1/carton

Model ME-2X ..... \$12.50

Model ME-4X ..... \$25.60

Model ME-8X ..... \$52.79

### "DUBL-CONICAL-V-BEAM" WITH HI-V-REFLECTOR

For outstanding all-station performance. Particularly effective in eliminating ghosts and for use where secondary emission is encountered. Features "Conical-V-Beam" broad band gain with Yagi directivity and pattern.



MODEL DCVB-8  
(For primary area and suburbs)  
LIST PRICE \$9.30

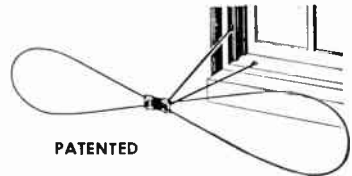
MODEL DCVB-16  
(For secondary areas) STACKED ARRAY  
LIST PRICE \$19.94

Packed one to a carton

### "SUPEREX" WINDOW ANTENNA

For primary signal areas. Easily mounted on any window sill. Can also be mounted indoors on walls, in closets, behind furniture, etc.

Standard Pack ..... 6/carton  
Shipping wgt. .... 5 lbs.  
List Price ..... \$2.70

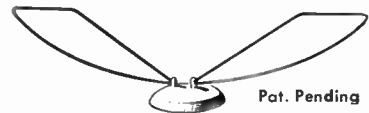


PATENTED

### TELREX "BAT-WING"

Outperforms any top-of-set antenna on 80% of all TV channels. Requires no pruning or tuning. Attractive ornamental design!

Standard Pack ..... 1/carton  
Shipping wgt. .... 1 1/2 lbs.  
List Price ..... \$3.99



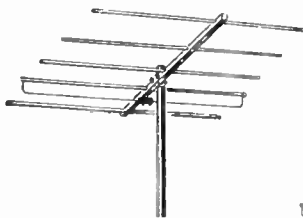
Pat. Pending

**ORIGINATORS • PATENTEES • MANUFACTURERS OF "CONICAL-V-BEAMS"**

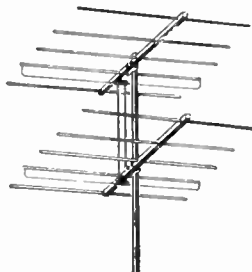
# TELREX "CUSTOM BUILT" YAGI'S

- PRECISION TUNED
- EXCELLENT IMPEDANCE MATCH
- HIGH FRONT TO BACK RATIO
- FULL BAND WIDTH
- HIGH IMPEDANCE TRANSFORMATION

## AMERICA'S FINEST 5 ELEMENT YAGI FOR HIGH CHANNELS 7 TO 13



A precision tuned narrow beam array offers 10 db gain and high front to back ratio. Full band-width for full audio and video, excellent match with 150 or 300 ohm transmission line.



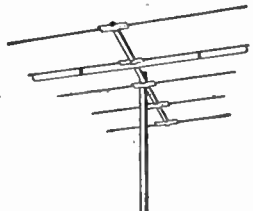
**MODEL Y5X1 — 7 to 13**  
Standard Pack ..... 2/carton  
List Price ..... \$6.11

**MODEL Y5X2 — 7 to 13**  
(Stacked Array)  
Standard Pack ..... 1/carton  
List Price ..... \$13.05

High Channel 5-Element Yagis.  
Have Wood Cross Arms for Maximum Signal To Noise Ratio.

## PRECISION TUNED 5-ELEMENT, LOW CHANNEL YAGI FOR CHANNELS 2 TO 6

Uniformly high gain over full channel with exceptional front-to-back ratio. High impedance transformation provides excellent match for 300 ohm lines, minimizing standing waves and noise pick up.



**MODEL Y5X1 —  
FOR CHANNELS 2 TO 6**  
List Price  
(Channels 2 and 3)..... \$16.19  
(Channels 4, 5 & 6)..... \$15.28

**MODEL Y5X2 —  
FOR CHANNELS 2 TO 6**  
(Stacked Array)  
List Price  
(Channels 2 and 3)..... \$37.08  
(Channels 4, 5 & 6)..... \$35.25

## TELREX "FISHBONE"

### TEN WORKING ELEMENTS



Guaranteed to outperform any Yagi antenna. The most powerful twin-driven single channel array ever made. Telrex guaranteed, to outperform any yagi antenna on the market. Up to 15db gain.

**MODEL FBT-1 — FOR CHANNELS 7 TO 13**  
Standard Pack ..... 1/carton  
List Price ..... \$13.35

Also available stacked.

AVAILABLE FOR LOW CHANNELS  
CUSTOM BUILT  
Write for price and literature.

## TELREX TWIN-DRIVEN SIX ELEMENT "FISHBONE"



Twin-driven for higher gain. This antenna will outperform arrays having two extra elements. 12 db gain.

**MODEL Y6X1**  
Standard Pack ..... 1/carton

List Prices  
Channels 2-3 ..... \$21.41  
Channels 4-5-6 ..... \$19.68

ALSO AVAILABLE STACKED

## CUSTOM BUILT COMMUNICATION ANTENNA ARRAYS

**FOR 2 METERS**  
4 element "Conical" array  
6 element "Fishbone"  
10 element "Fishbone"

**FOR 10 METER**  
2 element Conical array  
2 Bay 4 Element Conical array  
6 Element In-Line Yagi

**FOR 6 METERS**  
6 element yagi  
10 element "Fishbone"  
4X Conical V beam (can be used for TV reception also)

**FOR 20 METERS**  
2 Element Yagi  
3 Element Yagi  
4 Element Yagi

### "ALL WAVE KIT"

All-wave "Conical-V-Beam" antenna kit for transmitting or receiving. Ideal for amateurs, commercials or S-W-L. Operates on 160, 80, 40, 20, 10, 6, 2 meters and all FM-TV and short wave reception.

WRITE FOR COMPLETE SPECIFICATIONS AND LIST PRICES.  
ORDER THROUGH YOUR REGULAR JOBBER OR DISTRIBUTOR.

"Conical-V-Beams" are produced under Re-issue Patent No. 23,346

**AMERICA'S LARGEST MANUFACTURER OF "CONICAL-V-BEAMS"**

SINCE  
1921



**insuline** Corporation of America  
OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

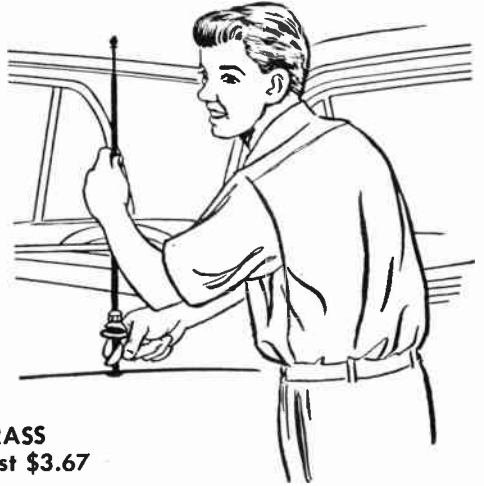
## Insuline's Latest Improved Auto Radio Antennas

# "Solo-mount"

TOP  
Fender and  
Cowl

**Mounted entirely from the outside!**

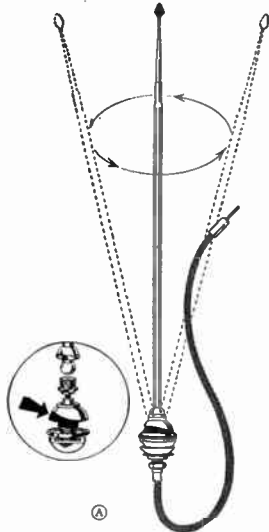
Here's the antenna that takes time-consuming drudgery out of antenna installation. One man, in no time at all, inserts the antenna lead and special rocker into the hole, pulls up against the rocker and tightens the top nut — ALL FROM THE OUTSIDE!



Gleaming chrome-plated ADMIRALTY BRASS  
No. 4583B—3 Sec. Extends to 60"....Dealer Cost \$3.67

## Popularly Priced Auto Radio Antennas for All Types of Cars

All Insuline Antennas are precision made of chrome-plated Admiralty BRASS tubing. Include HI-Q Lo-Loss shielded leads. Rattleproof. Equipped with both DELCO and MOTOROLA fittings.



**A FENDER AND COWL MT. TYPE**—Features special variable angle mount to match car contours.

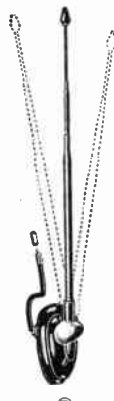
No.	Dealer Cost
4585—3 Sec. Extends to 62"	\$3.30
4589—2 Sec. Extends to 49"	2.67

**B DISAPPEARING TYPE**—Collapses to 6 1/2". Does not obstruct vision.

No.	Dealer Cost
4571B—3 Sec. Extends to 56"	\$4.50
4584 —4 Sec. Extends to 76"	5.41

**C SIDE COWL TYPE**—Standard Models

No.	Dealer Cost
4567—3 Sec. Extends to 63"	\$2.25
4566—3 Sec. Extends to 63"	2.72
4553—3 Sec. Extends to 93"	3.57



**D "UNI-MOUNT" TYPE**—For underhood mounting. No drilling of holes in car body necessary.

No.	Dealer Cost
4568—3 Sec. Extends to 68"	\$3.15
4569—4 Sec. Extends to 78"	3.33
4559—4 Sec. Extends to 100"	4.17

**E "ROCKER" TYPE**—Swivel antenna for flat or convex surfaces.

No.	Dealer Cost
4801—3 Sec. Extends to 63"	\$3.08
4803—3 Sec. Extends to 96"	3.57

**F REPLACEMENT ANTENNA ASSEMBLIES**

No.	Dealer Cost
4541—3 Sec. Extends to 62"	\$3.57
4545—For Buick, Hudson, Packard	\$1.83
4546—For Ford Cars	1.67
4560—For Oldsmobile Cars	2.37
4561—For Pontiac Cars	2.37

### REPLACEMENT ANTENNA LEADS



Various lengths and types of shielded HI-Q Lo-Loss cable for auto radio antennas. Inner polyethylene insulation with vinylite jacket.

Send for latest catalog which fully describes Insuline's complete line of antennas, leads, and auto radio accessories

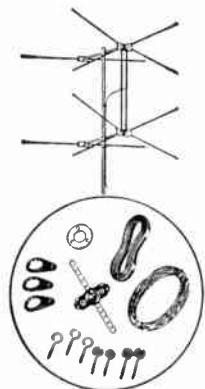
SINCE  
1921



# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## COMPLETE PACKAGED ANTENNA INSTALLATION KITS



### STACKED CONICAL KIT

Includes:

- Stacked Conical Antenna with straight line reflector
- 10 ft. Steel Mast
- 50 ft. 300 ohm wire
- 100 ft. 7 Strand No. 26 Guy Wire
- 3 Guy Wire Screw Eyes
- 1 Guy Wire Ring
- 3 Rubber Stand-off Insulators
- 4 Insulated Stand-offs
- Lightning Arrester

No. 6608 Dealer Cost \$16.20

### CHALLENGER KIT

Includes:

- Stacked Folded Dipole Array Antenna
- 10 ft. Steel Mast
- Tri-position base mount
- 50 ft. 300 ohm wire
- 100 ft. Guy Wire
- High Band-Low Band Connecting Leads

- 3 Insulated Stand-offs
- 4 Rubber Stand-off Insulators
- 3 Insulated Stand-offs with Strap
- Lightning Arrester
- 3 Guy Wire Screw Eyes
- Guy Wire Clamp

No. 6353 Dealer Cost \$21.60

### INDOOR PORTABLE ANTENNA (Patent No. 158679)

#### ALL-CHANNEL RECEPTION For All Television Receivers Features

- ✓ BRASS DIPOLES
- ✓ Complete adjustability
- ✓ Tilt-free Base
- ✓ Quick Installation
- ✓ Include 300 ohm connecting lead and open end mounting lugs.

#### THE "METEOR" 3 Section

No. 6470 Dealer Cost \$2.50

#### THE "METEOR UTILITY" 2 Section

No. 6474 Dealer Cost \$2.08



## "BI-CON" TELEVISION ANTENNAS

### Conical Type Antennas for Exceptional Performance

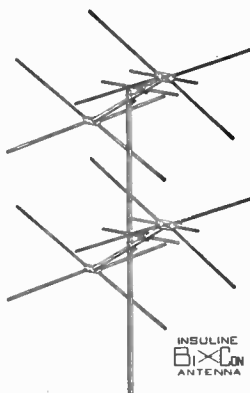
Features:

- ✓ Heavy duty 1/2" closed end aluminum elements with wooden dowel inserts.
- ✓ DUAL REFLECTORS . . . separate high frequency and low frequency dipole reflector elements for better performance.
- ✓ All Aluminum rigid castings.
- ✓ Pre-assembled for easy installation.
- ✓ Individually packaged.

The "BI-CON" Single for All-Channel Reception No. 6472 (Less Mast) . . . Dealer Cost \$9.59

The Stacked "BI-CON" for Fringe Area Reception No. 6481 (Less Mast) . . . Dealer Cost \$21.25

The "QUAD BI-CON" for Long Distance Reception No. 6484 (Less Mast) . . . Dealer Cost \$45.00



INSULINE BI-CON ANTENNA

## INSULINE "UNI-CHANNEL" YAGI ANTENNAS

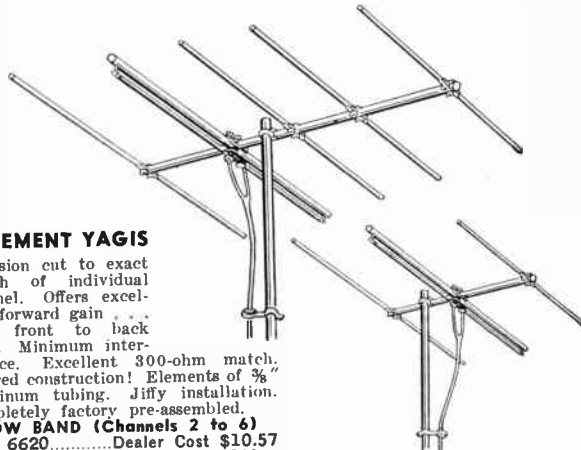
### 5-ELEMENT YAGIS

Precision cut to exact length of individual channel. Offers excellent forward gain . . . high front to back ratio. Minimum interference. Excellent 300-ohm match. Rugged construction! Elements of 3/8" aluminum tubing. Jiffy installation. Completely factory pre-assembled.

LOW BAND (Channels 2 to 6) \*No. 6620 . . . Dealer Cost \$10.57  
HIGH BAND (Channels 7 to 13) \*No. 6630 . . . Dealer Cost \$5.73

### YAGI STACKING KITS

\*\*LOW BAND (Channels 2 to 6) \*No. 6625 . . . Dealer Cost \$3.50  
HIGH BAND (Channels 7 to 13) \*No. 6635 . . . Dealer Cost \$1.00  
\*Designate desired channel.  
\*Includes special center harness assembly for rigid support.



### 3-ELEMENT YAGIS

Three Element Design • Elements made of 3/8" aluminum tubing • Completely pre-assembled for quick installation.

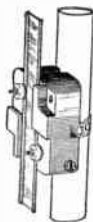
#### LOW BAND

\*No. 6580 . . . Dealer Cost \$7.20  
\*Designate desired channel

## TELEVISION LIGHTNING ARRESTERS

### U. L. Approved

Improved type molded phenolic lightning arrester designed especially for television installations. Simply and quickly installed. Sure grip binding washer eliminates necessity of stripping insulation and assures good electrical contact. A precision arrester designed to accepted standards offering adequate receiver protection. Supplied with or without grounding strap. With grounding strap, may be attached to metal pipe or mast; without strap, may be screwed to any wooden base. Complete with weather-proof hardware.



No. 6113 Dealer Cost \$0.75  
6114—With Grounding Strap . . . . .90

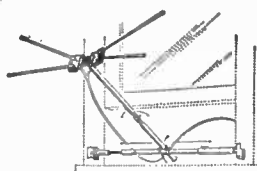


Shown on this page are but a few of the wide variety of television antennas and accessories that comprise the Insuline line. "There's an Insuline Antenna for every requirement." Send for latest complete television catalogue.

## INSULINE WINDOW ANTENNA

Latest conical type. Made of sturdy steel and 3/8" aluminum; sealed ends. Provides horizontal or vertical positioning. Steel mast measures 2 1/2 feet in length. 1 inch in diameter. Window clamp (1" diam.) is adjustable . . . spans 30 to 50 inches for almost any wood or casement window frame. Easily installed.

No. 6451 Dealer Cost \$6.66

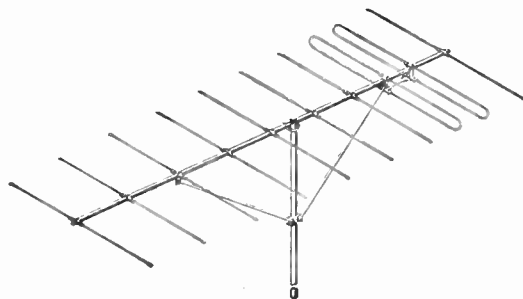


## HIGH-GAIN TELEVISION ANTENNAS

### SILVER STREAK TWIN-DRIVEN 10-ELEMENT YAGI

For Channels 2-6

A new addition to the TACO line of fringe-area antennas. The TACO Silver Streak antenna incorporates 10 elements properly spaced and cut to obtain maximum gain without narrowing 6 mc bandwidth. Seven directors, two driven elements, and a reflector make up this super gain design. High front-to-back ratio overcomes co-channel interference as well as noise and ghost pickup. Available as a single antenna, or a stacked array. Single antenna provides a gain of 11 db, while stacked array provides 14 db. Twin elements driven in parallel provide terminal impedance of 300 ohms for match to transmission line. All-metal construction, properly designed, withstands adverse weather conditions. Tuned for any one of the low-band channels. Especially adaptable for use with TACO Antenna Supercharger.



**Cat. No. 1800-(\*)** SINGLE-BAY TWIN-DRIVEN YAGI ANTENNA. Consists of: 1 crossarm assembly supporting two antenna elements; seven directors and one reflector. Jiffy-Rig construction. Shipping wt. 14 1/2 lbs. **Ch. 2-3-4 \$35.00 — Ch. 5-6 \$31.00**

No. 1800-(\*). assemblies with stacking lines. Shipping wt. 29 lbs. **Ch. 2-3-4 \$71.00 — Ch. 5-6 \$63.00**

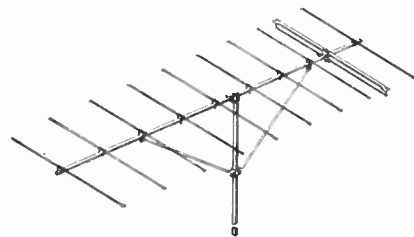
**Cat. No. 1801-(\*)** STACKED YAGI ANTENNA. Consists of: 2 Cat.

**Cat. No. 1802-(\*)** STACKING LINES FOR TWO-BAY YAGI ANTENNA. Converts 2 one-bay Cat. No. 1800-(\*). antennas to a two-bay stacked antenna. Shipping wt. 2 lbs. **List Price \$5.25**

### SILVER STREAK 10-ELEMENT YAGI

FOR CHANNELS 7-13

The high-band version of the above model. Provides approximately same gain as low-band model. Utilizes 8 directors, one driven element and a reflector. Designed primarily as a fringe-area antenna, but may be used in noisy, or ghost-haunted areas where its sharp directivity rejects unwanted noise and signals. Sharp frequency tuning of all Yagi designs minimizes reception of signals outside the channel frequency. Both high-band and low-band model Silver Streak antennas especially adaptable for use with TACO Antenna Supercharger. Perfect mechanical balance lends this antenna for use with rotator. All TACO antennas come factory-assembled for fastest installation. Two-diameter antenna element raises terminal impedance to match 300-ohm transmission line for maximum transfer of energy.



**Cat. No. 1850-(†)** SINGLE-BAY YAGI ANTENNA. Consists of: One crossarm with U-Bolt and saddle; One two-diameter driven antenna; One reflector and eight directors mounted on crossarm. Click-Rig construction. Shipping wt. 6 1/2 lbs. **List Price \$13.75**

**Cat. No. 1851-(†)** STACKED YAGI ANTENNA. Consists of: 2 Cat. No. 1850-(†) assemblies with stacking line. Shipping wt. 14 lbs. **List Price \$27.75**

**Cat. No. 1852-(†)** STACKING LINES FOR TWO-BAY YAGI ANTENNA. Converts 2 one-bay Cat. 1850-(†) antennas to a two-bay stacked antenna. Shipping wt. 1 lb. **List Price \$2.50**

\*Specify low-band channel desired.  
†Specify high-band channel desired.

### UHF RECEIVING ANTENNAS

TACO has a complete lines of UHF antennas ready for the trade. These antennas have been thoroughly tested and proved under actual operating conditions.

As in the case of VHF, TACO will present antennas designed to meet the varying conditions of different areas where UHF will be operating, as to gain, directivity, and bandwidth. A complete, fully detailed description of UHF antennas will be available shortly through TACO distributors.

TACO enters the UHF field with a definite advantage over other antenna equipment manufacturers. During World War II and again in the present rearming program, TACO has played an important role in the development and manufacture of UHF equipment for our armed forces. This experience in the reception and handling of UHF is clearly shown in the performance of the present commercial TACO UHF antennas.

## SEE COMPLETE ANTENNA LINE IN TACO GENERAL CATALOG

Technical Appliance Corporation, Sherburne, N. Y.

## HIGH-GAIN TELEVISION ANTENNAS

### LAZY-X ALL-CHANNEL ANTENNA

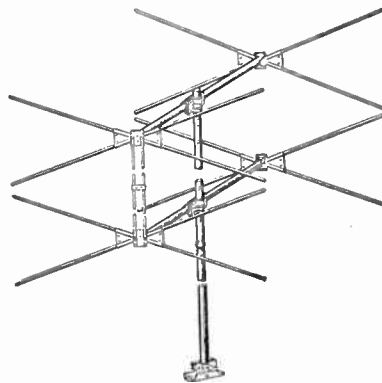
The most popular all-channel antenna for average to strong signal areas. Provides a relatively flat gain over all 12 channels. Extremely rugged construction due to exclusive TACO apex design with bell-mouth channels for element rods. Readied for installation in a matter of minutes with TACO Jiffy-Rig design. An excellent antenna for weak signal areas where noise level is low. Directivity and noise rejection not as good as TACO Yagi designs. Available as a stacked array or a single antenna, depending upon signal strength available at installation.

**Cat. No. 950AL. STACKED LAZY-X ANTENNA** for Channels 2-13. Consists of: 2 single X antennas with crossarms and X-type reflectors; stacking lines and terminal panel for connecting antennas; mast swivel bracket; 3 screw-eyes; 1 guy anchor, 2 mast insulators; complete instructions. Shipping Weight 12 lbs. List Price \$31.00

**Cat. No. 953A. SINGLE LAZY-X ANTENNA.** Consists of: Single X antenna with crossarm and X reflector; all elements and crossarm of hard drawn aluminum tubing; Universal U-bolt and saddle bracket mount; complete instructions. Shipping Weight 5 lbs. List Price \$14.00

**Cat. No. 954A. STACKING LINES** for stacking two single-bay antennas. Shipping Weight ¾ lb. List Price \$2.50

**Cat. No. 949A STACKING LINES** for stacking two 2-bay antennas. Complete with terminal panel on mast and four stacking lines. Shipping Weight 1½ lbs. List Price \$4.75



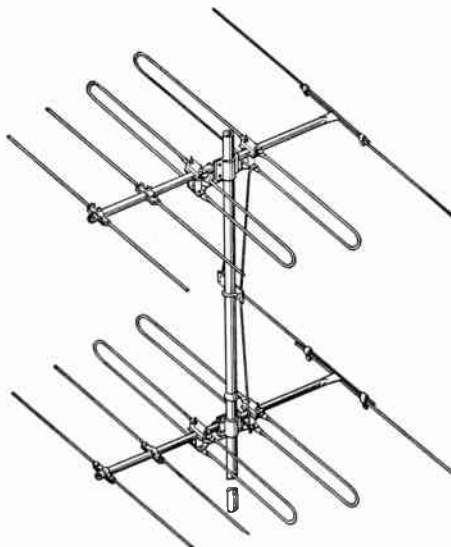
### 5-ELEMENT TWIN-DRIVEN YAGI

An exclusive TACO design. Never successfully duplicated. Used more widely than any other fringe area design. Comes tuned for any one of the low-band channels, or in a combination model for channels 4 and 5. Incorporates two directors, two driven elements, and a reflector. Very good directivity and front-to-back ratio. Highly recommended for areas affected by co-channel, or adjacent channel interference. Folded-dipole driven elements fed in parallel, raises terminal impedance to match 300-ohm line. Mechanically, the Twin-Driven Yagi has proved itself in more installations than all other fringe area designs combined. Available as a stacked array or a single antenna, depending upon gain required. Single antenna unit suited for use with rotator. Both models designed for use with TACO Antenna Supercharger.

**Cat. No. Super 980-(\*) STACKED TWO-BAY TWIN-DRIVEN 5-ELEMENT YAGI.** Consists of: 2 crossarm assemblies, each supporting two folded dipole antennas, two directors, one reflector; transmission line for stacking the two bays; tie wire; complete instructions. Shipping Weight 14 lbs. List Price \$47.00

**Cat. No. Super 981-(\*) SINGLE BAY TWIN-DRIVEN 5-ELEMENT YAGI.** Consists of: one crossarm assembly supporting two folded dipoles, two directors, one reflector; complete instructions. Shipping Weight 8 lbs. List Price \$23.00

**Cat. No. 989-(\*) STACKING LINES** for Two-Bay Twin-Driven Yagi antennas. Consists of all parts necessary to convert two Super 981-(\*) antennas into one Super 980-(\*) antenna. Shipping Weight 2 lbs. List Price \$5.25



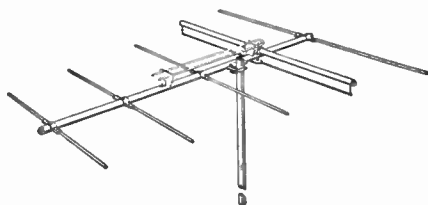
### DUAL-CHANNEL YAGI

Another new fringe area design by TACO. Provides all the desirable features of the Yagi design for a combination of two channels, with a single antenna. Tuning element adjusted at factory for desired channel combination. Combinations available as listed below. Antenna incorporates three directors, driven element with tuning bazooka, and reflector. Excellent front-to-back ratio. Low wind resistance makes this antenna especially adapted for use with a rotator. Sharp tuning and directivity minimize noise and ghost pickup. Terminal impedance matches 300-ohm line. Available as stacked array or single antenna. Completely factory-assembled for easiest, best installation.

**Cat. No. 1410-(\*) SINGLE-BAY DUAL-CHANNEL LOW-BAND YAGI.** Consists of: 1 crossarm assembly with U-Bolt and saddle; One driven element with factory-tuned bazooka; One reflector and three directors. Shipping Weight 7 lbs. List Price \$22.50

**Cat. No. 1411-(\*) STACKED DUAL-CHANNEL LOW-BAND YAGI.** Consists of: Two Cat. No. 1410-(\*) assemblies with special stacking lines. Shipping Weight 15 lbs. List Price \$46.00

**Cat. No. 1412-(\*) STACKING LINES FOR TWO-BAY YAGI ANTENNA.** Converts 2 one-bay Cat. No. 1410-(\*) antennas to a two-bay stacked antenna. (\*) Available combinations 3-6; 4-5. Shipping Weight 2 lbs. List Price \$5.25



\*Specify low-band channel desired.  
\*\*Specify dual low-band channels desired.

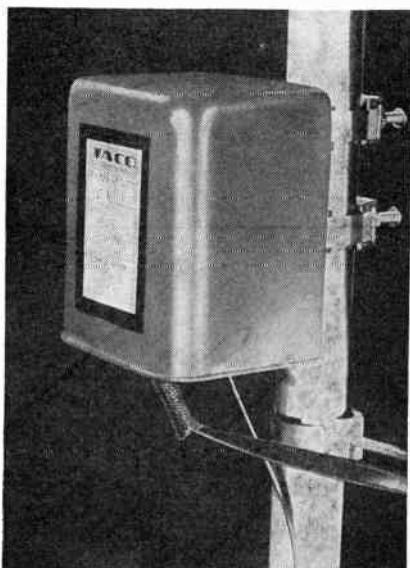
## FOR COMPLETE ANTENNA AND ACCESSORY LINE SEE TACO CATALOG

Technical Appliance Corporation, Sherburne, N. Y.



## ANTENNA SUPERCHARGER

The TACO Antenna Supercharger has proved itself the most successful television signal preamplifier on the market. It is unique in that it is a high-gain, dependable power amplifier located on the antenna mast, at the antenna. As such, it amplifies the signal before it is



weakened through line-loss, and before noise pickup in the transmission line. This results in a much higher signal-to-noise ratio than is possible with old-fashioned boosters located at the receiver.

Through sharp frequency tuning, signals outside the desired frequency are rejected, and a gain of 14 db is realized. When used with a TACO Twin-Driven "Silver Streak" Yagi, the overall gain is in the order of 28 db.

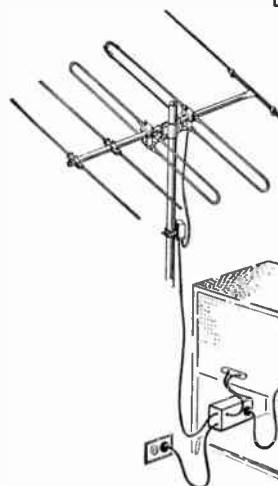
Special emphasis has been placed upon dependability so necessary in fringe area installations where the antenna and amplifier are located on a high mast or tower.

The amplifier unit is powered by means of a transformer, located at the receiver, that provides 24 volts through the transmission line up to the amplifier. The same transmission line is used to carry the signal down to the power unit. From the power unit, the signal is fed into the receiver antenna terminals. The receiver power cord is plugged into the power unit for operation of the automatic relay switch. This provides automatic operation when the receiver is turned on.

This type of signal amplification is very necessary with today's receivers incorporating the cascode-type front-end. Signals amplified through boosters located at the receiver have a far greater noise level than the front-end itself, thus defeating the purpose of this high-gain receiver design.

The Antenna Supercharger comes tuned for any one of the low-band or high-band channels or for the combined channel 4 and 5 setup. They are recommended for use with any high-gain, sharply tuned antenna such as the TACO Twin-Driven Yagi, the Silver Streak antenna or the TACO Yagis listed in the general catalog.

**Cat. No. 1625-(\*) SINGLE CHANNEL COAXIAL CABLE ANTENNA SUPERCHARGER.** Consists of amplifier, coaxial fittings, mounting brackets, necessary hardware. Shipping Weight. 2½ lbs. List Price \$27.50



**Cat. No. 1626 24 VOLT TRANSFORMER** to supply power to No. 1625 Antenna Supercharger. In attractive housing.

**Cat. No. 1628-(\*) SINGLE CHANNEL ANTENNA SUPERCHARGER WITH MIXER.** Consists of amplifier, power mixer, mounting brackets, necessary hardware. Shipping Weight 4½ lbs. List Price \$37.95

**Cat. No. 1629-(\*) SINGLE CHANNEL ANTENNA SUPERCHARGER.** Consists of amplifier, mounting brackets, necessary hardware. Shipping Weight 2½ lbs. List Price \$23.95

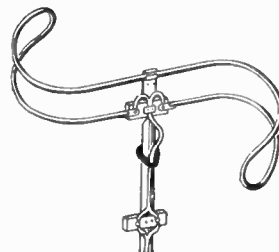
**Cat. No. 1631 AUTOMATIC POWER MIXER.** Consists of power supply relay and mixer unit in attractive housing, necessary hardware. Shipping Weight 3 lbs. List Price \$15.00

\*Specify desired high or low band channel.

### CAT. NO. 624 FM OMNIDIRECTIONAL ANTENNA

The most popular of the many TACO FM antenna designs. The folded dipole provides a flat response over the entire FM band, while the S-shape provides a directivity pattern practically circular in shape. Ideal for use in installations where signals are received from several directions. Extremely sturdy. Available as a stacked, or single antenna. Terminal impedance of 300-ohms.

**Cat. No. 624 OMNIDIRECTIONAL ANTENNA.** Consists of: 1 S-type folded dipole with terminal panel; 1 five-foot aluminum mast, 1¼" dia.; 2 mast insulators, 60 foot transmission line; 2 ribbon type standoff insulators; 2 mast clamps with mounting screws; complete instructions. Shipping Weight 4¾ lbs. List Price \$12.00

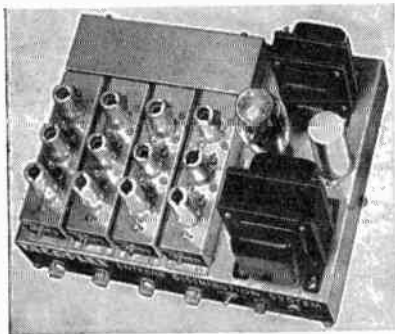


**COMPLETE FM-AM ANTENNA CATALOG ON REQUEST**

**Technical Appliance Corporation, Sherburne, N. Y.**

# MASTER TV ANTENNA SYSTEMS

## SERIES 1500 TACOPLEX



The Series 1500 Master TV Antenna Distribution System is in wide use for apartments, hotels, stores and community antenna systems. All units making up the system are designed and manufactured to provide the utmost in dependable and economical operation.

The Series 1500 TACOPLEX System consists of the antenna installation, the Master Chassis with Amplifier Strips, Mixer Unit, Electronic Multi-Line Units, and Isolation Units. Detailed information on all units and their functions is available from your TACOPLEX distributor.

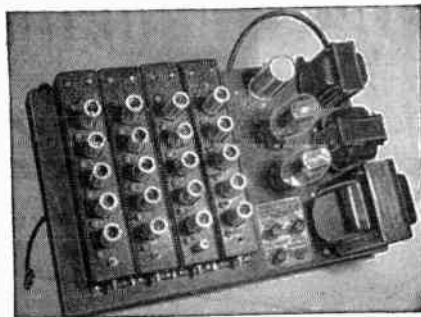
The signal is captured by sharply-tuned, high-gain antennas for each channel. If signal strength is not up to the desired 500 microvolt strength, a TACO Antenna Supercharger is employed at the antenna to boost the signal. The signal is then transmitted to the Master Chassis and through an Amplifier Strip. The TACOPLEX Amplifier Strips are available in two types — one incorporating three tubes and the other four tubes. Depending upon the requirements of the individual system, the correct type is selected. After amplification in the Amplifier Strips, the individual channels are mixed by means of the Mixer Unit.

The TACOPLEX Mixer Units are available for various system requirements. It is possible to provide isolation for several receivers directly from the Mixer outputs. Other models provide high-strength outputs for long transmission line runs.

After combining the channels in the Mixer, the TACOPLEX System utilizes coaxial transmission line for distribution of the signals. If runs are in excess of 2500 feet, it is necessary to reamplify the signals. This is done by means of additional TACOPLEX Master Chassis and Amplifier Strips. The signal is fed through a TACOPLEX Signal Separator and then into the respective Amplifier Strips. Again the signal is mixed by means of a TACOPLEX Mixer Unit and fed into the transmission line.

TACOPLEX Multi-Line Units provide a means of splitting the transmission lines into several separate lines with minimum loss of energy. Isolation Units of selective attenuation are available for use at receiver take-offs. These units provide a minimum of 30 db isolation between receivers. TACOPLEX Termination Units provide a constant level of signal throughout the system.

## SERIES 2500 TACOPLEX



Designed for master antenna systems requiring more RF power than provided in the 1500 Series. The TACOPLEX 2500 Series Master Antenna Distribution System provides several times more power than any other master antenna system ever offered. The output is 6 volts, peak-to-peak, as compared to 1 volt, or less, provided by most systems. This power has been found necessary not only in systems where long runs of transmission line are used, but also in areas of high signal strength. In strong signal areas it has been found that ghosts are caused by the pick-up of signals through the transmission line at the receiver, or in some cases within the receiver. The super power of this system overcomes this signal, and thus eliminates the ghosting effect.

The Series 2500 represents the culmination of several years of research and engineering. In operation principle, it is similar to the 1500 Series, but incorporates Mixer Units as integrated parts of the Master Chassis. Amplifier Strips are of greater gain, utilizing four tubes in low-band and five tubes in high-band.

Other advanced features include superior rectification by means of tubes in place of selenium rectifiers, and test jack points for fast, easy checking. Automatic attenuation provides positive control of overloading in the amplifier strips.

The Series 2500 provides a far higher signal level throughout than any master antenna system previously available. It is recommended for apartments, stores and community systems where the finest performance is desired. Complete specifications and details are available from your TACOPLEX distributor in the form of engineering bulletins and a fully illustrated catalog.

In addition to the higher output, the Series 2500 TACOPLEX System also incorporates several new type transmission line splitters of exceptionally low loss.

In selecting any master antenna system, one important point must be remembered. The signal captured by the antenna must be sufficient to provide a good picture. The function of the system is to maintain as nearly as possible this same quality signal throughout the entire system. The last receiver should have as good a picture as the one nearest the antenna location. TACOPLEX systems meet this requirement.

## COMPLETE DETAILS IN TACOPLEX CATALOG

Technical Appliance Corporation, Sherburne, N. Y.

peak performance for indoor TV reception!

the Hi-Lo  
TV Spiral Indoor  
**ANTENNA**

Countless satisfied television set owners are proof that the Hi-Lo TV indoor Spiral ANTENNA provides the clearest, sharpest, finest pictures. Original design and excellent engineering have produced the best-performing, best-appearing indoor TV antenna. Hi-Lo works where others don't . . . Hi-Lo is better where others merely function.

**Here's why:**

- high signal gain
- tuned to high and low TV channels
- no switches or rods to adjust
- receives clear picture immediately
- screwdriver only necessary for rapid installation
- gleaming gold appearance
- height 20" — width 32"
- bakelite base
- aluminum bars
- modern design to blend with any furniture

Model 101\*



**\$9<sup>95</sup>**  
LIST  
PRICE

\*U. S. Patent No. 2,495,579  
Canadian patents 1951

**Model 101 R & W\* for Outdoor Use**

- Window Installation
- Roof Installation
- Attic Installation

**ORDER Hi-lo TV Spiral ANTENNAS today!**

HI-LO TV Spiral Indoor and Outdoor antennas are sold through recognized jobbers. ORDER NOW for assured delivery.

**Hi-Lo TV ANTENNA CORP.**  
3540 N. Ravenswood • Chicago 13, Illinois

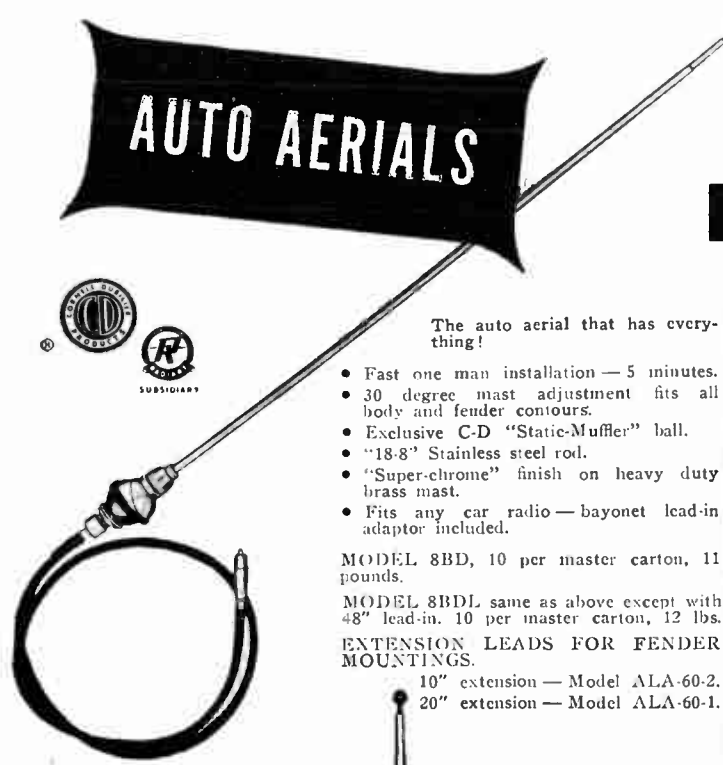
# CORNELL DUBILIER



CAPACITORS—ROTATORS—VIBRATORS—AUTO, TV & FM ANTENNAS—CONVERTORS



**Model 8BD**  
**List \$4.95**  
**HI-BALL**



The auto aerial that has everything!

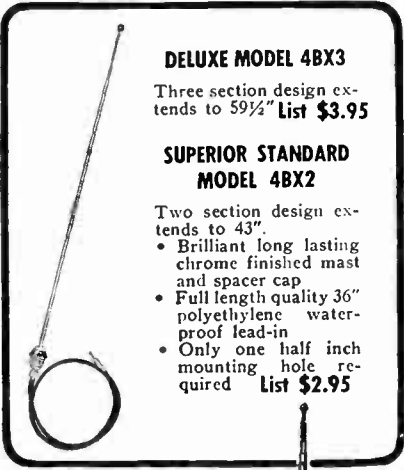
- Fast one man installation — 5 minutes.
- 30 degree mast adjustment fits all body and fender contours.
- Exclusive C-D "Static-Muffer" ball.
- "18-8" Stainless steel rod.
- "Super-chrome" finish on heavy duty brass mast.
- Fits any car radio — bayonet lead-in adaptor included.

MODEL 8BD, 10 per master carton, 11 pounds.

MODEL 8BDL same as above except with 48" lead-in. 10 per master carton, 12 lbs.

EXTENSION LEADS FOR FENDER MOUNTINGS.

- 10" extension — Model ALA-60-2.
- 20" extension — Model ALA-60-1.



**DELUXE MODEL 4BX3**

Three section design extends to 59 1/2" List \$3.95

**SUPERIOR STANDARD MODEL 4BX2**

Two section design extends to 43"

- Brilliant long lasting chrome finished mast and spacer cap.
- Full length quality 36" polyethylene water-proof lead-in
- Only one half inch mounting hole required List \$2.95

**TWO INSULATOR SIDE MOUNT TYPES**

Sturdy high quality construction throughout. Brilliant chromed brass masts with stainless steel rods. Wedge type adaptor furnished, with 36" polyethylene lead-in.

MODEL 2S, 43" extended, 2 sections. 10 per master carton, 9 pounds — List \$3.25

MODEL 3S, 63" extended, 3 sections. 10 per master carton, 13 1/4 pounds — List \$4.25

MODEL 4S, 92" extended, 3 sections. 10 per master carton, 17 1/2 pounds — List \$5.25



**DISAPPEARING MOUNT**

A handsome addition to any car . . . collapses to 6 inches and extends to 60 inches. Fits either fender or cowl and features the exclusive "O" ring seal around the mast that prevents water from entering inside the aerial. Only one 3/8" mounting hole required.

MODEL 3D, 60" extended. 3 sections, 2 pounds each — List \$6.75

10 per master carton weighing 19 pounds.



**BATTERY ELIMINATOR "POWERCON" BATTERY CHARGER**

Here is the ideal, compact, efficient unit for testing or demonstrating auto radios. SMOOTH DC POWER, 6 or 12 volts from the 110 volt 60 cycle AC line.

Model No.	Output	Watts	Size	Wt. Lbs.
110BA6	6V DC @ 10A	60	7 5/8 x 12 1/4 x 8 1/2	16
110BA12	6V DC @ 20A } or 12V DC @ 10A }	120	7 5/8 x 13 x 8 1/2	24 1/2

Model 110BA6 — List Price \$63.20 Model 110BA12 — List Price \$98.35



PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

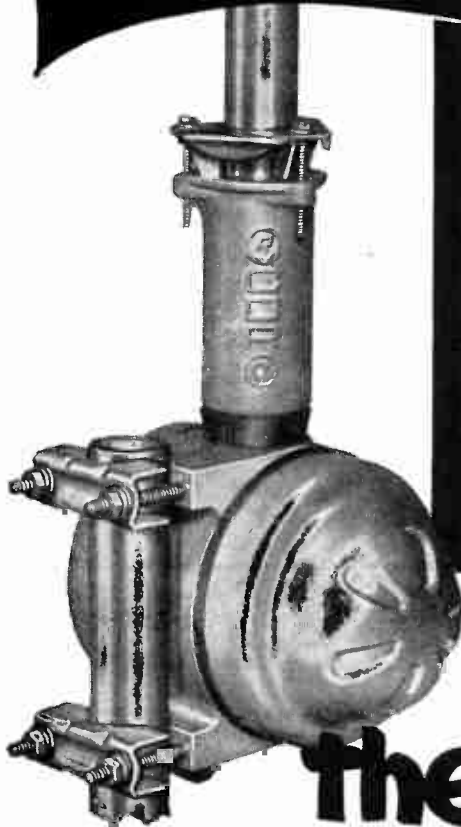
# CORNELL



# DUBILIER

**IT'S ALL NEW**

**the Rotor of Tomorrow  
HERE TODAY!**



# the Rotor

## The NO. 1 ALL-PURPOSE ROTOR *That Has Everything!*

Designed to give the trade everything they've asked for. To do this, it's taken time . . . lots of time and money and engineering skill . . . and NOW WE HAVE IT . . . the best possible ALL-PURPOSE ROTOR! It's TOPS! Order them at your jobber NOW . . . be the FIRST with the BEST in your area!

**MODEL TR-11** Complete rotor with handsome modern design plastic cabinet and illuminated meter control dial . . . fingertip lever . . . using 4-wire cable . . . \$44.95

- ★ Quick Mounting Antenna Mast Collet
- ★ Speedy Installation — No Loose Parts to Assemble
- ★ Takes Antenna Masts up to 1½" OD
- ★ High Torque
- ★ Instant Locking — will not drift
- ★ Instantly Reversible — makes complete revolution in 45 seconds
- ★ Completely Weather-proofed — Thoroughly Water-proofed
- ★ Less wind resistance
- ★ High strength with low weight
- ★ Fits standard towers

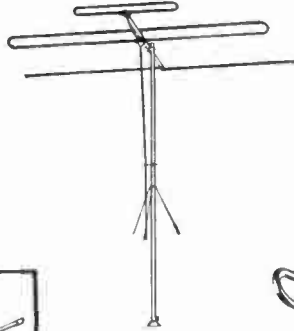


CAPACITORS—ROTATORS—VIBRATORS—AUTO, TV & FM ANTENNAS—CONVERTORS



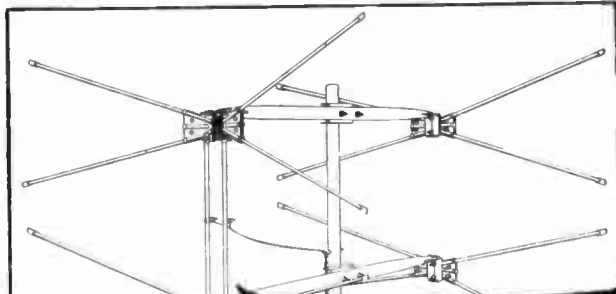
### THE "LOADED X" INDOOR

The highest rated indoor antenna. This unusual CORNELL-DUBILIER design delivers peak performance comparing favorably with many outdoor installations.



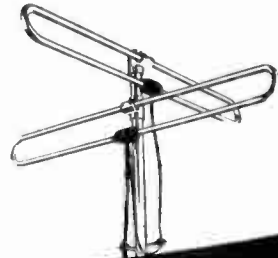
### "STRATE-LINE" ANTENNAS

Another feature in the complete CORNELL-DUBILIER line, this STRATE-LINE array is designed for both high and low band uni-directional reception.



### FM ANTENNAS

High quality FM antennas for peak performance under all conditions. Well designed . . . sturdy . . . easy to install.

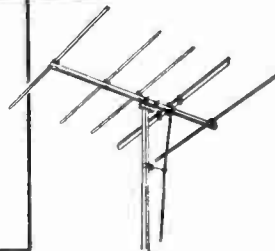


## C-D TV ANTENNAS

SUPERIOR DESIGN • QUICKLY INSTALLED • TROUBLE-FREE PERFORMANCE

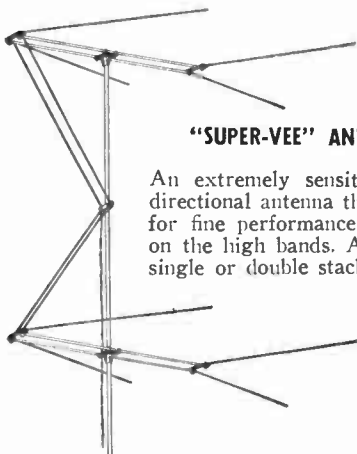
### "LAZY X" CONICALS

A complete group of conical-type antennas in assortments for single bays, double-stacked and quadruple-stacked arrays. The ideal "all-channel" antenna. Also available in ALL ALUMINUM construction.



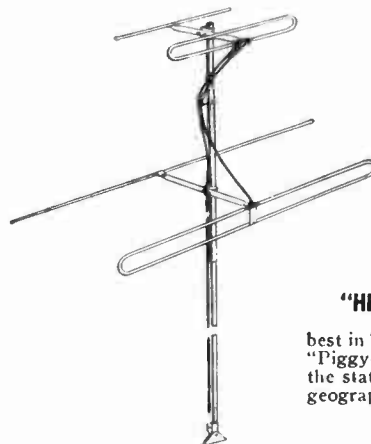
### "YAGI" TV ANTENNAS

The perfect answer to the demand for maximum signal pick-up in FRINGE areas. Each YAGI is cut for a specific channel . . . in pre-assembled QUICK-FOLD-OUT design for fast installations.



### "SUPER-VEE" ANTENNAS

An extremely sensitive, highly directional antenna that is noted for fine performance, especially on the high bands. Available in single or double stacked arrays.



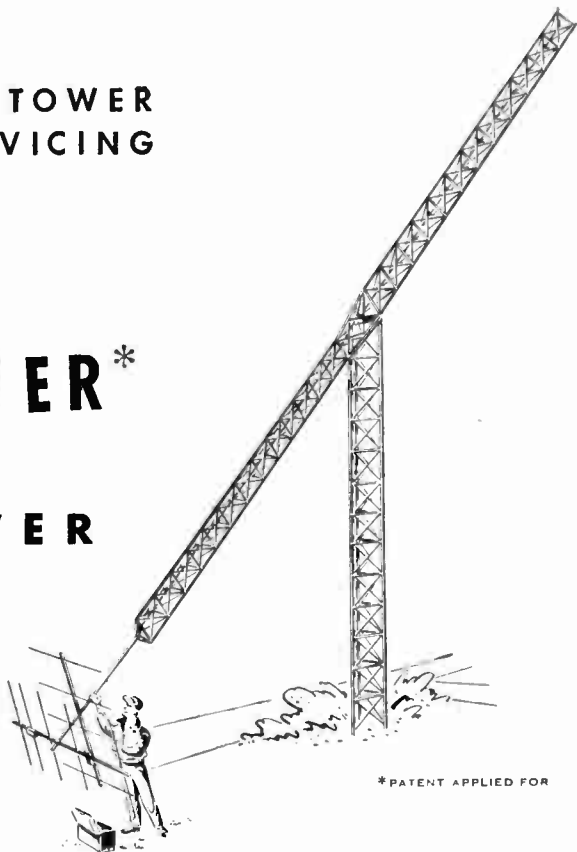
### "HI-LO" ANTENNAS

best in TV reception, where "Piggy-back" style for the stations are in different geographical locations.



THE EASIEST ANTENNA TOWER  
IN THE WORLD FOR SERVICING

THE TEL-A-RAY  
**SWING-OVER\***  
TOWER



\*PATENT APPLIED FOR

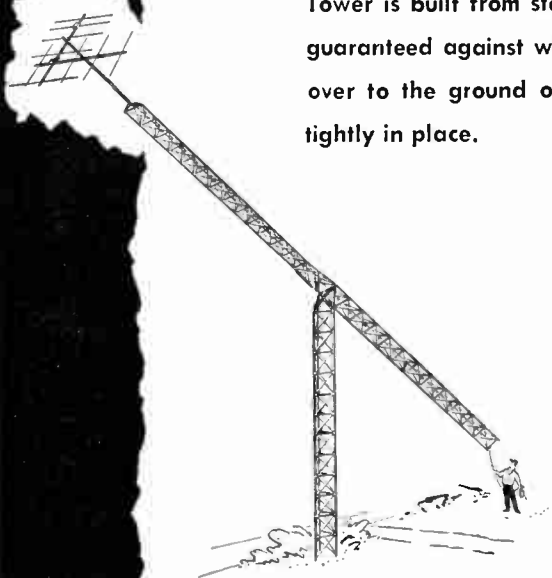
**TEL-A-RAY** ENTERPRISES, INC.  **HENDERSON, KY.**

TRADE MARK

The most revolutionary item since the birth of television — a tower that actually swings over to the ground for servicing! The Tel-a-Ray Swing-Over Tower is built from steel angles with all-welded construction. It is completely guaranteed against wind and weather damage. Yet, one person can swing it over to the ground or raise it in just three minutes. When erected, it locks tightly in place.

### *for ground and roofs*

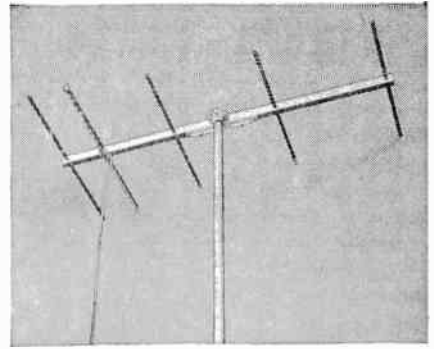
Swing-Over Tower Model TT1, for ground installations, is 40 feet high; an additional 10 feet of water pipe is recommended. It can be mounted in concrete with no guy wires, or may be erected with three guy wires only. The Model TT2, for roof tops, is 16 feet high and 8 feet of water pipe is recommended. The TT2 mounts directly to the roof with four guy wires. Both models feature the exclusive Swing-Over design. Individually packed. Shipping weights: TT1 210 lbs.; TT2 50 lbs.



## MODEL T

A high-gain array with razor-sharp directivity that gives wonderful reception in fringe areas. Expressly designed to receive good images under most adverse conditions, Tel-a-Ray Model T reduces intrachannel interference to a minimum. Gain is 15 times over dipole, with 12 db power gain, high forward gain, lower angle radiation and a wider band pass. Peaked at factory to single channel for best results. Wind and weather guaranteed, available in 72 or 300 ohm impedances. Individually packed. Shipping weight:

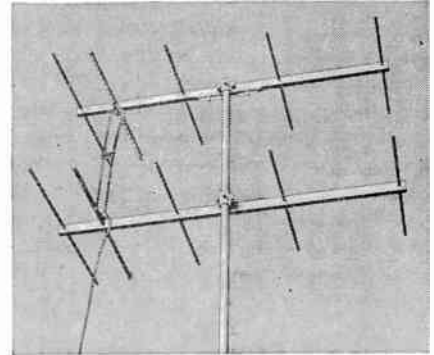
7 lbs. Lo.  
5 lbs. Hi.



## MODEL TD

For extraordinary sensitivity in picking up and strengthening television signals, the model TD can't be beat. Documented evidence proves the consistently good performance of the TD as much as 200 miles from the station. The same high 7.25 db front-to-back ratio as the Model T, this antenna gives 25 times gain over the dipole and a 14 db power gain! Factory peaked to a single channel, wind and weather guaranteed. 72 or 300 ohm impedances available. Individually packed. Shipping weight:

14 lbs. Lo.  
10 lbs. Hi.



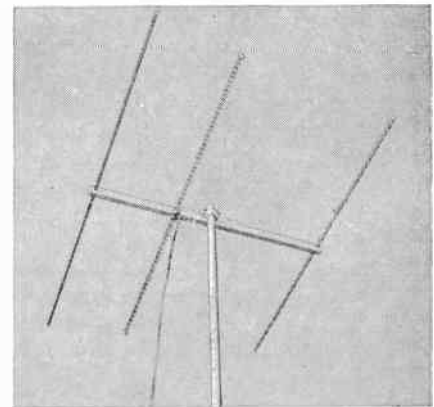
# TEL-A-RAY PRODUCTS

*"First--Because They Last"*

## MODEL R

Offering all the quality construction features of the Tel-a-Ray line, the Model R gives perfect results in outer service areas. It is high-gain array designed for reducing snow and improving image definition and clarity. Used with or without the Pre-Amplifier, the Model R will normally provide sufficient signal gain to eliminate the need for a booster. Simple to install and operate. Nine times gain over dipole, 9.5 db power gain, this antenna is also available with 72 to 300 ohm impedances. Wind and weather guaranteed. Individually packed. Shipping weight:

5 lbs. Lo.  
4 lbs. Hi.

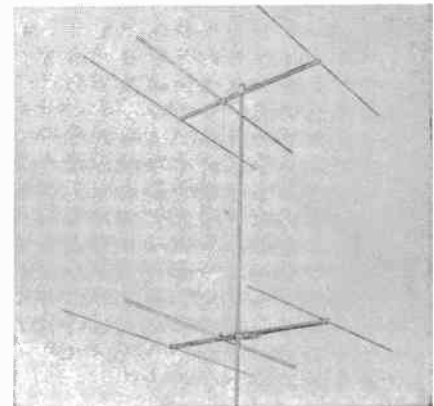


## MODEL RD

Here are the advantages of the Model R, expanded into a champion middle-distance performer. Model RD offers a 13 times gain over the dipole and a power gain to 11.5 db. It increases signal strength and improves image definition on the primary service area edges. Quickly and easily installed, completely guaranteed against weather damage. 72 or 300 ohm impedances. Individually packed. Shipping weight:

10 lbs. Lo.  
8 lbs. Hi.

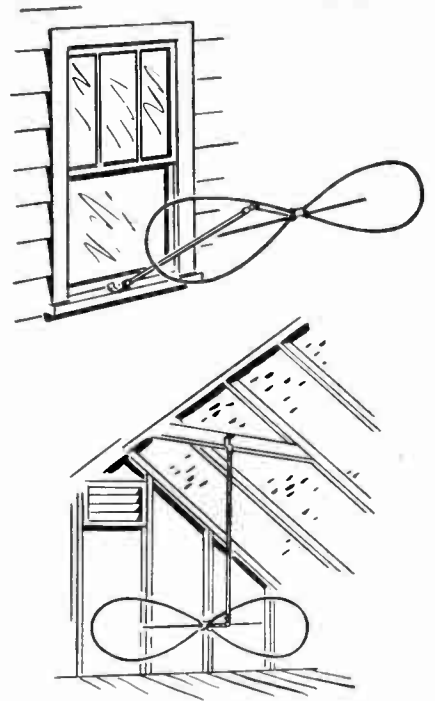
NOTE: The two bays on Models TD and RD come assembled as a single unit with the stacking bars ready for connection with the lead line.





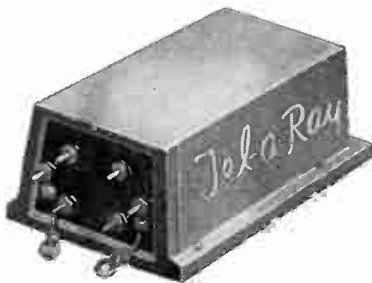
## THE BUTTERFLY

Tel-a-Ray's new Butterfly has everything a primary service antenna needs — serves all channels, high gain, low price, is easily erected and completely guaranteed. The performance of the Butterfly — on any TV channel or FM radio is outstanding; it eliminates or reduces ghosts and furnishes a high gain to all signals, giving clear, bright, interference-free reception. The new swivel-positioned Butterfly can be mounted on the roof, outside a window, or hung in the attic. It can be erected in five minutes and is guaranteed to withstand wind and weather damage. Packed 12 to a bundle. Shipping weight 8 lbs.



# TEL-A-RAY PRODUCTS

## THE PRE-AMPLIFIER



For strong signal amplification without noise, Tel-a-Ray offers their exclusive pre-amplifier — the only low-cost, antenna-mounted pre-amplifier on the market. Used with Tel-a-Ray antennas, it gives up to 300 times gain over dipole, compensates for lead-line loss, makes signals stronger and holds noise to a minimum. A neutralized push-pull triode circuit with an 18 db gain, each Pre-Amp is peaked at the factory for a single channel. Sturdily built and guaranteed against wind or weather damage. Individually packed, 1 to a carton. Carton shipping weight: 2 lbs.

## THE BOOSTER

Here is an amazing new Tel-a-Ray product — a Switching Booster. Designed for fringe areas where two or more channels may be received with separate antennas, the Booster will service four channels. It is a low noise level, high gain booster with a neutralized push-pull triode circuit supplying an 18 db gain. The booster controls and supplies power for the Tel-a-Ray antenna system. Channels can be switched by turning one or two knobs on the front of the beautiful streamlined metal case. Individually packed, 1 to a carton. Carton shipping weight: 6 lbs.



# mobile antenna . . .

now . . . the *Shakespeare* "Wonderod"

New "Wonderod" is a Fiberglas reinforced antennae for mobile radio equipment . . . made by the pioneer manufacturer of Fiberglas fishing rods. Thoroughly tested under extreme conditions, for commercial and private installations. STOCK SIZES READILY AVAILABLE.

## NOTE THESE "WONDEROD" ADVANTAGES:

- Will not corrode — excellent weathering properties
- Will not take a set
- Light weight, reduces bumping on spring-mount
- Exceptionally high flexual strength
- High impact strength
- Excellent insulation even at high frequencies  
Reduces hazard of operating under live wires, around sub-stations, etc.

PAT. APPLIED FOR

Length  
60" to 90"

Retail List Price  
\$12.90

— price includes  $\frac{3}{8}$ " — 24 chrome-plated brass fitting at base and smooth, rounded tip. Larger ball at tip and special base fittings available on request. Rods are white Fiberglas. Special colors available on quantity orders.

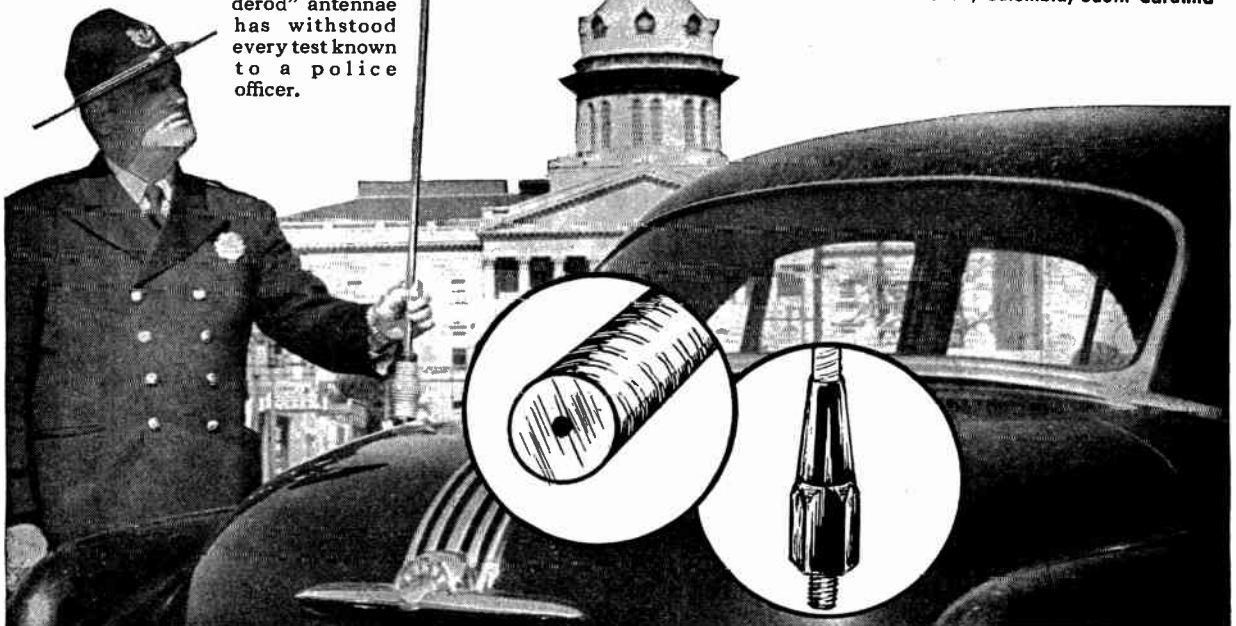
NOTE: The best impedance match requires a somewhat shorter "Wonderod" antennae than is required with solid steel.

. . . Excellent performance . . . excellent weathering . . . tough enough to take the hard knocks a police antennae encounters. That's the report of CAPT. TEE HUTTO, commanding officer of South Carolina Highway Patrol, whose "Wonderod" antennae has withstood every test known to a police officer.

COLUMBIA PRODUCTS COMPANY, a division of

the *Shakespeare* Company

P.O. Box 5207, Columbia, South Carolina



# ANTENNAS *Master Mobile* MOUNTS

All the prime requisites of a reliable, long lasting mobile antenna system are incorporated into **MASTER MOBILE MOUNTS** through scientific engineering, high quality of materials and workmanship... **AND THE PRICES ARE RIGHT.**

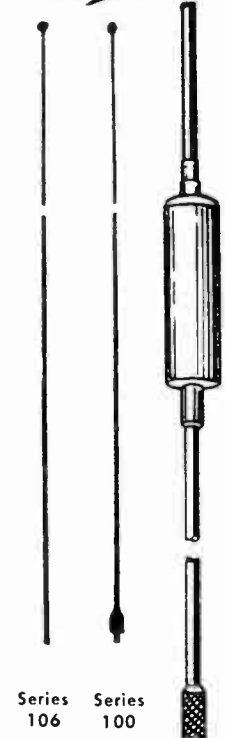
**MOUNT SPECIFICATIONS:** Packaged and sealed at factory. Ship. wt. Approx. 3 lbs.

Model	TYPE (All types are tapped for 3/8", 24 thread stud fitting on Antenna end)	Net Price	List Price
126	Body Mount—Straight Spring—Swivel Base	\$ 8.75	\$14.60
126X	Body Mount—Heavy Duty—Straight Spring—Swivel Base	9.40	15.67
126C	Body Mount—Straight Spring—Swivel Base—With Coaxial Connector	8.75	14.60
126XC	Body Mount—Heavy Duty—Straight Spring—Swivel Base—With Coaxial Connector	9.40	15.67
132	Body Mount—Double Tapered—Spring Swivel Base	8.75	14.60
132X	Body Mount—Heavy Duty—Double Tapered—Spring Swivel Base	9.85	16.42
132C	Body Mount—Double Tapered Spring—Swivel Base—With Coaxial Connector	8.75	14.60
132XC	Body Mount—Heavy Duty—Double Tapered Spring—Swivel Base—With Coaxial Connector	9.85	16.42
132S	Body Mount—Stainless Steel—Double Tapered—Spring Swivel Base	10.75	17.92
132XS	Body Mount—Heavy Duty Stainless Steel—Double Tapered—Spring Swivel Base	11.85	19.75
132SC	Body Mount—Stainless Steel—Double Tapered Spring—Swivel Base With Coaxial Connector	10.75	17.92
132XSC	Body Mount—Heavy Duty Stainless Steel—Double Tapered Spring—Swivel Base—With Coaxial Connector	10.75	17.92
138	Bumper Mount—Straight Spring	6.55	10.92
138X	Bumper Mount—Heavy Duty—Straight Spring	7.65	12.75
140	Bumper Mount—Double Tapered Spring	6.55	10.92
140X	Bumper Mount—Heavy Duty—Double Tapered Spring	7.65	12.75
140S	Bumper Mount—Stainless Steel—Double Tapered Spring	8.65	14.42
140XS	Bumper Mount—Heavy Duty Stainless Steel—Double Tapered Spring	9.65	16.10
142	Bumper Mount—Less Spring, with Insulators for Direct Mounting by Series	3.25	5.42
	Bumper Mount—100 Antennas or 92 Extension and 106 Antennas		

**WHIP ANTENNA SPECIFICATIONS:** Postage rate 10 lbs. minimum. 3 lbs. on all other whip antennas.

MODEL	Stainless Steel	Overall Length	Base Specifications	Net Price	List Price
100-605		60"	Threaded 3/8" Stud to fit all Mounts	\$4.95	\$8.25
100-725		72"	Threaded 3/8" Stud to fit all Mounts	4.95	8.25
100-785		78"	Threaded 3/8" Stud to fit all Mounts	5.00	8.35
100-865		86"	Threaded 3/8" Stud to fit all Mounts	5.15	8.58
100-905		90"	Threaded 3/8" Stud to fit all Mounts	5.20	8.67
100-965		96"	Threaded 3/8" Stud to fit all Mounts	5.25	8.75
106-605		60"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.15	6.92
106-725		72"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.15	6.92
106-785		78"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.20	7.00
106-865		86"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.35	7.25
106-905		90"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.40	7.34
106-965		96"	Plain End 3/16" Dia. (Fits Model 92 Ext.)	4.50	7.50

**ALL BAND MOBILE ANTENNA**



### COAXIAL CONVERSION KIT

No. 118 Master Coaxial Conversion Kit. Fits all No. 132 and 132J Models. Net \$1.00 List \$1.67

### SEPARATE SPRINGS FOR ANTENNA MOUNTS

100 Regular, NET \$4.50 LIST \$7.50      100X—Heavy Duty, NET \$5.50 LIST \$9.15

100S—Stainless Steel, NET \$5.50 LIST \$9.15

MODEL 92 EXTENSION—18"      NET \$3.25 LIST \$5.42

MODEL 94 EXTENSION—36"      NET \$4.25 LIST \$7.10

### ALL BAND MOBILE ANTENNA

• Center-loaded antenna comes with one coil — 20, 40 or 75 meters. Change coils to any band 80 through 20... For 10 meter operation, short coil in use.

• Fits any MASTER MOUNT or 3/8" SAE thread, Hammertone or Chrome finish (if available)

• Height: 8' 10" Weight: 28 oz. Shipping wt.: 3 lbs.

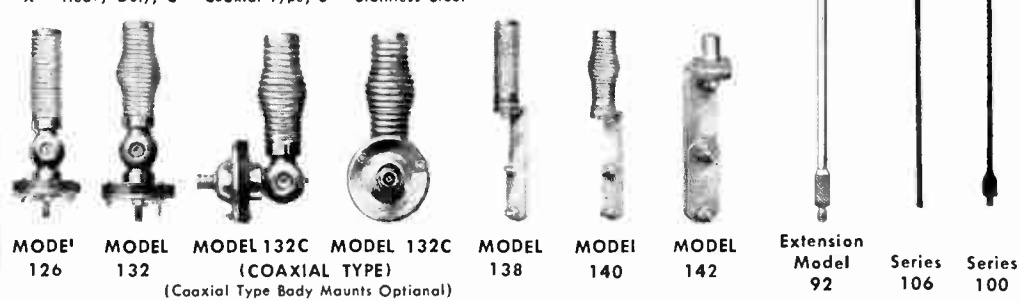
NET PRICE: \$8.75 LIST PRICE: \$14.60 Specify freq. coil desired. Less spring mount.

Extra coils — 20, 40 or 75 meters: NET — \$3.30 LIST — \$5.50

CIVIL AIR PATROL ANTENNA: 2374 KC. NET PRICE: \$9.95 LIST: \$16.60 with coil — less mount.

Extra Coils — 2374 KC. NET — \$3.60 LIST — \$6.00

• X — Heavy Duty, C — Coaxial Type, S — Stainless Steel



ORDER FROM YOUR DEALER OR WRITE.      • Dealer Inquiries Invited      Prevailing Discounts to Distributors and Amateurs.  
P. O. Box 1817 • Los Angeles 36, California • Warehouse & Shipping Address: 1306 Bond Street

*Master Mobile Mounts, Inc.*

**ANTENNAS**

# Master Mobile

**MOUNTS**

## Master Mobile's SENSATIONAL... New! JUNIOR LINE

Always ahead, Master Mobile Mounts, Inc., announce new advanced line of Mobile Mounts and Antennas manufactured to same high quality and specifications as regular Master Mobile line... The new JUNIOR LINE meets every need for competitive light weight mobile mounts and antennas.

### JUNIOR—BODY MOUNTS

No. 132J—Swivel base, mounted with double tapered spring, is actually a junior model of our standard No. 132 which is accepted as "tops with the trade." The 132J is the same quality double tapered spring as the standard No. 132, but of slightly less size—built to fill the bill where price counts. It is a mount which provides high operational performance.

Price: **Net \$4.17** **List \$6.95**  
No. 132JC—Same as No. 132J with coaxial connection.  
Price: **Net \$5.17** **List \$7.95**

### JUNIOR—BUMPER MOUNTS

No. 140J—Double tapered spring bumper mount—some high quality spring construction and finish as No. 132J. Installation can be quickly made so antenna stands truly vertical for top reception.

Price: **Net \$4.17** **List \$6.95**

### JUNIOR—SWIVEL BASE

No. 101—Light weight swivel base body mount only—(No. 101 is a No. 132J without spring). A high quality cadmium plated adjustable split ball with positive locking—will maintain angular adjustment at all times.

Price: **Net \$2.97** **List \$4.95**

### JUNIOR SPRING

No. 99—Light type, double tapered spring only.  
(Dimensions: 4" x 1 1/8" spring ends topped for 3/8", 24 thread studs—cadmium plated)

Price: **Net \$3.25** **List \$5.42**

### JUNIOR COAXIAL CONVERSION KIT

No. 121—Jr. Coaxial Conversion Kit—fits No. 132J body mount only.  
Price: **Net \$ .90** **List \$1.50**

### TWO METER ANTENNAS

No. 113—Master VHF Roof Top Antenna—designed for police, fire service, taxi cabs, and amateurs using 140 MC to 165 MC. Antenna constructed of stainless steel wire with threaded fitting—easily replaced or changed without disturbing mounting. Comes with 10' coaxial cable.

Price: **Net \$3.96** **List \$6.60**

No. 114—Master Coaxial VHF Antenna, an efficient antenna for open type vehicles, convertibles, station wagons, fire trucks, taxi cabs, and amateurs using 140 MC to 165 MC frequencies. Design permits mounting on any convenient place by use of any of the Master Standard Mounts. Supplied with 18" adjustable section and 10' of coaxial cable.

Price: **Net \$9.95** **List \$16.60**  
No. 115—Adjustable 36" section for use with No. 114.  
Price: **Net \$4.25** **List \$7.10**

### SILICON-CHROME WHIP ANTENNAS

Fit all Master Mounts, finest cadmium plated.

SERIES 9 with 3/8" 24 thread studs.

Model No.	Length	Net Price	List Price
9-60T	60"	\$2.97	\$4.95
9-72T	72"	3.24	5.40
9-84T	84"	3.30	5.50
9-86T	86"	3.60	6.00
9-96T	96"	3.75	6.25

SERIES 8 without studs

Model No.	Length	Net Price	List Price
8-60	60"	\$2.82	\$4.70
8-72	72"	3.08	5.13
8-84	84"	3.13	5.22
8-86	86"	3.42	5.70
8-96	96"	3.56	5.93

\*J-Junior Models

Order from your dealer or write. Dealer Inquiries Invited.  
Prevailing Discounts to Distributors and Amateurs.

**Master Mobile Mounts, Inc.**

P O BOX 1817 • LOS ANGELES 36, CALIFORNIA  
WAREHOUSE AND SHIPPING ADDRESS: 1306 BOND STREET



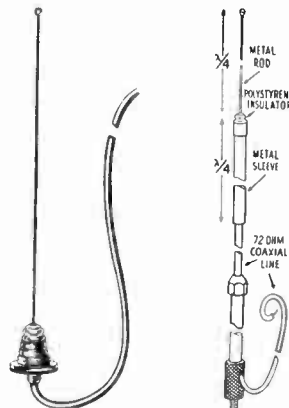
MODEL 132JC MODEL 132JC MODEL 132J



MODEL 101 MODEL 99 MODEL 140J



SIDE — MODEL 121 — FRONT  
COAXIAL KIT—FITS JR. MOUNTS ONLY



MODEL 113

MODEL 114  
(COAXIAL TYPE)

## INDOOR Antenna

- Tops in indoor performance
- Low loss due to excellent impedance matching
- Highly directional characteristics reject noise and ghosts
- No dangling, unsightly wires (Lead wire is concealed)
- Two-toned mahogany leatherette cover blends with any TV set.
- Simple to orient for better picture on both high or low bands.
- Sturdy construction



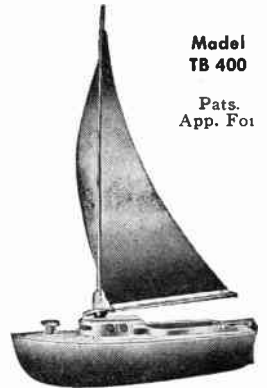
List Price  
**\$9.95**

Model  
**T-52**

Licensed by Hi-Lo V Antenna Corp. U. S. Pat. No. 495,579 Canadian Pat. No. 1,191,111

## "TENNA-BOAT" INDOOR Antenna

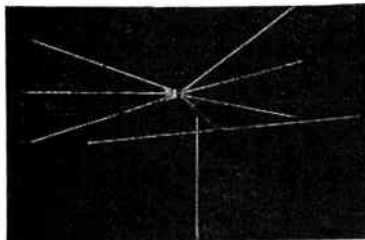
- BEAUTIFUL CERAMIC — Available in Dark Green, Crimson and Harvest Moon. Sails of Plastic in Pastel Shades to match.
- EXCELLENT PERFORMANCE.
- EASE OF OPERATION — Move boom of boat to orient for peak reception.
- TUNING CONDENSER — Assures perfect impedance match.



Model  
**TB 400**

Pats. App. For

List Price  
**\$12.95**



Model 6000

## TRICRAFT "High Quality"

"Bi-Ex" Conical type

- Extra High Gain — All elements  $\frac{1}{2}$ " seamless hardened aluminum tubing with wood dowels — cross arm  $\frac{3}{4}$ " thin wall steel tubing — completely pre-assembled. Model 6000—Single Unit — List Price .....\$13.85
- Model 6200—Two stacked unit with aluminum stacking bars — List Price .....\$27.95
- Model 6400—Four stacked unit with aluminum stacking bars — List Price .....\$58.25



Model  
**"600"**

## INDOOR Antenna

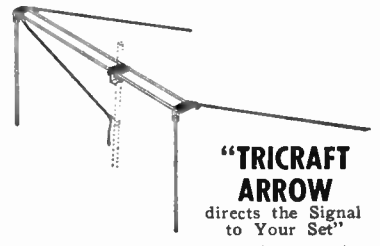
TRICRAFT Model 600  
(Patent No. 2,563,243)

### ELECTRICALLY ADJUSTED INDOOR ANTENNA

- The "Only" pretuned frequency Indoor Antenna
- Turn switch to channel and Antenna is electrically tuned to station
- Receives on all channels
- Signal gain never before achieved on indoor Antenna
- Two-toned Mahogany leatherette cover blends with any TV set
- Consumer tested and approved

Model 600  
List Price  
**\$14.95**

**ORDER TODAY!**



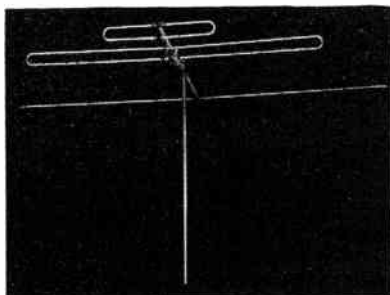
**"TRICRAFT ARROW"**  
directs the Signal to Your Set"

- All Wave — High Gain — Very Directional
  - Low Front to Back ratio
  - All riveted construction
  - Cross pieces:  $\frac{1}{2}$ " round seamless hard aluminum tubing re-enforced with wood dowels
  - Elements  $\frac{3}{8}$ " round butt seam hard aluminum tubing re-enforced with wood dowels
  - All insulators made from laminated Phenolic, high impact strength
  - Pre-assembled
- Model 4000—single unit — less Mast — List Price .....\$7.95
- Model 4200 — two-stacked with aluminum stacking bars — less Mast — List Price .....\$17.80

Model 2650

## TRICRAFT "IN-LINE"

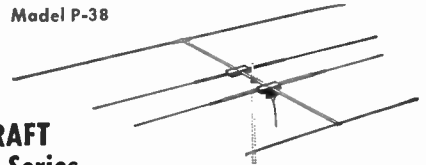
Well matched in all channels — Highly directional — All elements  $\frac{1}{2}$ " seamless hardened aluminum tubing — Cross arm  $\frac{3}{4}$ " thin wall steel tubing — Completely pre-assembled — "can be set up in one minute".



- Model 2650 — Less Mast — List Price .....\$12.80
- Model 2650-5M with 5 ft. 1" OD Heavy Steel zinc coated Mast — List Price .....\$13.95
- Model 2750 — two stacked — complete with stacking bars (No Mast) .....\$26.10
- (Can also furnish complete kits with standoffs and 300 ohm wire)

All Antennas can be furnished in kits with masts, 300 ohm wire and standoffs.

Completely re-engineered for better performance and many mechanical improvements. Model P-38



## TRICRAFT "P-38" Series

ALL WAVE YAGI TYPE  
Patents applied for

- Peak reception on all channels
- Single and stacked arrays engineered to perfect impedance match to 300 ohm
- Designed for maximum strength — sturdy construction — completely pre-assembled
- 23 degree beam width rejects ghosts, interference and noise
- Two and four stacked arrays giving phenomenal fringe-area results all over the country.

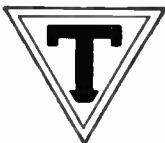
Model P-38—single unit—less mast—List Price .....\$15.85

Model P-238—Two stacked with stacking bars—List Price \$31.80

Model P-438—Four stacked with stacking bars—List Price \$61.50

## MASTS

- 1" O.D. Heavy steel zinc coated masts.
- 5 Ft. — Upper Section — List Price .....\$1.15
- 5 Ft. — Lower Section — List Price .....\$1.20



**Tricraft Products Co. CHICAGO 22, ILL.**

Manufacturers of complete line of Television, FM and AM antennas and accessories



### Retainer Ring "S" Type Sockets

Extremely compact sockets, furnished complete with retainer rings. Mount in 1-11/64" keyed hole. Use Amphenol No. 25-LD-1 Punch and Die.

Black Bakelite	List	Contacts	Steatite	List
78-S4	\$.13	4 Contacts	49-SS4	\$.47
78-S5	.13	5 Contacts	49-SS5	.47
78-S6	.13	6 Contacts	49-SS6	.47
78-S7C*	.17	7 Comb. for 7L, 7S		
78-S7L*	.13	7 Large	49-SS7L*	.59
78-S7S	.13	7 Small	49-SS7S	.47
78-S8	.17	8 Octal	49-SS8	.47
78-S8L	.21	8 Loktal		
78-S9	.21	9 Octal Style		
78-S11	.29	11 Octal Style		
78-A7P†	.30	7 for Miniatures		
78-A9P†	.45	9 for Miniatures		
78-B	.07	Blank		

\* Mounts in 1-21/64" keyed hole. Use 25-LD-2 Punch and Die.

† Mounts in standard socket hole. Has miniature socket in center.

**Magnal Socket** Has 1-1/16" pin circle for cathode ray and television tubes. Mounts in 1-5/8" hole. Steatite.  
No. 49-SS11L 11 Contact, Magnal.....List \$1.21

### Miniature Retainer Ring Type Sockets

Mount in 5/8" round or "D" shaped hole with No. 2-9 retainer rings.

Black Bakelite	Number	Description	List
	78-S3S	For 3 prong min. photo cells	\$.17
	78-S4S	4 Contact	.17
	78-S5S	5 Contact	.21
	78-S6S	6 Contact	.21
	78-7P	7 Contact. Miniature	.21

#### Mica-Filled Bakelite

78-7PT 7 Contact. Miniature..... .28

### Duodecal and Diheptal Tube Sockets

Designed for television viewing tubes, oscilloscopes and other cathode-ray tubes. Provides means of grouping leads within the socket housing and bringing them out radially. Grouping of the wires in the enclosed raceway eliminates flexing at solder terminals, minimizing breakage. Socket cap and body molded from high quality electrical bakelite. Designed for easy assembly and dis-assembly... requires no special tools.

**Duodecal Socket** for a maximum of 12 equally spaced pins on a circle diameter of 1.063".

No. 59-402.....List \$1.56

**Diheptal Sockets** for a maximum of 14 equally spaced pins on a circle diameter of 1.750".

No. 59-415 Small—for 2.050" D. Tube base.....List \$1.67

No. 59-417 Medium—for 2.250" D. Tube base..... 1.67

### Barrier Type Industrial Octal Socket

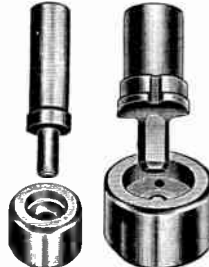
Molded in one piece of Melamine. Contacts are removable. R.M.A. numbered reversible screw type terminals.

No. 146-103 Standard Socket without Tie Point Inserts—Top Mounted...List \$1.58

No. 146-104 Socket with Four Molded-in Threaded Inserts for Tie Points—Top Mounted.....List \$2.16

### Laboratory Punch and Dies

For punching mounting holes for Amphenol connectors, plugs and receptacles. Made of tool steel, properly hardened.



#### For Amphenol Retainer Ring Mounting Tube Sockets, Radio Plugs, etc.

Drill 1/2" hole for pilot punch.

No.	Size of Hole	List
25-LD-1	1-11/64" keyed	\$12.00
25-LD-2	1-21/64" keyed	12.00

#### For Miniature Sockets and Microphone Connectors

Drill 3/8" pilot hole for 25-LD-3, 5 and 6 and 1/4" hole for 25-LD-4.

25-LD-3	13/16" round	\$3 60
25-LD-4	5/8" round	3 60
25-LD-5	5/8" "D" hole	6 00
25-LD-6	1/2" "D" hole	6.00

### Retainer Ring Hand Tools



51-5

51-1

Convenient for assembling miniature sockets, plugs and tip jacks to panels or chassis. Designed for hand operation.

Number	Description	List
51-5	For No. 2-9 Rings	\$1.20
51-6	For No. 2-11 Rings	1.20
51-7	For No. 2-10 Rings	1.20
51-1	For "S" type sockets and "CP" type plugs except 7C and 7L sizes. Required where socket spacing is very close.	6.66
51-2	For "S" type sockets 7-large and 7-combination	6.66
51-3	For "SS" steatite sockets and "60" and "61" receptacles. Of two-piece construction... somewhat easier but slower to use than 51-1 (above) for "S" sockets and "CP" plugs	6.66

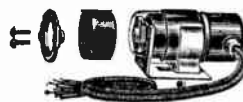
### Magic Eye Assembly



For easily adapting or replacing a 6 prong magic eye tube in any radio having automatic volume control. Also for FM receivers, test instruments, signal tracers, and as volume level and modulation indicators. Includes 1 megohm target plate resistor wired into socket and 5 wire, color coded cable 22" long. Mounting bracket is slotted for tube adjustment. Complete as illustrated, with escutcheon and hardware for assembly. Tube not included.

No. 58-MEA6 Complete Magic Eye Assembly.....List \$1.51

### Octal Magic Eye Assembly



Similar to No. 58-MEA6 shown above, but for octal type magic eye tubes. New universal short bracket for the smaller tube sizes permits use of any of the octal magic eye tubes including the dual pattern and the new multi-pattern types. Complete with 8 wire, color coded cable, 22" long, full vision escutcheon and hardware for assembly. Tube not included.

No. 58-MEA8 Complete Octal Magic Eye Assembly.....List \$1.51

### Magic Eye Escutcheons

Hood type is of sturdy plastic with beautiful antique bronze finish. Full vision type for octal dual-pattern and new octal multi-pattern types is brass with antique bronze finish.



Number Description List

10-102 Hood Type. For 6 prong tubes. \$ .15

10-2 Full Vision Type. For octal tubes. .36



### MIP Molded-In-Plate Sockets



Molded of high dielectric black Bakelite, sturdy, steel mounting plate molded directly into the solid body, cannot come loose or vibrate. Contacts grip tube prongs firmly and retain their resiliency indefinitely. Mount in 1-5/32" round hole. Two 5/32" screw holes on 1-1/2" centers.

Number	Contacts	List	Number	Contacts	List
77-MIP-4	4 Contacts	\$.12	77-MIP-8	8, Octal	\$.14
77-MIP-5	5 Contacts	.12	77-MIP-9	9, Octal style	.18
77-MIP-6	6 Contacts	.12	77-MIP-11	11, Octal style	.24
77-MIP-7L*	7 Large	.14	77-MIP-12	12, Octal style	.30
77-MIP-7S	7 Small	.12			

\* 77-MIP-7L mounts in 1-9/32" D. round hole.

### Compact MIP Sockets



Same as MIP series above but smaller in diameter. Mount in 1-1/8" round hole. Two 5/32" diameter mounting holes on 1-5/16" centers. Black Bakelite dielectric.

Number	Contacts	List
88-8	8 Contacts	\$.14
88-8X	8, Loktal	.21

### Saddle Type Octal Sockets



An economical socket for below chassis mounting. 74-8 mounts in a 1 1/8" hole with two 5/8" diameter mounting holes on 1 1/2" centers. 168-150 mounts in 1" hole with two .140" diameter mounting holes on 1 3/8" centers. Both with 4 grounding lugs, tuning fork contacts, black bakelite.  
No. 74-8.....List \$ .14  
No. 168-015.....List .13

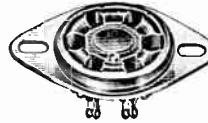
### High Voltage Safety Sockets



For rectifier and other tubes with base diameter of 1.156". Socket is set at the bottom of a deep molded Bakelite shell. Heavy steel mounting plate molded into shell has 5/32" diam. mounting holes on 1-7/8" centers. Socket mounts from above or below in 1-1/2" round hole.

Number	Contacts	List
77A-4T	4 Contacts. Mica-filled	\$.151

### Replacement Sockets



Regular "S" sockets, assembled with No. 4 retainer ring to steel mounting plate with slotted holes to fit mounting centers from 1-1/2" to 1-7/8".

Black Bakelite	List	Contacts	Steatite	List
78-RS4	\$.14	4 Contacts	49-RSS4	\$.48
78-RS5	.14	5 Contacts	49-RSS5	.48
78-RS6	.14	6 Contacts	49-RSS6	.48
78-RS7C	.18	7 Comb.		
78-RS7L	.14	7 Large	49-RSS7L	.61
78-RS7S	.14	7 Small	49-RSS7S	.48
78-RS8	.18	8 Octal	49-RSS8	.48
78-RS8L	.22	8 Loktal		
78-RS9	.22	9 Octal style		
78-RS11	.30	11 Octal style		

### Floating Octal Sockets



Live rubber grommets fit into mounting holes to cushion this socket for vibration-free operation. Black bakelite dielectric. Mounts in 1-3/16" round hole above or below chassis. Two 1/4" screw holes on 1-1/2" centers.

Number	Description	List
77-MIP-8FK	Octal. Complete with 4 rubber grommets, 2 mounting screws, nuts and washers	\$.39
11-3K	Kit for making floating connections using Amphenol MIP Sockets, 4 grommets, 2 mounting screws, nuts and washers only	.24

### Tube Shield and Spring Assemblies



Number	Height	Description	List
5-401	1-3/8"	For 7 Pin Miniature Sockets	\$.14
5-402	1-3/4"	For 7 Pin Miniature Sockets	.14
Tube Shields No. 5-401 and 5-402 are used with Sockets No. 59-367, 147-905, 147-913, 147-925, 147-955 and 147-963.			
5-405	1-1/2"	For Noval Sockets	.20
5-408	1-15/16"	For Noval Sockets	.24
5-409	2-3/8"	For Noval Sockets	.24
Tube Shields No. 5-405, 5-408 and 5-409 are used with Sockets No. 59-369, 59-406 and 59-407.			

## MINIATURE 7 AND 9 PIN SOCKETS

### ZIP-IN, Ethylon-A



Molded of Ethylon-A with high "Q" factor. Mounting plate has .136" diameter holes on 1-5/16" centers. Round chassis holes are 27/32" for 7 pin and 15/16" for 9 pin.

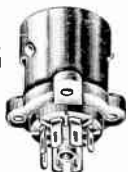
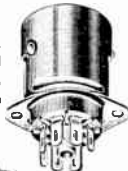
Number	Description	List
59-357	7 Pin. Without tube shield base	\$.21
59-367	7 Pin. With tube shield base	.27
59-359	9 Pin. Without tube shield base	.51
59-369	9 Pin. With tube shield base	.61



Above—Bottom Mounted  
Right—Top Mounted with Tube Shield Base



Above—Rubber Mounted  
Right—Rubber Mounted with Tube Shield Base



### Bakelite and Steatite Sockets

Used for television, FM, auto radios, portables, etc. 147 Series mount in 5/8" chassis hole; mounting centers 7/8"; screw holes 1/8". 59 Series mount in 3/4" chassis hole; mounting centers 1-1/8"; rivet holes .095".

Bottom Mounting—No Tube Shield Base			
Number	Contacts	Dielectric	List
147-500	7	Black Bakelite	\$.24
147-501	7	Steatite	.51
59-409	9	Black Bakelite	.39
59-410	9	Mica-Filled Bakelite	.40
Top Mounting—With Tube Shield Base			
147-905	7	Black Bakelite	.39
147-913	7	Mica-Filled Bakelite	.40
147-925	7	Steatite	.63
59-406	9	Black Bakelite	.56
59-407	9	Mica-Filled Bakelite	.57
Rubber Mounted—No Tube Shield Base			
147-502	7	Black Bakelite	.25
Rubber Mounted—With Tube Shield Base			
147-955	7	Black Bakelite	.50
147-963	7	Mica-Filled Bakelite	.51



# AMERICAN PHENOLIC CORPORATION

1830 SOUTH 54TH AVENUE, CHICAGO 50, ILLINOIS

## Shielded Cable Connectors, 110—250 Volt

End Cable Outlet—For cables up to 1/2" diameter



Fully shielded cable terminals with black Bakelite connector units encased in a tight cap that fits securely and is easily removed. Available with cable clamp that relieves soldered connections of strain, or with rubber grommets for protection against abrasion.

With Cable Clamp

List		Description	With Grommet	
60-F11	\$.66	3 Pole Receptacle	60-F4	\$.60
60-M11	.66	3 Pole Polarized Plug	60-M4	.60
61-F11	.54	2 Pole Universal Receptacle	61-F4	.48
61-M11	.54	2 Pole Standard Plug	61-M4	.48
61-MP11	.54	2 Pole Polarized Plug	61-MP4	.48

## Flush Motor Plug, 110—250 Volt

Neat, compact plug or receptacle set in type 61-61 steel shell for below surface mounting. Room for insertion of Amphenol End Cable Outlet Plugs.

Number	Description	List
61-F10	2 Pole Universal Receptacle	\$.48
61-M10	2 Pole Standard Plug	.48
61-MP10	2 Pole Polarized Plug	.48

## Molded-In-Plate Receptacle



Same as 61-F Receptacle with standard steel mounting plate molded into the Bakelite body. Mounts in 1-3/16" chassis hole; two 5/32" screw holes on 1-1/2" centers.

No. 61-MIP-61F 2 Pole Universal Receptacle.....List.....\$.30

## Miniature Cable Connectors



Short

Long

Flared

For shielded or unshielded cables having up to 6 conductors. Black Bakelite elements are housed in cadmium plated brass shells and are held in place by side set screws. Polarized contact spacing makes incorrect insertions impossible. Accommodates cable up to 1/4" diameter.

Short Shell—13/16" Long		Female		List
Male	List	Description	Female	List
91-MPM3S	\$.36	3 Contact	91-MPF3S	\$.36
91-MPM4S	.40	4 Contact	91-MPF4S	.40

Long Shell—1-3/16" Long		Female		List
91-MPM3L	\$.36	3 Contact	91-MPF3L	\$.36
91-MPM4L	.40	4 Contact	91-MPF4L	.40
91-MPM5L	.45			
91-MPM6L	.45			

**Note:** Use long shell type with shielded chassis units; use either long or short shells with unshielded types such as 78-S3S and 86-CP-3S.

## Shielded Chassis Units



Economical chassis receptacles for connecting shielded or unshielded cables having from 2 to 6 conductors (for 2 wire cable use 3 contact unit and leave 1 contact unwired). Black Bakelite element; steel mounting plate. Can be mounted on surface or behind chassis or panel in 7/8" D. hole; 5/32" screw holes on 1-1/4" centers. Use with long shell cable connector above for a fully shielded connection.

Female	Description	List
78-PCG3	3 Contact	\$.36
78-PCG4	4 Contact	.36
78-PCG5	5 Contact	.41
78-PCG6	6 Contact	.41



## Alignment Tool



Made of Amphenol 912-A polystyrene. Has no capacity effect when aligning critical circuits. A necessary tool for anyone who must make adjustments on high frequency circuits.

No. 55 U.I.F. Alignment Tool (minimum order 24).....List \$.25

Illustrated above is the colorful sales card on which are mounted 24 Amphenol Alignment Tools.

No. 55-024 Sales Card with 24 Alignment Tools.....List \$6.00

## Shielded Multi-Wire Cable Connectors



Multi-wire cable connectors consist of Amphenol "S" type tube sockets and "CP" plugs. Metal cap shields connections and provides an unbreakable cover for cable termination. Cap may be removed with an ordinary screw-

driver. Accommodates cable up to 7/16" diameter. Female chassis receptacles or sockets 78-S, 78-RS and 77-M1P; male receptacles are listed below.

### With Rubber Grommets

With Rubber Grommet Type Plug Cap 3-24.

Female	List	Contacts	Male	List
78-PF4	\$.31	4 Contact	86-PM4	\$.31
78-PF5	.31	5 Contact	86-PM5	.31
78-PF6	.31	6 Contact	86-PM6	.31
78-PF7L	.31	7 Large	86-PM7L	.31
78-PF7S	.31	7 Small	86-PM7S	.31
78-PF8	.35	8 Octal	86-PM8	.35
78-PF9	.39	9 Octal Style	86-PM9	.39
78-PF11	.47	11 Octal Style	86-PM11	.47

### With Cable Clamps

With positive grip Cable Clamp Type Plug Cap 3-24.

Female	List	Contacts	Male	List
78-PF4-11	\$.37	4 Contact	86-PM4-11	\$.37
78-PF5-11	.37	5 Contact	86-PM5-11	.37
78-PF6-11	.37	6 Contact	86-PM6-11	.37
78-PF7L-11	.37	7 Large	86-PM7L-11	.37
78-PF7S-11	.37	7 Small	86-PM7S-11	.37
78-PF8-11	.41	8 Octal	86-PM8-11	.41
78-PF9-11	.45	9 Octal Style	86-PM9-11	.45
78-PF11-11	.53	11 Octal Style	86-PM11-11	.53

## 155 Series Miniature 7-Contact Connector



For use in the interconnection of miniature electronic equipment. Over-all diameter including the retaining flange is only 5/8". Bodies are threaded to mount without external shells. Contacts are for No. 20 wire.

No. 155-352 Male Connector.....List \$3.00  
No. 155-353 Female Connector.....List 4.50

## 26 Series Rack and Panel Connectors



Eyelets for added strength in mounting, male contacts molded into the inserts. Female contacts of beryllium copper. High quality mica-filled phenolic inserts. Aluminum housing has cable clamp. Voltage rating 500 volts RMS, 60 CPS at sea level.

Insert Only	List	Description	With Housing	List
26-804	\$2.00	Male, 11 Contacts	26-809	\$3.20
26-805	1.45	Female, 11 Contacts	26-808	2.65
26-151	2.30	Male, 15 Contacts	26-152	3.60
26-150	1.60	Female, 15 Contacts	26-153	2.90
26-806	2.75	Male, 20 Contacts	26-811	4.15
26-807	2.00	Female, 20 Contacts	26-810	3.40

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS







**TV TUBE MOUNTING ACCESSORIES**

For metal and glass tubes

Tube mounting bracket for tube protection in shipping and vibration-free reception — live rubber cushions. Base is molded of polystyrene and holding straps are of fibre laminated phenolic. Easily attached to chassis or cabinet.

155-360 16" Tube Mtg. Bracket  
List \$7.30 ea.

Molded Polyethylene Rim provides a superior mounting using conventional methods. Better protection for tubes and adequate insulation especially where the rim is joined. The unique overlapping provides long creepage paths. Outer groove provides for safety or masking glass.

Number	Description	List
187-072	Rim for 16" TV Tube	\$3.65
187-079	Same less groove	3.35
187-098	Rim for 19" TV Tube	4.63
187-095	Same less groove	4.08
187-108	Rim for 17" Rectangular Tube, top break	2.96
187-109	Same with side break	2.96



**Inserts and Shells for Cable Plugs, Connectors and Receptacles. For Assembly into Type Required**

Far 110-250 Volt Plugs and Receptacles

Compact in design, molded from high dielectric black Bakelite. Rated at 15 amp., 110 v. or 10 amp., 250 v. Two-pole type accepts any standard electric plug. Retainer ring type mounts in 1-11/64" keyed hole as punched by Tools 25-LD-1. Mounting plate type requires 1-9/32" D. chassis hole; has slotted screw holes on 1-1/2 to 1-7/8" centers—Mounting plate type is similar to Type "RS" Replacement Sockets.



**Receptacles**

Description	With Mounting Plate Number	List
2 Pole, Universal	61-F1	\$ .34
3 Pole, Polarized	60-F1	.46

**Plugs**

Description	With Mounting Plate Number	List
2 Pole, Standard	61-M1	\$ .34
2 Pole, Polarized	61-MP1	.34
3 Pole, Polarized	60-M1	.46

Far Multi-Wire Plugs and Receptacles

For quick, easy assembly to chassis or panels from 19 to 16 gage (.044 to .062") using Amphenol retainer ring. Black Bakelite or steatite. Cadmium plated socket contacts for easy soldering; plug prongs are nickel plated brass; rotation feature for lining up contacts. Complete with retainer ring.

Can be assembled in any of the plug caps or receptacle shells below. For chassis mounting in 1-11/64" keyed hole as punched by Tools 25-LD-1.

**"CP" Plugs**



"S" Socket (Listings on page 4).

"CP" Plug

Black Bakelite	List	Contacts	Steatite	List
86-CP4	\$ .13	4 Prong	49-245-00	\$ .49
86-CP5	.13	5 Prong	49-255-00	.49
86-CP6	.13	6 Prong	49-265-00	.49
86-CP7L*	.13	7 Large	.....	.....
86-CP7S	.13	7 Small	.....	.....
86-CP8	.17	8 Prong, Octal	49-285-00	.49
86-CP9	.21	9 Prong, Octal Style	.....	.....
86-CP11	.29	11 Prong, Octal Style	.....	.....

\* Mounts in 1-21/64" keyed hole. Use 25-LD-2.

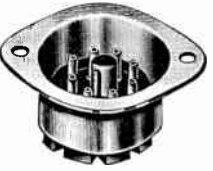
**Receptacle Shells**

ACS Shell extends "CP" or "S" type sockets or plugs 13/16" above or below surface. 4 knockouts in sides. Mounts in 1-3/4" hole; has 3 notched holes for No. 6 screws.



Number	Description	List
23-1S	For small "S" Sockets	\$.12
23-1L	For large "S" Sockets	.12

61-61 Shell. Nickel plated steel shell, lowers bottom of "CP" and "S" type plugs and sockets and 60 and 61 connectors 1-3/16" below surface. Mounts in 1-7/16" hole; two 5/32" screw holes on 1-3/4" centers.



No. 61-61 Shell only.....List \$ .18

**Tip Jacks**

Molded of Bakelite in black or red. Mount in 3/8" hole with retainer ring included. Use standard phone tips for 78-1P1, and 78-1 Contacts recessed 1/8". The body may be used as a feed-thru.

Number	Description	List
78-1S	For 3/32" Plug	\$.09
78-1L	For 5/32" Plug	.09
78-1M	For 1/8" Plug	.09
78-1P	For .080 Phone Tip	.09
78-1P1	High Voltage for .080 Phone Tip. Mounts in 1/2" hole	.12



**Single Prong Plugs**

Bakelite Plugs, black or red, for use with Tip Jacks above.

Number	Description	List
71-1S	For 3/32" Socket	\$.06
71-1M	For 1/8" Socket	.06
71-1L	For 5/32" Socket	.06



**Plug Caps for Every Purpose**



Cable terminals can be assembled with these plug caps, using retainer ring type plugs, sockets and 60 and 61 series shown above. Plug caps are designed to fit all but the 7-large and 7-combination sizes. For 7-large and 7-comb. use Plug Cap 3-13L shown below.

Number	Length	End Hole	Side Hole	Grommet	List
3-10	1"	None	None	None	\$ .18
3-12	1"	5/16"	None	Metal	.18
3-13	1"	7/16"	None	Rubber	.18
3-17	1"	None	7/16"	Rubber	.18
3-24	Cap with Cable Clamp attached. Accommodates cables to 1/2" diameter.				.24
79-CC4	Cable Clamp only. Same as used on Cap 3-24.				.12
3-13L	Cap for large 7 Socket and Plugs, end rubber grommet 7/16" ID.				.24

**Crystal Holder Socket**

Molded of mica-filled Bakelite... Number Description List  
33-2T For 1/8" Prongs... \$ .17  
33-3T For 5/32" Prongs... .17  
May be used as dual tip jacks on test panels.



# AMPHENOL

## AMERICAN PHENOLIC CORPORATION

1890 SOUTH 54TH AVENUE, CHICAGO 50, ILLINOIS



### Heavy Duty Power Plugs

Male unit has four heavy brass blades; female has heavy phosphor bronze contacts. For use with current loads up to 15 amperes at 125 volts or 10 amperes at 250 volts. Molded black Bakelite unit is enclosed in tight, heavy brass shell . . . bright cadmium plated. Polarized with shell keys and keyways. Strain is taken up by concealed cable clamp. Grounding screw in body for safe wiring. Threaded locking ring keeps shells tight. Chassis or panel receptacle mounts in 1 1/4" hole in any material up to 3/8" thick. Complete with lock washer, spacer washer and nut.



Plug



Jack



Receptacle

Mating parts are arranged in same horizontal line below.

Number	Contacts	List	Number	Contacts	List	Number	Contacts	List
92-M	Male	\$3.01	92-F	Female	\$3.01	92-C	Female	\$3.01
92-F1	Female	3.01	92-M1	Male	3.01	92-C1	Male	3.01



### Molded Speaker Plugs

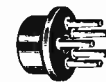
Prongs are securely molded into one-piece black bakelite body. Each prong is deeply set into individually molded pocket, eliminating the possibility of shorts in case of pull-back of wire insulation.

With Finger Grip	Prongs	List	With Straight Sides	Prongs	List
71-4	4	\$ .13	70-8	8	\$ .17
71-5	5	.13	70-9	9	.21
71-6	6	.13	70-12	12	.30
71-7	7	.13	70-20	20	.61

### Miniature Plugs



Cable Type used extensively for speaker connections in compact mid-gets. Ideal for all plug-in connections where space is limited. Brass prongs are deeply recessed in molded pockets preventing shorts due to insulation pulling back. With molded finger grip. Use with miniature sockets.



Chassis Type mounts in plain round 5/8" hole. No screws or rivets required. Held firmly by retainer ring included. Use with female miniature connectors (MPF type).

Cable Type	List Price	Description	Chassis Type	List
71-3S	\$ .15	3 Prong	86-CP-3S	\$ .15
71-4S	.15	4 Prong	86-CP-4S	.15
71-5S	.21	5 Prong		
71-6S	.21	6 Prong		

### Cap and Chain



For sealing power plugs and radio connectors against dirt and moisture. Can be used with connectors listed above and below having male threads. Heavy brass cap, chrome plated. Nickel silver bead chain.

No. 79-CC8 Cap and Chain . . . . . List \$ .61

### Heavy Duty Radio Connectors

The plugs shown in bold face type mate with jacks and receptacles listed in bold type in the same horizontal line. For numbers in light faced type follow the same procedure . . . plugs mate with jacks and receptacles in the same horizontal line. Bold type also designates the most popular units.



Contacts	Plug		Jack		Receptacle		List
	Male	Female	Female	Male	Female	Male	
4	<b>79-04M</b>	79-04F1	<b>79-04F</b>	<b>79-04M1</b>	<b>79-P04F</b>	<b>79-P04M</b>	<b>\$1.51</b>
5	<b>79-05M</b>	79-05F1	<b>79-05F</b>	<b>79-05M1</b>	<b>79-P05F</b>	<b>79-P05M</b>	<b>1.51</b>
6	<b>79-06M</b>	79-06F1	<b>79-06F</b>	<b>79-06M1</b>	<b>79-P06F</b>	<b>79-P06M</b>	<b>1.51</b>
8	<b>79-08M</b>	79-08F1	<b>79-08F</b>	<b>79-08M1</b>	<b>79-P08F</b>	<b>79-P08M</b>	<b>1.51</b>
12	<b>79-012M</b>	79-012F1	<b>79-012F</b>	<b>79-012M1</b>	<b>79-P012F</b>	<b>79-P012M</b>	<b>2.41</b>

### Rectangular Plugs and Sockets



For compact apparatus. Plugs are often used as a supported type self-sustaining coil form.



Number	Plugs		List
	Style	Prongs or Contacts	
70-25	B	3	.15
70-26	B	4	.18
77-26	C	Sockets	
		4	.30

### Bulb Tester and Tube Socket



Standard 7 contact combination socket for large and small 7 prong tubes. For testing miniature bulbs, either screw or bayonet types.

Number	Description	List
78-7CD	With retainer ring	\$.53

### Adapters



A simple way to make adapter units which may be used for modernizing tube checkers and analyzers, adapting new tubes to old circuits and for connections to output meter, phonograph pickup, etc.

Socket Tops Only			Bases Only		
Number	Contacts	List	Number	Prongs	List
44-8	8 Octal	.24	50-8SG	8 Octal	.36
44-9	9 Noval	.45			

For testing new 9 pin miniature tubes.

### Shell Only

Of metal tubing for snap-in connection on either end of Amphenol "S" type sockets or "CP" plugs. Combinations possible from 4 to 11 prongs or contacts.

No. 3-14D With side hole, rubber grommet . . . . . List \$ .24

### Tap Change Switch



An 8-position single pole continuous switch with white markings clearly visible in window cap. Side set screw locks switch arm in position preventing accidental tap changes.

Number	Description	List
36-1	With numerals 1 to 8	\$.90
36-2	With impedance markings 0-2-4-8-16-250-500	.90

### Universal Grid Cap



A grid cap of improved design for universal use with tube grid caps from 1/4 to 3/8" diameter including standard glass and metal tubes. Spring brass contacts in phenolic body.

63-1 Unwired Grid Cap . . . . . List Price \$ .18

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

# AMPHENOL

## Series 75 Microphone Connectors—Single Contact

Fit almost every microphone. Standard with leading manufacturers for many years. Compact, rugged, neat. Chassis receptacles are integral parts of microphones using single conductor cable. Widely used in amplifiers, transmitters, phonoelectric devices, home recorders and similar equipment. They are also suitable for connecting various units such as PM speakers, headphones, and for theft alarms or wall type coin operated devices, etc.

In the 75 Series, plugs mate with all cable jacks and receptacles. Circuit closing contacts are the same except that they close the circuit when plug is disengaged, eliminating open circuit grid howls.

Locknut Receptacles mount in .385" holes when grounding to chassis and 1/2" holes for ungrounded 2 circuit applications.



**75-MC1FA**

**Angle Plug**

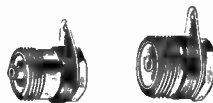


**75-MC1F**

**Straight Plug**

**75-MC1M**

**Cable Jack**



**75-PC1M**

**75-CL-PC1M**

**Locknut Receptacles**

Contact		List	Contact		List	Contact		List
<b>75-MC1F-A</b>	<b>Flush</b>	<b>\$1.00</b>	<b>75-MC1F</b>	<b>Flush</b>	<b>\$.45</b>	<b>75-MC1M</b>	<b>Flush</b>	<b>\$.35</b>
						<b>75-PC1M</b>	<b>Flush</b>	<b>\$.30</b>
						<b>75-CL-PC1M</b>	<b>Cl. Cr.</b>	<b>\$.45</b>

## Cap and Chain



Seals open chassis units against dirt and dust. Also used with 80 Series Connectors. **75-CCC1** . . . List **\$.55**  
Cl. Cr. Closed Circuit.

## Phone Plug Adapter



Screws into coupling ring of 75-MC1F and 75-MC1F-A plugs, permitting the cable to be plugged into any standard phone jack. No soldering or wiring.

**75-MC1P** . . . . . List **\$.50**

## Microphone Switch

Threaded on one end, coupling ring on the other end. For 75 Series Connectors. May be connected directly to any mike equipped with 75-PC1M or similar receptacle. Push-to-talk or slide button for permanent connection.

**75-MC1S** . . . . . List **\$.140**



## Series 80 Microphone Connectors—Single and Double Contacts



**80-MC2M**



**80-MC2F**



**80-PC2F**

Plugs			Cable Jacks			Locknut Receptacles		
Contacts		List	Contacts		List	Contacts		List
<b>SINGLE CONTACT</b>								
<b>80-M</b>	<b>M</b>	<b>\$.71</b>	<b>80-F</b>	<b>F</b>	<b>\$.71</b>	<b>80-C</b>	<b>F</b>	<b>\$.44</b>
<b>80-F1</b>	<b>F</b>	<b>.71</b>	<b>80-M1</b>	<b>M</b>	<b>.71</b>	<b>80-C1</b>	<b>M</b>	<b>.44</b>
<b>TWO CONTACTS</b>								
<b>80-MC2M</b>	<b>M</b>	<b>.88</b>	<b>80-MC2F</b>	<b>F</b>	<b>.88</b>	<b>80-PC2F</b>	<b>F</b>	<b>.49</b>
<b>80-MC2F1</b>	<b>F</b>	<b>.88</b>	<b>80-MC2M1</b>	<b>M</b>	<b>.88</b>	<b>80-PC2M</b>	<b>M</b>	<b>.49</b>

**Series 80 Cable Connectors** are designed for shielded cables; for single and two conductor coaxial cables, microphone cables; for twisted pairs, concentric lines, photo cell leads, patch cords and similar uses. Suitable for connecting model railroad equipment, pin ball games and other small electrical apparatus. Elements are high dielectric black Bakelite. Receptacles mount in 5/8" chassis holes. Maximum chassis thickness for locknut type receptacles is 11/32".

**Mating families of connectors are listed in horizontal lines.**

The most popular connectors are shown in bold face type.

Cap and Chain required is 75-CCC1.

M Male. F Female.

## Series 91 Microphone Connectors—3 and 4 Contacts

Extensively used on all types of portable apparatus, these connectors were designed primarily to use with microphones. Some of the advantages of Amphenol Microphone Connectors . . .

- Accidental disconnections are eliminated by a positive screw-type connection.
- Incorrect insertions are impossible because connectors are polarized.

- Pulling and twisting strain on soldered contacts is eliminated because a squeeze-type clamp grips cable securely after assembly.

Chassis receptacles mount in 27/32" chassis holes. Maximum chassis thickness for chassis receptacle is 1/8".

**Mating families of connectors are listed in horizontal lines.**



**91-MC3M**



**91-MC3F**



**91-PC3F**

Plugs			Cable Jacks			Chassis Receptacles		
Contacts		List	Contacts		List	Contacts		List
<b>THREE CONTACTS</b>								
<b>91-MC3M</b>	<b>M</b>	<b>\$1.10</b>	<b>91-MC3F</b>	<b>F</b>	<b>\$1.10</b>	<b>91-PC3F</b>	<b>F</b>	<b>\$.55</b>
<b>91-MC3F1</b>	<b>F</b>	<b>1.10</b>	<b>91-MC3M1</b>	<b>M</b>	<b>1.10</b>	<b>91-PC3M</b>	<b>M</b>	<b>.55</b>
<b>FOUR CONTACTS</b>								
<b>91-MC4M1</b>	<b>M</b>	<b>1.20</b>	<b>91-MC4F</b>	<b>F</b>	<b>1.20</b>	<b>91-PC4F</b>	<b>F</b>	<b>.60</b>
<b>91-MC4F1</b>	<b>F</b>	<b>1.20</b>	<b>91-MC4M1</b>	<b>M</b>	<b>1.20</b>	<b>91-PC4M</b>	<b>M</b>	<b>.60</b>

M Male. F Female. The most popular connectors are shown in bold face type.

## Side Cable Outlet



Provide an outlet for microphone cable where it is not practical to run the cable thru the stand. For use between microphones and stands having 5/8-27 threads.

**91-SCO3** . . . . . List **\$. 82**

## Cap and Chain

For 91 Series Connectors. Same construction and material as No. 75-CCC1.

No. **91-CCC3** . . . . . List **\$. 55**



**Amphenol Radio Frequency Connectors**

Amphenol low-loss RF Connectors, Adapters and Terminations have been especially designed for use with RG/U type Coax and Twinax. There is an Amphenol connector for every RF application. This list does not represent the entire line of Amphenol RF Connectors. For complete information on additional types and sizes refer to Amphenol Cable and Connector Catalog or General Catalog No. B-2 at your distributor.



83-1SP



83-1AP



83-1R



82-66



31-008



82-61



31-003



82-38

Army-Navy No.	Amphenol No.	Description	Class	List Each	Army-Navy No.	Amphenol No.	Description	Class	List Each
UG-21B/U	82-61	Plug	N	\$3.00	CW-123/U	31-006	Cap & Chain	BNC	1.15
UG-22B/U	82-62	Panel Jack	N	3.50	MX-103/U	103-301	Tapering Tool	HN	16.50
UG-23B/U	82-63	Jack	N	3.00	MX-564/U	82-48	Armor Clamp	N	.75
UG-27A/U	82-64	Angle Adapter	N	7.00					
UG-29A/U	82-65	Str. Adapter	N	3.25					
UG-30/U	82-66	Press. Feed-Through	N	4.00	Navy No.				
UG-58/U	82-24	Receptacle	N	2.25	49190	83-1SP	Plug Sm. Coax	UHF	1.00
UG-59A/U	82-38	Plug	HN	5.50	49191	83-1J	Junction Sm. Coax	UHF	1.50
UG-60A/U	82-39	Jack	HN	3.75	49192	83-1AP	Angle Adapter Sm. Coax	UHF	2.00
UG-61A/U	82-40	Jack M. P.	HN	4.25	49193	83-1H	Hood Sm. Coax	UHF	.25
UG-88/U	31-002	Plug	BNC	3.25	49194	83-1R	Receptacle Sm. Coax	UHF	1.10
UG-89/U	31-005	Jack	BNC	3.00	49195	83-1SPN	Plug Sm. Coax	UHF	1.50
UG-102/U	83-22SP	Plug Sm. Twin	UHF	1.50	49199	83-1T	Tee Sm. Coax	UHF	2.70
UG-103/U	83-22R	Recep. Sm. Twin	UHF	1.50	49482	83-776	Plug Sm. Coax	UHF	1.75
UG-104/U	83-22AP	Angle Adapter Sm. Twin	UHF	3.00	Signal Corps No.				
UG-105/U	83-22J	Junction Sm. Twin	UHF	2.50	PL-258	83-1J	Junction Sm. Coax	UHF	1.50
UG-106/U	83-1H	Hood Sm. Coax	UHF	.25	PL-259	83-1SP	Plug Sm. Coax	UHF	1.00
UG-107A/U	82-36	Tee	N	7.50	PL-259A	83-1SPN	Plug Sm. Coax	WHF	1.50
UG-154/U	82-59	Plug	LC	15.00	PL-274	83-1F	Feed-Thru Sm. Coax	UHF	2.50
UG-160A/U	82-67	Jack—Bulkhead	N	3.25	PL-275	83-22F	Feed-Thru Sm. Twin	UHF	3.50
UG-175/U	83-185	Reducing Adapter	UHF	.25	PL-284	83-22SP	Plug Sm. Twin	UHF	1.50
UG-176/U	83-168	Reducing Adapter	UHF	.25	PL-285	83-22J	Junction Sm. Twin	UHF	2.50
UG-177/U	83-765	Hood Sm. Coax	UHF	.40	PL-293	83-22AP	Angle Adapter Sm. Twin	UHF	3.00
UG-196/U	83-22T	Tee Sm. Twin	UHF	3.25	SO-239	83-1R	Receptacle Sm. Coax	UHF	1.10
UG-203/U	83-776	Plug Sm. Coax	UHF	1.75	SO-264	83-22R	Receptacle Sm. Twin	UHF	1.50
UG-274/U	31-008	Tee	BNC	7.50	M-358	83-1T	Tee Adapter Sm. Coax	UHF	2.70
UG-290/U	31-003	Receptacle	BNC	3.00	M-359	83-1AP	Angle Adapter Sm. Coax	UHF	2.00
UG-291/U	31-001	Jack M. P.	BNC	3.50	M-360	83-1H	Hood Sm. Coax	UHF	.25
UG-306/U	31-009	Angle Adapter	BNC	7.25					
UG-333/U	82-56	Adapter	H.V.	8.50					
UG-334/U	82-57	Adapter M. P.	H.V.	9.75					
UG-352/U	82-80	Receptacle	LC	12.00					

**NEW "AN" CONNECTOR CATALOG**

Amphenol also makes a complete range of AN approved connectors for power, signal and control circuits in aircraft and electronic equipment. The new A-2 Catalog is designed as a tool for the use of purchasing agents, engineers and executives in the field of electronics. It can be used effectively by manufacturers of aircraft and accessories, marine craft, instrument manufacturers and designers, laboratories and government procurement agencies. The A-2 catalog will be sent upon receipt of a request on company or government agency letterhead, or may be requested directly from the nearest Amphenol Representative.

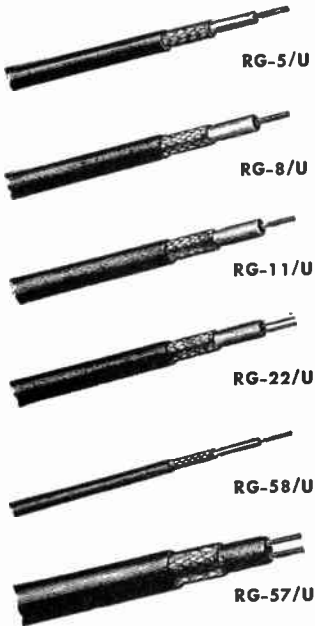


**AMERICAN PHENOLIC CORPORATION**

1830 SOUTH 54TH AVENUE,  
CHICAGO 50, ILLINOIS



### Amphenol Coax and Twinax RG Cables



Amphenol Coaxial and Twinax RG Cables are produced to standards surpassing military specifications for electrical performance and mechanical excellence. Conductors are centered 20% closer for Coax and 50% closer for Twinax Cables than required by "AN" specifications.

Most cables utilize the exceptional dielectric properties of polyethylene—low loss, flexibility, mechanical stability. The outer jacket in the majority of approved types is a tough, highly resistant vinyl jacket which is non-hygroscopic and impervious to most acids, alkalis, oils and gasoline. Other types are armored for still greater mechanical protection.

Amphenol has cables that are designed to operate efficiently at temperatures as high as 500° Fahrenheit. Teflon is used as the dielectric because of its low loss, high voltage breakdown and its ability to withstand heat.

### Characteristics

	Polyethylene	Teflon
Specific Gravity	.92	2.2
Water Absorption	.005%	0.00%
Cold-Brittleness	-94°F.	-100°F.
Dielectric Constant		2.0
60 cycles to 100 mc.	2.29	
Power Factor		.0002
60 cycles to 100 mc.	.0004	
Volume Resistivity, ohm-cm	1013	1016
Softening Temperature	220°F.	500°F.

Write Your Distributor For Prices Which Are Based On Reel Lengths

STANDARD A-N NUMBER	JACKET AMPHENOL RE/U	LOW TEMP. BLACK JACKET A-N NUMBER	AMPHENOL RG/U	NOM. IMP. OHMS	NOM. CAP. MMF/FT	INNER CONDUCTOR	DIELECTRIC NOM. O. D.	DIELECTRIC MATERIAL	INNER SHIELD	OUTER SHIELD	STANDARD VINTL	NOM. O. D.
5	21-001			52.5	28.5	16	.185	Poly	C	C	Black	.332
5A	21-271	5B	21-294	50	29	16S	.181	Poly	S	S	Grey	.328
6	21-002	6A	21-330	76	20	21CW	.185	Poly	S	C	Grey	.332
7	21-003			97	12.5	19	.250	Poly	C	—	Black	.370
8	21-004	8A	21-290	52	29.5	7/21	.285	Poly	C	—	Black	.405
9	21-005			51	30	7/21S	.280	Poly	S	C	Grey	.420
9A	21-231	9B	21-332	51	30	7/21S	.280	Poly	S	S	Grey	.420
10	21-006	10A	21-338	52	29.5	7/21	.285	Poly	C	—	Grey	.475
11	21-007	11A	21-296	75	20.5	7/26T	.285	Poly	C	—	Black	.405
12	21-008	12A	21-340	75	20.5	7/26T	.285	Poly	C	C	Black	.475
13	21-009	13A	21-334	74	20.5	7/26T	.280	Poly	C	C	Black	.420
14	21-010	14A	21-336	52	29.5	10	.370	Poly	C	C	Grey	.545
15	21-011			76	20	15CW	.370	Poly	C	C	Black	.545
17	21-013	17A	21-298	52	29.5	1.88	.680	Poly	C	—	Grey	.870
18	21-014	18A	21-300	52	29.5	1.88	.680	Poly	C	—	Grey	.945
19	21-015	19A	21-303	52	29.5	250	.910	Poly	C	—	Grey	1.120
20	21-016	20A	21-305	52	29.5	250	.910	Poly	C	—	Grey	1.195
21	21-017	21A	21-308	53	29	16N	.185	Poly	S	S	Grey	.332
22	21-038			95	16	Two 7/0152	.285	Poly	T	T	Black	.405
22A	21-148	22B	21-310	95	16	Two 7/0152	.285	Poly	T	T	Grey	.420
29	21-018			53.5	28.5	20	.116	Poly	C	—	Poly	.384
34	21-019	34A	21-429	71	21.5	7/21	.455	Poly	C	—	Black	.625
35	21-020	35A	21-311	71	21.5	9	.680	Poly	C	—	Grey	.945
42	21-021			78	20	21N	.196	Poly	S	S	Grey	.342
44A	21-022			58	26.5	7/0152	.178	Poly	T	—	Poly	.250
55	21-023			53.5	28.5	20	.116	Polv	T	T	Poly	.206
57	21-039	57A	21-313	95	17	Two 7/21	.472	Poly	T	—	Black	.625
58	21-024			53.5	28.5	20	.116	Poly	T	—	Black	.195
58A	21-199	58C	21-316	50	29	19/0068	.116	Poly	T	—	Black	.195
59	21-025	59A	21-291	73	21	22CW	.146	Poly	C	—	Black	.242
62	21-026	62A	21-318	93	13.5	22CW	.146	55 Poly	C	—	Black	.242
63	21-027	63B	21-320	125	10	22CW	.285	55 Poly	C	—	Black	.405
71	21-029			93	13.5	22CW	.146	55 Poly	T	T	Poly	.250
74	21-041	74A	21-321	52	29.5	10	.370	Poly	C	C	Grey	.615
79	21-070	79B	21-325	125	10	22CW	.285	55 Poly	C	—	Black	.475
83	21-180			35	44	10	.240	Poly	C	—	Black	.405
87A	21-256			50	29.5	7/205	.280	Teflon	S	S	Fiberglas	.425
89	21-253			125	10	22CW	.285	55 Poly	C	—	Black	.632
108	21-261	108A	21-327	76		Two 7/28	.073 Ea.	Poly	T	—	Black	.230
111	21-255	111A	21-329	95	16	Two 7/0152	.285	Poly	T	T	Grey	.490
116	21-378			50	30	7/205	.280	Teflon	S	S	Fiberglas	.475
117	21-377			50	29	.188	.620	Teflon	C	—	Fiberglas	.780
118	21-374			50	29	.188	.620	Teflon	C	—	Fiberglas	.780
119	21-398			50	29	10	.328	Teflon	C	C	Fiberglas	.465
120	21-399			50	29	10	.328	Teflon	C	C	Fiberglas	.515
	21-125			71	21.5	9	.680	Poly	C	—	Grey	.870
	21-388			50	29	155	.185	Teflon	S	S	Fiberglas	.332
	21-391			72	21	7/255	.280	Teflon	S	S	Fiberglas	.405
	21-385			50	29	195	.116	Teflon	S	S	Fiberglas	.206
	21-382			50	29	195	.116	Teflon	S	S	Fiberglas	.195
	21-379			73	21	215	.146	Teflon	S	—	Fiberglas	.241

### Legend

- CW—Copperweld
- S—Silvered Copper
- T—Tinned Copper
- C—Copper
- Poly—Polyethylene
- SS Poly—Semi-solid Polyethylene
- A—Armor—Armored Cable

### Velocity of Propagation

Dielectric Material	Velocity of Propagation
Solid Polyethylene	65.9%
Semi-Solid Polyethylene	84.0%
Teflon	69.5%

### LOW LOSS PLASTICS

Amphenol Polyweld "912" is pure polystyrene in solution. Use as coil dope or to weld polystyrene pieces together. Will not disturb circuit constants.



- No. 53-912-2 2-oz. bottle . . . . . List \$ .50
- No. 53-912-4 4-oz. bottle . . . . . List .65
- No. 53-916-2T 2-oz. bottle Thinner . . . . . List .25
- No. 53-916-4T 4-oz. bottle Thinner . . . . . List .35



24-5P

24-6H

24

Coil Forms for receivers and low powered transmitters in the RF and UHF range.

No.	Description	List
24-4P	1 1/4" OD, 2 1/2" long, fits standard tube sockets, 4 prong . . . . .	\$ .40
24-5P	Same except 5 prong . . . . .	.40
24-6P	Same except 6 prong . . . . .	.40
24-6H	Use with 78S6S socket, 3/4" OD, 6 prong . . . . .	.40
24-5H	Same except 5 prong . . . . .	.40
24	Miniature, 3/4" OD, 1 1/4" long, raised hole in center of base for self-tapping screw . . . . .	.15

### Twin-Lead Connector



Solderless, low-loss twin-lead splice without impedance change. Design prevents reversal of lead. Use in pairs.

80-850..... List Each \$ .25

### Stand-Off Insulators



#### Polyethylene Inserts

Twin-Lead Types for 14-056, 14-079 and 14-080  
List per 100

Wood Screws No. 14 Thd.  
66-202 3" length.....\$4.45  
66-209 7 1/2" length... 7.64  
Mach. Screws No. 10-32 Thd.

66-204 3" length.....\$6.11  
66-210 7 1/2" length... 8.35

Nail-in  
66-211 3 1/2" length...\$6.25  
Cox Types, 1/2" Max. Cable O. D.

Wood Screws No. 14 Thd.  
66-201 3" length.....\$5.44  
66-208 7 1/2" length... 7.94  
Mach. Screws No. 10-32 Thd.

66-203 3" length.....\$6.42  
Nail-in  
66-212 3 1/2" length...\$7.11

Polystyrene Stand-off Insulator for 14-358

Twin-Lead  
66-909 1 1/2" length.....  
..... List Each \$.0750



### Twin-Lead Transmission Lines

The use of brown pigmented polyethylene dielectric assures minimum RF loss and a more constant impedance over the exceptionally long life of Amphenol Twin-Lead. This remarkable material remains flexible at -70°C., repels water and is unaffected by acids, alkalis and oils.

#### Receiving Twin-Lead

300 ohm Twin-Lead for FM and TV Antennas  
14-056 (500) & (1000) Brown polyethylene..... \$43.00  
List Per 1000 ft.

14-271\* Tubular for deluxe FM and TV. Reels of 1000 feet..

150 ohm Twin-Lead for experimental work  
14-079\* Reels of 1000 feet.....

75 ohm Twin-Lead for lower impedance applications  
14-080\* Reels of 1000 feet.....

#### Amateur Transmitting and Copper Clad Types of Twin-Lead

75 ohm Twin-Lead for transmitting, rated 1 KW RF power  
14-023\* Reels of 1000 feet.....

300 ohm Tubular Twin-Lead rated 1 KW RF power  
14-076\* Reels of 1000 feet.....

300 ohm Extra-Strength Twin-Lead with copper clad conductors  
14-022\* Reels of 1000 feet.....

\*Temporarily Withdrawn from Production



14-080 14-079



14-056 14-023



14-271 14-076



14-022

### Universal Mast Clamp



Wrap-around mast clamp for Stand-off Insulator. Will fit any mast with O.D. from .900" to 1.660". Complete with 66-204 Screw-Eye Insulator for Twin-Lead Transmission Lines.

No. 114-490..... List \$ .30  
No. 114-492 Same less insulator..... List .20

### Universal Mounting Clamp

Will accommodate mast sizes of 1" to 1 1/2" O.D. which includes 1" water pipe as well as 3/4" to 1 1/2" electrical conduit. Two U bolts and channeled plate establish and maintain perfect right angle alignment. Stress to horizontal member is spread over entire length of clamp, thus preventing distortion and buckling.

No. 114-500..... List \$ .55



### Remote Control Wire

For wiring antenna rotators and other low voltage remote controls such as miniature electric trains. Recommended for circuits up to 28 volts. For easy wiring, each conductor with its insulation may be ripped apart without exposing the conductor. Conductors are 7/28 copper wire with one conductor tinned to facilitate tracing. High dielectric polyethylene insulation is weatherproof.

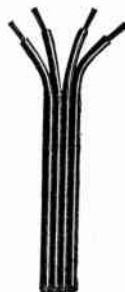
List per 1000 ft.

14-316 3 conductor Reels of 1000 feet.....\$44.50

14-298\* 4 conductor Reels of 1000 feet.....

14-317\* 5 conductor Reels of 1000 feet.....

\*Temporarily Withdrawn from Production



### Antenna Mast Extensions

Television Mast Extension for 114-302 two bay television antenna and other 1-1/4" diameter antenna masts. Consists of 5 foot length of 1-1/4" diameter alloy steel tubing, guy ring and two clamp type stand-off insulators.

114-291..... List ea. \$3.00

FM and Television Mast Extension for all Amphenol FM and Television antennas except the two bay antenna which requires the mast extension listed above. Consists of 5 foot length 3/4" steel conduit and guy wire clamp.

114-300..... List ea. \$3.00



For separating feeder lines and construction of folded dipole antenna from wire. Wire holes .085" diameter.

2" spacing 4" spacing 6" spacing  
66-205. List ea. \$.15 66-206. List ea. \$.20 66-207. List ea. \$.25

### Lightning Arrestor For Antennas

Attaches to 14-056 300 ohm Twin-Lead without cutting the conductors. Designed to meet the requirements of the Underwriters' Laboratories. Molded of high grade electrical phenolic with conducting plate and gap molded in. Precise gap spacing is maintained. Self contained also is a high resistance shunt permanently sealed against moisture. Overall dimension 1-7/8" x 2" x 3/4".

155-338..... List ea. \$1.50

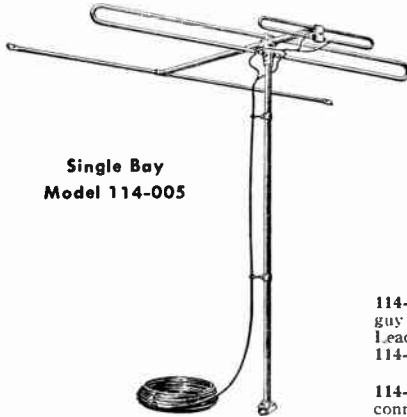




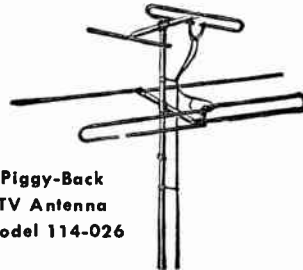
### Television Antennas

Engineered and perfected in the Amphenol Antenna Development Laboratories, the antennas illustrated and described on this page will provide unsurpassed reception of FM and TV signals. Top-quality

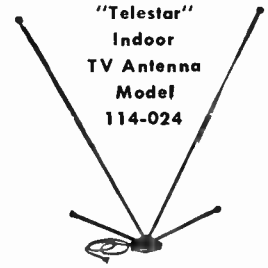
materials, rugged construction and the latest in design are incorporated into each Amphenol antenna to provide perfect performance. Each antenna packaged complete with instructions for easy installation.



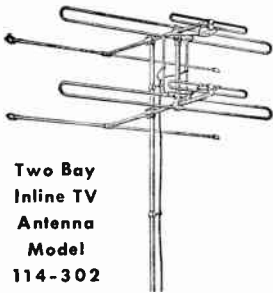
**Single Bay  
Model 114-005**



**Piggy-Back  
TV Antenna  
Model 114-026**



**"Telestar"  
Indoor  
TV Antenna  
Model  
114-024**



**Two Bay  
Inline TV  
Antenna  
Model  
114-302**

**114-005 TELEVISION ANTENNA ARRAY**, complete with mast, swivel mounting plate, guy clamp, necessary hardware, stand-off insulators and 75 ft. Amphenol 300 ohm Twin-Lead. . . . . **List ea. \$19.50**  
**114-009** Same less transmission line. . . . . **List ea. 17.00**

**114-301 ADAPTOR KIT** for building 114-005 into a Stacked Array includes single bay, connecting rods for symmetrical feed, two box brackets, two 5-foot lengths of 1-1/4" Mast, guy ring and stand-off insulators. . . . . **List ea. \$20.50**

**114-302 TWO BAY TV STACKED ARRAY** consists of a top and bottom bay, connecting rods, two box brackets, two 5-foot lengths of 1-1/4" mast, guy ring and stand-off insulators. Twin-Lead transmission line is not included. . . . . **List ea. \$35.00**

**114-322** Same as 114-302 except has 100 ft. 300 ohm Twin-Lead. . . . . **List \$38.50**

**114-314** Same as 114-302 except has no mast. . . . . **List 29.00**

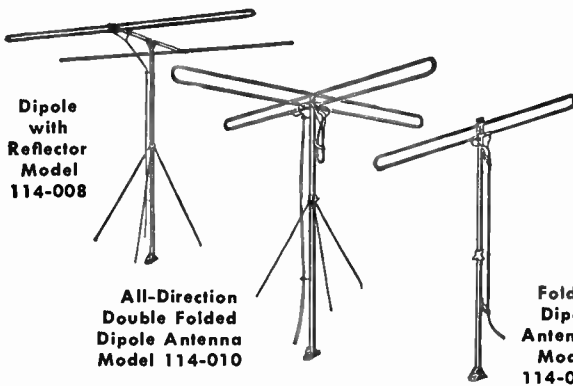
**114-324** Same as 114-302 except has 100 ft. 300 ohm Twin-Lead and has no mast. . . . . **List 32.50**

**114-026 PIGGY-BACK TV ANTENNA** consists of one folded dipole and reflector for each band which may be oriented individually, phasing leads, guy clamp, stand-off insulators and 75 ft. Amphenol Twin-Lead. . . . . **List ea. \$19.50**

**114-029** Same less transmission line. . . . . **List ea. 17.00**

**114-024 INDOOR TV ANTENNA "TELESTAR"** has low-loss polystyrene base with rubber feet to protect furniture. Light weight aluminum rods are pre-tuned for receiving all channels. Five-foot natural color polyethylene 300 ohm Twin-Lead is included. . . . . **List ea. \$4.95**

### FM Antennas



**Dipole  
with  
Reflector  
Model  
114-008**

**All-Direction  
Double Folded  
Dipole Antenna  
Model 114-010**

**Folded  
Dipole  
Antenna  
Model  
114-001**

**114-008 DELUXE FM FOLDED DIPOLE WITH REFLECTOR**, complete with mast, mounting plate, insulators, guy clamp, hardware and 75 ft. Amphenol 300 ohm Twin-Lead. . . . . **List ea. \$16.25**

**114-010 DELUXE FM ALL-DIRECTION DOUBLE FOLDED DIPOLE ANTENNA**, complete with quarter-wave phasing stub, mast, mounting plate, guy clamp, hardware, insulators, and 75 ft. Amphenol 300 ohm Twin-Lead. . . . . **List ea. \$16.25**

**114-001 FM FOLDED DIPOLE ANTENNA**, complete with mast, swivel mounting plate, insulators, guy clamp, necessary hardware and 75 ft. Amphenol 300 ohm Twin-Lead. . . . . **List ea. \$12.25**

### Twin-lead Folded

Ready-cut to the four most popular bands. Broadband characteristics. Use as a transmitting, auxiliary or portable antenna. Flat top portion is Amphenol 14-022 with copper clad steel conductors, 75 foot lead-in is Amphenol 14-056 joined to top with molded "T" junction.



### Temporarily Withdrawn From Production

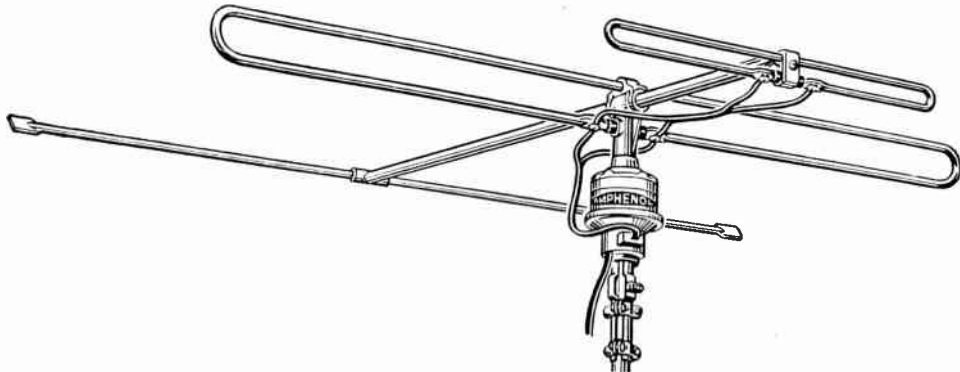
Number	Frequency	Band	Length
139-813	28 mc	10 Meters	18 feet
139-815	14 mc	20 Meters	35 feet
139-816	7 mc	40 Meters	70 feet
139-817	3.5 mc	80 Meters	135 feet

**AMERICAN PHENOLIC CORPORATION**

1830 SOUTH 54TH AVENUE,  
CHICAGO 50, ILLINOIS



# THE NEW AMPHENOL "AUTO-DIAL" ROTATOR



## MODEL No. 509

Designed to rotate in one direction only, the Ampheno "Auto-Dial" TV Antenna Rotator utilizes a single directional motor, permitting greater power and higher torque than usually available in reversible motors. The antenna rotates rapidly—only 22 seconds required for a complete revolution. Positive braking action prevents coasting or backlash.

The "Auto-Dial" permits axis or "in-line" mounting of antenna and supporting mast, allowing equal weight distribution on the steel bearings and gears of the rotator. There are no fiber or laminated gears to fail—all gears are steel.

The attractive control unit houses the relay, automatic step gears with nylon insulation, contact breakers, and sturdy transformer that reduces 115 volt A.C. to 24 volt A.C. required by the rotator motor.

The new "Auto-Dial" Rotator for the first time permits accurate antenna field strength measurements because it can always be brought back to exactly the same direction. This is possible because rotation is in steps of 6 degrees, accurately calibrated on the direction indicator. With "Auto-Dial," servicemen are now able to determine whether the antenna is functioning properly, has the best front-to-back ratio and if it is located properly for the best possible picture.

Operating the rotator is as simple as ABC. (A) Turn switch under dial to "On" position; (B) if necessary, refer to log card for dial number indicating desired antenna direction; (C) turn knob until pointer lies over proper number. Then, automatically, the inside knob, which rotates in synchronism with the antenna and which has an arrow—turns to line up with the pointer. This indicates that the antenna is rotating. When the desired direction is reached, rotation stops automatically.

**MODEL No. 509 "AUTO-DIAL" TV ANTENNA ROTATOR,**  
including 100 ft. conductor cable, Auto-Dial Control Unit, Complete  
Rotator with mast support for stacked array and cone  
adaptor.....List



- Mast support included for two bay stacked array!
- Heavy-duty motor!
- In-line mast mounting!
- Cone adapter included—accommodates mast sizes from 3/4" to 2"!
- Lifetime lubricated!
- Neoprene sealed against dirt and moisture!



- Attractive "Walnut" finish plastic housing!
- Two 2.5 volt pilot lamps!
- Rubber feet on the base protect furniture!
- White plastic card insert for logging stations!

## AMERICAN PHENOLIC CORPORATION

1830 SOUTH 54TH AVENUE,  
CHICAGO 50, ILLINOIS



# Vector SOCKET-TURRETS

## BACKGROUND FOR CIRCUITRY

Vector Socket-Turrets and Plug-In units provide a unique method for mounting circuit components associated with a vacuum tube. The tube socket is joined to a tubular terminal post designed to carry most of the usual circuit elements. In some types a plug is joined to the opposite end of the terminal post to provide a useful Plug-In Unit. Most popular numbers are in bold face type.

## OCTAL SOCKET-TURRETS

Mica-Filled Octal Socket, bottom mount steel saddle with 1-5/16" mtg. ctrs., 4 ground lugs, 0.134" saddle holes; wrap-around brass contacts, cadmium plated; requires 1" dia. socket hole. Turret 1/2" dia., 1/16" wall, Grade XXXP tan phenolic bonded to socket. Six plated brass terminals at far end of turret plus three, six or none near socket per type ordered.

Cat. No.	*Height	Turret Terminals	Description
<b>10-O-9T</b>	2 1/2"	9	Turret Terminals in 2 rings spaced 1 3/8"
8-O-9T	2"	9	Turret Terminals in 2 rings spaced 1"
6-O-6T	1 1/2"	6	Turret Terminals in 1 ring only.

\*Height measured from chassis to far end of turret.

For variations not usually available from distributors but obtainable at the factory: Add "A" to No. for large octal socket (1 1/2" mtg. ctrs., 1/8" hole).

Add "J" to No. for "MFE" socket casting, beryllium contacts, silver plated, tin dipped.

Add "P" to No. for nuts fastened to saddle.

Add "G" to No. for impregnation of turret for moisture and fungus protection.

LOCTAL Socket-Turrets similar to the above are available. These require 1-1/16" hole and 1-5/16" mounting centers. To order these substitute letter "L" for "O" in above catalog numbers.

## MINIATURE AND NOVAL TYPES

Mica-Filled Sockets with bottom mounting steel saddles, carrying four ground lugs, 1/8" saddle holes. Brass contacts, cadmium plated. Terminal turret 1/2" dia., 1/16" wall, Grade XXXP tan phenolic joined to socket with rivet through center of socket and turret. Six terminals at far end of turret plus three, six or none near socket end. 7 Pin Socket requires 5/8" hole, 7/8" mtg. ctrs., 9 Pin Socket requires 3/4" hole, 1 1/8" mtg. ctrs. Order shield bases, S7 or S9 separately if shields are to be used.

7 PIN Cat. No.	9 PIN Cat. No.	*Hght.	Turret Terminals	Description
8-M-12T	8-N-12T	2"	12	Terminals in 2 rings spaced 1"
<b>8-M-9T</b>	<b>8-N-9T</b>	2"	9	Terminals in 2 rings spaced 1"
6-M-6T	6-N-6T	1 1/2"	6	Turret terminals at far end only
S7	S9			Shield Base (for attaching shield)

\*Height measured from chassis to far end of turret.

For variations not usually available from distributors but obtainable at the factory:

Add "J" to No. for "MFE" socket casting, beryllium contacts, silver plated, tin dipped.

Add "P" to No. for 4-40 nuts fastened to saddle.

Add "G" to No. for impregnation of turret for moisture and fungus protection.

NOTE: Letters are printed on all above turrets to indicate terminal positions. A-F inclusive appear on remote end, G-L inclusive on row near socket (H, J, L for 3 terminal rows). "A" & "G" over "I" of socket.

## EXPERIMENTAL KIT NO. 1

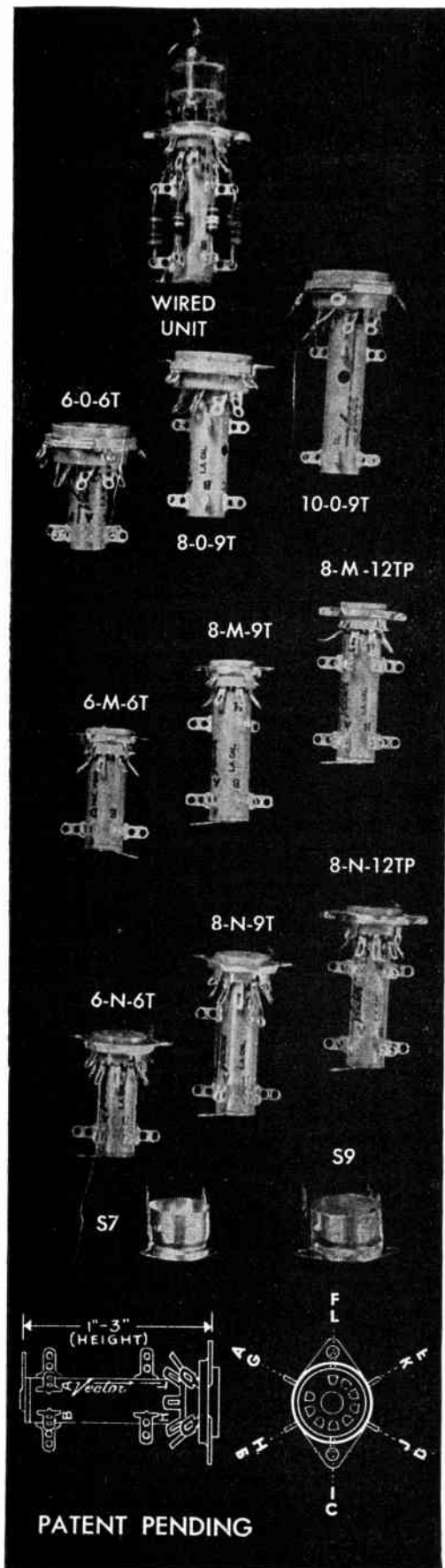
Comprises an assortment of 20 socket-turrets for octal, loctal, miniature and noval tubes in various sizes and styles. Provides first aid to experimenters and designers in solving a multitude of mounting problems. Samples of both standard and special types are included.



*Vector Electronic Company*

1101 RIVERSIDE DRIVE LOS ANGELES 31, CALIF.

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PATENT PENDING

# Vector **PLUG-IN UNITS**

## FOR UNITIZED CIRCUITS

Amplifiers, counters, oscillators and the like can be readily assembled completely on Plug-Ins, permitting quick changes of circuits. Making a Plug-In unit involves little more than soldering in a few capacitors and resistors.

### ECONOMICAL AND CONVENIENT

Plugs are standard mica-filled, ring mounted octal style with 8 prongs as standard. (9 or 11 prong plugs also available—see below). Sockets are standard mica-filled phenolic in octal, 7 Pin miniature or 9 Pin noval as ordered. Contacts are cadmium plated brass. Terminal turrets are Grade XXXP phenolic tubing 1/2" O.D. with 1/16" wall, carrying 12 plated brass terminals. Aluminum covers may be quickly detached by removing screws at base, making inside completely accessible. Miniature and noval types carry military type tube shield base. Main tube shield not furnished. Types in bold face are most widely used and generally preferred for distributor stock.

#### SINGLE TUBE TYPES

CATALOG NUMBERS			CAN SIZE		TERM. SPACE
Octal	7 Pin	9 Pin	A	B	C
B8 -M	<b>B10-M</b>	<b>B10-N</b>	1.37"	2.0"	0.87"
B12-0	B12-M	B12-N	1.37"	2.5"	1.37"
C8 -0	C8 -M	C8 -N	1.37"	3.0"	1.87"
<b>C10-0</b>	<b>C10-M</b>	<b>C10-N</b>	2.0"	2.0"	0.87"
C12-0	<b>C12-M</b>	<b>C12-N</b>	2.0"	2.5"	1.37"
A8 -0	A8 -M	A8 -N	2.0"	3.0"	1.87"
A10-0	A10-M	A10-N	No Can	No Can	0.87"
A12-0	A12-M	A12-N	No Can	No Can	1.37"

#### TWO TUBE TYPES

.....	C8 -MM	C8 -NN	2.0"	2.0"	0.62"
.....	C10-MM	C10-NN	2.0"	2.5"	0.87"
.....	<b>C-12-MM</b>	<b>C12-NN</b>	2.0"	3.0"	1.37"

#### TYPES WITHOUT SOCKETS

Any of the types tabulated may be obtained less sockets but with terminal turrets and plugs. These are useful for a multitude of PLUG-IN applications where tubes are not involved.

CAT. NO.	CAN SIZE		CAT. NO.	CAN SIZE	
	A	B		A	B
B-8T	1-3/8"	2"	C-8T	2"	2"
B-10T	1-3/8"	2-1/2"	C-10T	2"	2-1/2"
B-12T	1-3/8"	3"	C-12T	2"	3"

#### TYPES WITH CAN AND PLUG ONLY

CAT. NO.	CAN SIZE		CAT. NO.	CAN SIZE	
	A	B		A	B
B-8	1-3/8"	2"	C-8	2"	2"
<b>B-10</b>	1-3/8"	2-1/2"	C-12	2"	2-1/2"
B-12	1-3/8"	3"	<b>C-12</b>	2"	3"

#### SPECIAL FEATURES. Variations obtainable at the factory:

- Add "H" to No. for 9 prong octal type plug.
- Add "K" to No. for 11 prong octal style plug.
- Add "J" to No. for "MFE" socket casting, beryllium contacts, silver plated, tin dipped.
- Add "G" to No. for impregnation of turret for moisture and fungus protection.
- Add "P" to No. for perforation of covers for ventilation.
- Anodized finishes, natural or in color to order.
- Studs to lock 2" sq. units firmly in sockets are available.

NOTE: Letters are printed on turrets to indicate terminal positions. A-F inclusive appear on 6 terminals at plug end, G-L inclusive on socket end. "A" & "G" in line with "I" of socket and "I" of plug. Key of 8 prong plug points toward corner of can but key of 9 & 11 prong plug points to side of can.

#### EXPERIMENTAL PLUG-IN KIT NO. 2

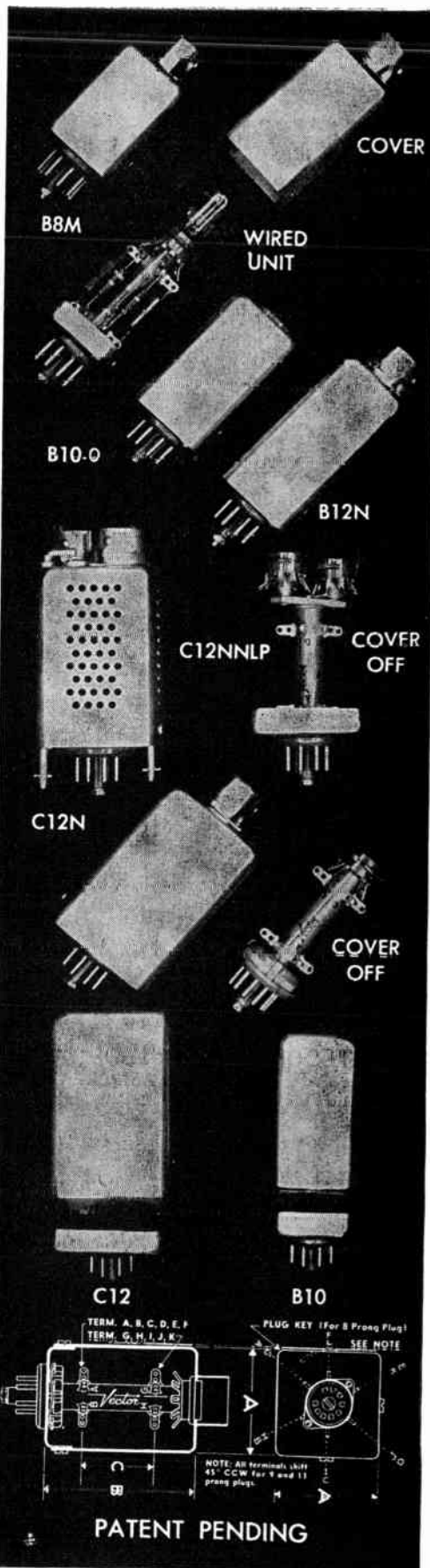
Comprises an assortment of 7 plug in units in several sizes, with octal, miniature and noval sockets, 8 and 11 prong plugs. Many combinations can be quickly assembled.



**Vector Electronic Company**

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Radio's Master — 17th Edition

T-13

# HUBBELL



# Interlock

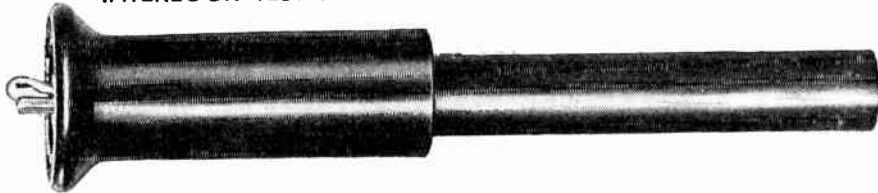
TRADE-MARK

## A **NEW** SELF-LOCKING ELECTRICAL CONNECTOR

*"As reliable as an unbroken wire"*

**LOCK AUTOMATICALLY**  **VIBRATION and PULL PROOF**  **CONSTANT LOW RESISTANCE**

INTERLOCK TEST PROD COUPLERS and ATTACHMENTS



702S11—BLACK TEST PROD COUPLER (less wires)  
703S11—RED TEST PROD COUPLER (less wires)

PRICE — \$140.00 per C  
PRICE — \$140.00 per C

Hubbell Interlock Test Prod Couplers and Attachments with new locking action — permit an easy and simple change from one type of attachment to another. Automatically locked — instantly released. As quick as a snap of your fingers. Parts sold separately or as a unit.

### ATTACHMENTS



**PHONE TIP**  
704S29—Black  
Price, \$55.00 per C  
705S29—Red  
Price, \$55.00 per C



**PHONO NEEDLE**  
706S29—Black  
Price, \$66.00 per C  
707S29—Red  
Price, \$66.00 per C



**ALLIGATOR CLIP**  
708S29—Black  
Price, \$80.00 per C  
709S29—Red  
Price, \$80.00 per C



**SPADE TERMINAL**  
710S29—Black  
Price, \$78.00 per C  
711S29—Red  
Price, \$78.00 per C

**TEST PROD KIT**  
5000 VOLTS

The complete Test Prod Kit includes one red and one black set of the following attachments:

- Phone Tip
- Phono Needle
- Alligator Clip
- Spade Terminal

Also included in the Kit is one Test Prod Coupler in red and one in black each wired with four feet of test lead wire. Each kit individually packed.

**700S90 (one complete kit)**  
Price \$10.00 ea. List

### INTERLOCK TYPE "S" SLIDE STANDARD PLUGS and JACKS 15 AMPERE CAPACITY



**PLASTIC PLUG**  
(With spring terminal wire connection)  
716S19—Black  
Price, \$90.00 per C  
717S19—Red  
Price, \$90.00 per C



**PLASTIC ENTRY JACK**  
712S21—Black  
Price, \$76.00 per C  
713S21—Red  
Price, \$76.00 per C



**METAL ENTRY JACK**  
(Insulating washers)  
714S21—Black  
Price, \$74.00 per C  
715S21—Red  
Price, \$74.00 per C



**PLASTIC JACK**  
(Waterproof)  
718S21—Black  
Price, \$90.00 per C  
719S21—Red  
Price, \$90.00 per C

CONTACT PRESSURE 28 OZ.—  
PULL OUT 150 LBS.—CONTACT  
POINTS SILVER PLATED

For additional information or assistance from Hubbell Representatives in your area write to Harvey Hubbell, Inc., Interlock Department, Bridgeport 2, Connecticut.

Terminal strips are available for Type "A" Hook Standard and Type "B" Hook Miniature lines listed on the opposite page.

HARVEY HUBBELL, INC. BRIDGEPORT, CONN. U. S. A.

THE ABOVE PROVISIONAL LIST PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

# HUBBELL



# Interlock

TRADE-MARK

## INTERLOCK TYPE "A" HOOK STANDARD CONNECTORS and ACCESSORIES 10 AMPERE CAPACITY — CONTACT PRESSURE 24 OZ.



**101A30 STRAIGHT PLUG**  
(Crimping terminal)  
PRICE ..... \$22.50 per C



**124A31 STRAIGHT PLUG**  
(Solder terminal)  
PRICE ..... \$22.50 per C



**116A43 JACK**  
(Screw terminal)  
PRICE ..... \$21.50 per C



**117A49 JACK**  
(Terminal Post adaptor)  
PRICE ..... \$19.00 per C



**109A40 CONNECTOR**  
(Crimping terminal)  
PRICE ..... \$21.00 per C



**110A49 SPLICING LINK**  
PRICE ..... \$21.00 per C



**102A19—BLACK**  
**103A19—RED**  
Plastic and Rubber angle plug,  
with 4 ft. rubber covered wire.  
PRICE ..... \$170.00 per C



**126A21—BLACK**  
**127A21—RED**  
PLASTIC JACK  
(Waterproof, solder terminal)  
PRICE ..... \$90.00 per C



**112A21—BLACK**  
**113A21—RED**  
PLASTIC ENTRY JACK  
(Solder terminal)  
PRICE ..... \$76.00 per C



**114A21 BLACK**  
**115A21 RED**  
Metal  
ENTRY JACK  
\$74.00 per C



**118A41**  
Metal  
ENTRY JACK  
(no insulating  
washers)  
\$74.00 per C



**111A41**  
EYELET  
PANEL JACK  
(Solder  
terminal)  
\$3.55 per C



**123A99**  
Eyelet Spacing  
WASHER  
(For eyelet  
Jack)  
\$1.05 per C



**122A91**  
EYELET SETTING  
PUNCH

PRICE \$1.25 ea. Net

This punch may be used in a press or with a hammer, to mount 111A41 Jacks in insulated boards or strips.

**Instructions:**

1. Prepare insulated panel with .200 inch dia. holes. Normally use 7/16 inch center to center. For higher voltage increase spacing center to center.
2. Assemble correct number of washers to Jack. See chart below.
3. Insert assembly through hole with lug on underside.
4. "Set" Jack with punch.

Panel Thickness	Washers Needed
.218	None
.187	1
.156	2
.125	3
.093	4
.062	5

## INTERLOCK TYPE "B" HOOK MINIATURE CONNECTORS and ACCESSORIES 5 AMPERE CAPACITY — CONTACT PRESSURE 10 OZ.



**401B30 STRAIGHT PLUG**  
(Crimping terminal)  
PRICE ..... \$19.00 per C



**424B31 STRAIGHT PLUG**  
(Solder terminal)  
PRICE ..... \$19.00 per C



**408B32 STRAIGHT PLUG**  
(Piercing terminal)  
PRICE ..... \$22.50 per C



**409B43 JACK**  
(Screw terminal)  
PRICE ..... \$16.00 per C



**410B41 JACK**  
(Solder terminal)  
PRICE ..... \$14.50 per C



**411B40 CONNECTOR**  
(Crimping terminal)  
PRICE ..... \$12.00 per C



**412B42 CONNECTOR**  
(Piercing terminal)  
PRICE ..... \$14.00 per C



**413B49—SPLICING LINK**  
PRICE ..... \$19.00 per C



**415B49 METAL PANEL JACK**  
PRICE ..... \$47.00 per C



**414B41**  
Eyelet Panel  
JACK  
\$3.35 per C



**423B99**  
EYELET  
(spacing washer)  
\$.90 per C



**416B93 RUBBER COVER**  
For use with type B Plugs.  
PRICE ..... \$20.00 per C



**121Y91 INTERLOCK PLIERS**  
For use on crimping terminals of  
"A" and "B" Plugs.  
PRICE ..... \$3.00 ea. Net



**422B91**  
EYELET SETTING  
PUNCH

PRICE \$1.25 ea. Net  
This punch may be used in a press or with a hammer, to mount 414B41 Jacks in insulated boards or strips.

**Instructions:**

1. Prepare insulated panel with .120 inch dia. holes. Normally use 5/16 inch center to center. For higher voltage increase spacing center to center.
2. Assemble correct number of washers to Jack. See chart below.
3. Insert assembly through hole with lug on underside.
4. "Set" Jack with punch.

Panel Thickness	Washers Needed
.187	None
.171	1
.156	2
.140	3
.125	4
.109	5
.093	6
.078	7
.062	8

HARVEY HUBBELL, INC BRIDGEPORT, CONN., U.S.A.

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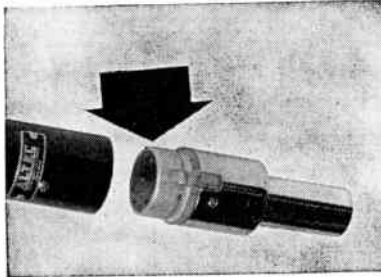


# CANNON ELECTRIC COMPANY

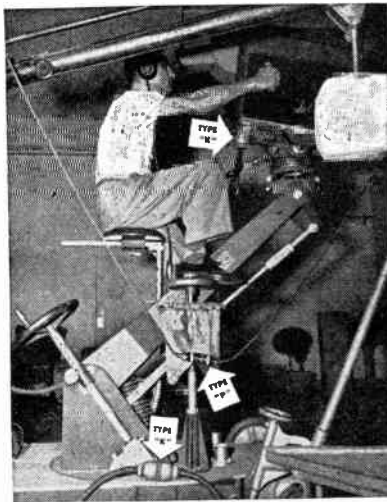
## CANNON PLUGS APPLICATIONS



Type "K" Receptacle on Automatic Electric's Recorder Connector



Type "P" insert and barrel assembly on Altec-Lansing mike



Types "K" and "P" Plugs on television camera



Type "XL" Plug on Electro-Voice's #731 Microphone



Type "X" Plug and Receptacle on intercom telephone

## TYPE XK FITTINGS

**CANNON "TYPE XK" PLUGS AND RECEPTACLES**—A quality line of Connectors, same inserts and similar in design to the "Type X" Series, but equipped with the fast-acting, sturdy Acme Threaded Coupling Ring and therefore, ideal for use on equipment which is subjected to considerable vibration and tension on cables, such as on sound trucks and other portable units. XK-1 500v; XK-3 200v; XK-4, 133v Service.

### TYPE "XK-11" STRAIGHT CORD PLUG (With Socket Insert)

Shell is of die-cast zinc, cad. plated finish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes  $\frac{1}{8}$ " to  $\frac{3}{8}$ " cable. Built for long, dependable service. Mates with -12, -14.

Contacts	Capacity	Wt.	Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081		XK-1-11	\$5.50
3	15-amp.	0.083		XK-3-11	5.50
4	{3-10-amp. 1-15-amp.}	0.085		XK-4-11	7.80

### TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)

For use in conjunction with Straight Cord Plug (Socket Insert) or Wall Receptacle (Socket Insert) with coupling nut. Shell is made of die-cast zinc, cad. plated finish. Takes  $\frac{1}{8}$ " to  $\frac{3}{8}$ " cable.

Contacts	Capacity	Wt.	Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081		XK-1-12	\$3.15
3	15-amp.	0.083		XK-3-12	3.15
4	{3-10-amp. 1-15-amp.}	0.085		XK-4-12	4.75

### TYPE "XK-14" WALL RECEPTACLE (With Pin Insert)

Body fits in a  $\frac{3}{8}$ " hole and extends  $\frac{1}{8}$ " behind a  $\frac{1}{8}$ " flange. Flange is  $1\frac{1}{2}$ " in diameter, drilled for four #4-40 oval-head mounting screws on a  $\frac{5}{8}$ " radius, 90° apart. Shell is made of brass, nickel finish. Solder pots extend  $\frac{3}{8}$ " beyond body. Has external acme thread on shell and mates with straight cord plug XK-11.

Contacts	Capacity	Wt.	Lbs.	Cat. No.	List Pr.
1	15-amp.	0.045		XK-1-14	\$3.15
3	15-amp.	0.047		XK-3-14	3.15
4	{3-10-amp. 1-15-amp.}	0.049		XK-4-14	4.75

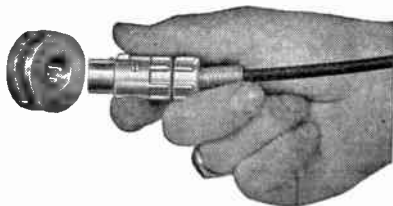
### TYPE "XK-13L" WALL RECEPTACLE (With Socket Insert)

Body fits in  $1\frac{1}{8}$ " hole and extends  $1\frac{1}{8}$ " behind flange. Flange is  $1\frac{1}{2}$ " in diameter and drilled for four #4-40 oval-head mounting screws on a  $\frac{5}{8}$ " radius, 90° apart. Shell is made of brass, nickel finish. Solder pots on contacts extend  $\frac{3}{8}$ " beyond body. Mates with a straight cord plug (Pin Insert) XK-12.

Contacts	Capacity	Wt.	Lbs.	Cat. No.	List Pr.
1	15-amp.	0.144		XK-1-13L	\$5.90
3	15-amp.	0.146		XK-3-13L	6.05
4	{3-10-amp. 1-15-amp.}	0.148		XK-4-13L	7.60



## TYPE XL FITTINGS



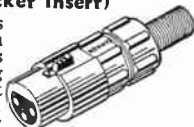
"XL-3-14N" Receptacle and "XL-3-11" Plug in engaging position. Compare small size of plug with hand.

The Cannon Electric Type "XL" Connector combines various features found in other Cannon types into a small fitting comparable only in size to the Type "X" for low level sound transmission circuits. Among the leading features are the following: (1) convenient latchlock device to hold connector tight. (2) lightweight. (3) polarizing means (4) compression gland with relief spring or integral clamp, if desired. (5) streamlined design. (6) tapped metal for insert retaining screw. (7) provision for special grounding contact and grounding to shell. Contacts are 15-amp. for No. 14 B&S stranded wire in 3 contact insert; 10-amp. in 4 contact insert. Shell is zinc or steel, with various finishes available, bright nickel being standard. Satin-chrome finish available on steel shells. Flashover Voltage 1400-1600v.

### ZINC SHELL TYPES

#### TYPE "XL-11" STRAIGHT CORD PLUG (Socket Insert)

Type XL-3-11 is equipped with latch lock device and has raised polarizing boss. No. 1 contact engages before Nos. 2 and 3, and may be used for grounding purposes, if desired.  $\frac{3}{8}$ " cable accommodation. Overall dimensions: length,  $2\frac{1}{2}$ ", with relief spring,  $2\frac{1}{2}$ " approx.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0992	XL-3-11	1.55
4	10-amp.	.0992	XL-4-11	2.15

#### TYPE "XL-12" STRAIGHT CORD PLUG (Pin Insert)

Type XL-12 plug has alignment rib in addition to polarizing groove. Cable accommodation is  $\frac{3}{8}$ ". Insert is removable for soldering or inspection. Overall dimensions: length, 1", with cable relief spring,  $2\frac{1}{2}$ "; max. diameter  $\frac{3}{8}$ ". Insert dia.  $\frac{5}{16}$ ".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0792	XL-3-12	1.50
4	10-amp.	.0792	XL-4-12	2.00

#### TYPE "XL-13" RECEPTACLE (Socket Insert)

A wall mounting receptacle similar to XL-14 except that it has socket insert assembly and latch locking device. Overall Dimensions: flange diameter,  $1\frac{1}{8}$ "; flange thickness  $\frac{3}{8}$ "; rear of flange to solder pot extension  $1\frac{1}{8}$ "; dia. barrel,  $\frac{1}{8}$ "; three mounting holes drilled .136



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.132	XL-3-13	1.55
4	10-amp.	.132	XL-4-13	2.15

#### TYPE "XL-14" RECEPTACLE (Pin Insert)



This wall mounting receptacle has three mounting holes having .136 diameter. Overall dimensions: flange diameter,  $1\frac{1}{8}$ "; width flange,  $\frac{3}{8}$ "; length behind flange to solder pot extension,  $1\frac{1}{8}$ "; barrel diameter,  $\frac{1}{8}$ ". Material zinc, bright nickel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0592	XL-3-14	1.20
4	10-amp.	.0592	XL-4-14	1.70

#### TYPE "XL-13N" RECEPTACLE (Socket Insert)

Similar to XL-14N except has socket insert assembly, with latchlock device, and polarizing boss on insert barrel. No. 1 contact engages before Nos. 2 and 3 and may be used for grounding circuit, if desired. Overall dimensions: flange and barrel and nut are identical to XL-14N, length from face of flange including solder pot extension,  $1\frac{1}{8}$ ".



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2112	XL-3-13N	1.55
4	10-amp.	.2112	XL-4-13N	2.15

#### TYPE "XL-14N" RECEPTACLE (Pin Insert)

Designed to be mounted in a panel and has lock nut, accommodating up to  $\frac{1}{8}$ " inch panel. Two fittings may be mounted on a single gang plate. Overall Dimensions: flange diameter,  $1\frac{1}{8}$ "; barrel diameter, 1"; width flange to barrel,  $\frac{3}{8}$ ", with  $\frac{1}{2}$ " max. solder pot extension; flange thickness,  $\frac{3}{8}$ ".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2048	XL-3-14N	1.45
4	10-amp.	.2048	XL-4-14N	1.95

#### TYPE "XL" ADAPTER RECEPTACLES



XL-3-50	XL-3-50T	XL-3-50N
1.75 List Pr.	1.90 List Pr.	2.15
XL-4 2.40	XL-4 2.60	XL-4 3.15

### SINGLE GANG WALL RECEPTACLES



#### Type XL-3-35 (Socket Insert)

Face plate similar to type used in P-35. Takes an XL-3-13N Receptacle. Wt. 0.3479.

Cat. No.	List Price
XL-3-35	4.40
XL-4-35	4.85

#### TWO-GANG TYPES ALSO AVAILABLE

##### Type XL-3-36 (Pin Insert)

Takes an XL-3-14N Receptacle. Bright nickel finish.

Cat. No.	List Price
XL-3-36	4.45
XL-4-36	4.95



### TWO GANG WALL RECEPTACLES

Model	List Price
XL-3-35-2G (2 socket inserts)	9.35
XL-4-35-2G (2 socket inserts)	10.55
XL-3-36-2G (2 pin inserts)	9.30
XL-4-36-2G (2 pin inserts)	10.25

#### TYPE XL-42 RECEPTACLE (Pin Insert)

The -42 Receptacle is similar to the X-42 shown under "X" Fittings, except that it has the XL type insert. For special mounting purposes.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.063	XL-3-42	1.50
4	10-amp.	0.063	XL-4-42	1.65

### STEEL SHELL PLUGS INTEGRAL CLAMP TYPES

#### TYPE XL-3-11SC PLUG (Socket Insert)

The steel shell type is built for rugged service and has cable entry of  $\frac{1}{4}$ " min.,  $5/16$ " max.  $6/32$ " shorter overall shell than zinc type. Otherwise same construction, mating with regular XL receptacle. Bright nickel finish standard.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.1333	XL-3-11SC	3.40
4	10-amp.	.1333	XL-4-11SC	4.00

#### TYPE XL-3-12SC PLUG (Pin Insert)

Corresponds to XL-3-12 except that shell is steel with integral clamp. For  $5/16$ " max. entry. Shell is  $7/32$ " shorter in overall length than corresponding zinc shell.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.1250	XL-3-12SC	3.35
4	10-amp.	.1250	XL-4-12SC	3.85

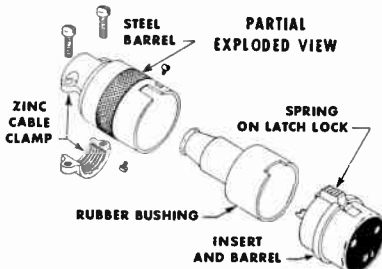


# CANNON ELECTRIC COMPANY

## TYPE P FITTINGS

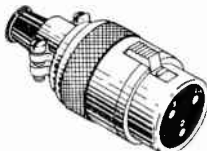
**CANNON "TYPE P" FITTINGS.** Universally used in sound and allied applications. "Type P" Fittings include a size and type for every requirement, with a high standard of quality. All 90° Plugs have split-shell construction for quick, easy access for wiring or inspection. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. Laboratory tests show an average voltage-drop of not more than 10 millivolts, with current flowing at the rated capacity. Insulating material is black phenolic which has a 0.7% absorption in 24 hours of immersion in water and a dielectric strength of 550 volts per mil at 60 cycles. Two to 6 contact inserts accommodate No. 10 B&S stranded wire; 8 contact insert No. 14 wire.

New shell designs of the P-CG-115 and P-CG-125, cord plugs, replace both old type shells of zinc and steel, and such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell material is steel, integral clamp zinc.



NEW TYPES WILL MATE WITH CORRESPONDING FITTINGS, SAME AS OLD DESIGN

### TYPE P-CG-115 CORD PLUG COMBINATION STEEL & ZINC (With Socket Insert)

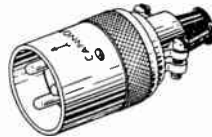


This new type plug with steel shell and integral zinc clamp is  $\frac{1}{8}$ " shorter than the old type and has an overall length of  $2\frac{3}{8}$ ". The new rubber bushing allows a  $\frac{1}{8}$ " D. cable entry, and on P4, P5, P6 and P8  $\frac{1}{2}$ " D. max. cable entry. Satin chrome finish.

Poles	Capacity	Wt. Lbs.	Cat. No.	List Price
2	30-amp.	0.202	P2-CG-115	\$6.15
3	30-amp.	0.202	P3-CG-115	6.30
4	30-amp.	0.202	P4-CG-115	6.65
5	30-amp.	0.206	P5-CG-115	7.00
6	30-amp.	0.208	P6-CG-115	7.20
8	15-amp.	0.208	P8-CG-115	7.70

### TYPE P-CG-125 CORD PLUG COMBINATION STEEL & ZINC (With Pin Insert)

Similar construction and materials to the -11S, except for pin insert. New rubber bushing on P4 to P8 fittings is contained within the shell and lines the solder pot cavity. Same cable entry sizes as -11S. Satin chrome finish.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.163	P2-CG-125	\$5.00
3	30-amp.	0.159	P3-CG-125	5.15
4	30-amp.	0.159	P4-CG-125	5.30
5	30-amp.	0.163	P5-CG-125	5.40
6	30-amp.	0.167	P6-CG-125	5.65
8	15-amp.	0.163	P8-CG-125	6.00

### TYPE "P-23" STRAIGHT CORD PLUG (With Socket Insert), HEAVY DUTY



Shell is die-cast zinc for severe service, but employing all features such as the latch type locking device which is standard on "Type P." It has integral clamp for  $\frac{3}{8}$ " cable. Also made for  $\frac{1}{2}$ " &  $\frac{5}{8}$ " cable if specified. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.166	P2-23	\$8.90
3	30-amp.	0.170	P3-23	9.20
4	30-amp.	0.174	P4-23	9.65
5	30-amp.	0.178	P5-23	10.10
6	30-amp.	0.182	P6-23	10.40
8	15-amp.	0.178	P8-23	11.05

### TYPE "P-24" STRAIGHT CORD PLUG (With Pin Insert), HEAVY DUTY

Corresponds with "Type P-23" Plug (Socket Insert). Built for hard service. The skirt is of steel, body die-cast zinc. Has Integral Clamp, for  $\frac{3}{8}$ ",  $\frac{5}{8}$ " or  $\frac{1}{2}$ " cable, if specified. Satin chrome finish.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.170	P2-24	\$9.00
3	30-amp.	0.173	P3-24	9.20
4	30-amp.	0.176	P4-24	9.35
5	30-amp.	0.179	P5-24	9.55
6	30-amp.	0.182	P6-24	9.95
8	15-amp.	0.179	P8-24	10.40

### TYPE "P-CG-15" 90° CORD PLUG (With Socket Insert)



Has Split Shell and all other "Type P" features found in "Type P-15, 90° Plug" except cable connection, which is an Integral Clamp for  $\frac{1}{2}$ " or smaller cable. Made of cast aluminum alloy, finished in tin plate. New, heavier clamp.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.220	P2-CG-15	\$6.90
3	30-amp.	0.224	P3-CG-15	7.15
4	30-amp.	0.228	P4-CG-15	7.50
5	30-amp.	0.232	P5-CG-15	7.80
6	30-amp.	0.236	P6-CG-15	8.00
8	15-amp.	0.232	P8-CG-15	8.50

### TYPE "P-CG-16" 90° CORD PLUG (With Pin Insert)

Corresponds with Type P-CG-15 90° Plug. (Socket insert), having Integral Clamp for  $\frac{1}{2}$ " or smaller cable. Barrel is of steel and shell of cast aluminum alloy, tin plate finish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.195	P2-CG-16	\$6.45
3	30-amp.	0.198	P3-CG-16	6.55
4	30-amp.	0.201	P4-CG-16	6.65
5	30-amp.	0.204	P5-CG-16	6.80
6	30-amp.	0.207	P6-CG-16	7.10
8	15-amp.	0.204	P8-CG-16	7.40

### TYPE "P-17" PANEL RECEPTACLE (With Socket Insert) Surface Mounting



P-17 has Latch Locking Device and all other "Type P" features. Made of die-cast zinc. Satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points 90° apart on  $\frac{1}{8}$ " radius for four #4-40 oval head M.S. Body extends 1" in front of  $\frac{1}{8}$ " mounting flange.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.125	P2-17	\$7.70
3	30-amp.	0.129	P3-17	8.00
4	30-amp.	0.133	P4-17	8.40
5	30-amp.	0.137	P5-17	8.90
6	30-amp.	0.141	P6-17	9.20
8	15-amp.	0.137	P8-17	9.85

### TYPE "P-18" PANEL RECEPTACLE (with Pin Insert) Surface Mounting

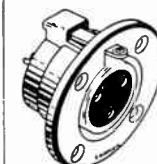
Corresponds to "Type P-17", Panel Receptacle. Shell is made of brass, satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on  $\frac{1}{8}$ " radius for four #4-40 oval head machine screws.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.156	P2-18	\$4.15
3	30-amp.	0.159	P3-18	4.35
4	30-amp.	0.162	P4-18	4.50
5	30-amp.	0.165	P5-18	4.70
6	30-amp.	0.168	P6-18	5.05
8	15-amp.	0.165	P8-18	5.55

### TYPE "P-13" PANEL RECEPTACLE (with Socket Insert) Flush Mounting

Has Latch Locking Device which operates from front of panel. Made of die-cast zinc, satin chrome finish. Flange is 2" in diameter and drilled and countersunk at four points on  $\frac{1}{8}$ " radius for four #4-40 oval head machine screws.



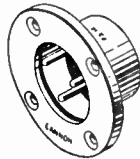
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.202	P2-13	\$5.15
3	30-amp.	0.206	P3-13	5.35
4	30-amp.	0.210	P4-13	5.65
5	30-amp.	0.214	P5-13	6.00
6	30-amp.	0.218	P6-13	6.20
8	15-amp.	0.214	P8-13	6.65



## TYPE P FITTINGS

### TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING

Flange is 2" in diameter, drilled with four .120" diameter holes to take four #4-40 oval-head mounting screws, arranged 90° apart on a radius of 1.1". Shell is die-cast zinc, satin chrome finish.



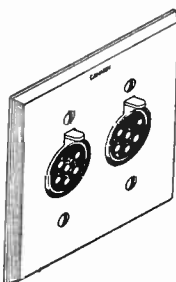
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.104	P2-14	\$2.70
3	30-amp.	0.107	P3-14	2.80
4	30-amp.	0.110	P4-14	3.00
5	30-amp.	0.113	P5-14	3.10
6	30-amp.	0.116	P6-14	3.35
8	15-amp.	0.113	P8-14	3.70



### TYPE "P-35" SINGLE GANG WALL RECEPTACLE (With Socket Insert)

Furnished with brackets for standard switch box. Shell is die-cast zinc, satin chrome finish. Plate is 4 1/2" high and 2 3/4" wide. Latch Locking Device operates from front of panel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.341	P2-35	\$8.95
3	30-amp.	0.345	P3-35	9.15
4	30-amp.	0.349	P4-35	9.45
5	30-amp.	0.353	P5-35	9.80
6	30-amp.	0.357	P6-35	10.00
8	15-amp.	0.353	P8-35	10.45



### TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Socket Inserts)

Furnished with brackets for standard switch box. Plate is 4 1/2" high and 4 3/8" wide. Both receptacles have Latch Locking Device, operated from front of panel.

Shell is die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.448	P2-35-2G	\$18.00
3	30-amp.	0.456	P3-35-2G	18.55
4	30-amp.	0.464	P4-35-2G	19.50
5	30-amp.	0.472	P5-35-2G	20.40
6	30-amp.	0.480	P6-35-2G	20.95
8	15-amp.	0.472	P8-35-2G	22.25

### MINIMUM FLASHOVER VOLTAGES ON P INSERTS

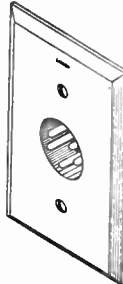
P-8 1300V—P-2 1600V—P-3 1600V

(All others more than 1600 volts.)

### TYPE "P-36" SINGLE GANG WALL RECEPTACLE

(With Pin Insert)

Plate is 4 1/2" high and 2 3/4" wide. Furnished with brackets for standard switch box. Made of die-cast zinc, satin chrome finish.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.277	P2-36	\$6.95
3	30-amp.	0.280	P3-36	7.10
4	30-amp.	0.283	P4-36	7.20
5	30-amp.	0.286	P5-36	7.40
6	30-amp.	0.289	P6-36	7.60
8	15-amp.	0.286	P8-36	7.90

### TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)

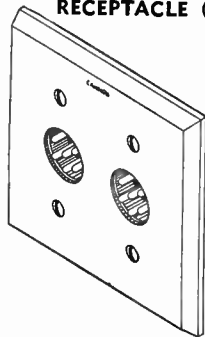
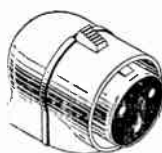


Plate is 4 1/2" high and 4 3/8" wide. Drilled to take four #6-32 oval-head mounting screws. Furnished with brackets for standard switch box. Made of die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.554	P2-36-2G	\$14.25
3	30-amp.	0.563	P3-36-2G	14.65
4	30-amp.	0.572	P4-36-2G	14.95
5	30-amp.	0.579	P5-36-2G	15.35
6	30-amp.	0.588	P6-36-2G	16.10
8	15-amp.	0.579	P8-36-2G	17.05

### TYPE "P-41" 90° MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)



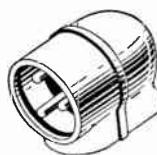
Can be mounted in equipment or instrument panel. Equipped with Latch Locking Device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.249	P2-41	\$11.55
3	30-amp.	0.253	P3-41	11.80
4	30-amp.	0.257	P4-41	12.25
5	30-amp.	0.261	P5-41	12.75
6	30-amp.	0.265	P6-41	13.05
8	15-amp.	0.261	P8-41	13.70

### TYPE "P-42" 90° MICROPHONE OR PANEL RECEPTACLE

(With Pin Insert)

For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.176	P2-42	\$8.40
3	30-amp.	0.179	P3-42	8.65
4	30-amp.	0.182	P4-42	8.80
5	30-amp.	0.185	P5-42	9.00
6	30-amp.	0.188	P6-42	9.35
8	15-amp.	0.185	P8-42	9.85

## ACCESSORY ITEMS

### DUST CAPS

Fits all "Type P" fittings with pin inserts. Made of brass, cadmium plated, with nickel silver bead chain.



Lbs.	Cat. No.	List
0.081	PPC	\$2.80
0.082	PCI*	3.30

ONE-THIRD ACTUAL SIZE

\*Type PCI is insulated inside for application where contacts are "hot."

### TYPE PRC DUST CAP

Fits all "Type P" fittings with socket inserts. Made of brass, cadmium plated with nickel silver bead chain.



Lbs.	Cat. No.	List
0.095	PRC	\$2.37

ONE-THIRD ACTUAL SIZE

## REPLACEMENT ITEMS

A number of Type P and Type O Connectors formerly catalogued have been omitted from the list. These include various Special Items. It is the policy of the company at the present time to list such items as obsolete or replacement fittings, which are available only upon special request. If, however, they are required for replacement purposes, write for Type P & O Replacement Page for listing and catalog number.

Net List

### TYPE "PCG" CLAMP GLAND NUT



Made of die-cast zinc, cadmium plated. Complete with gasket.

Wt. Lbs.	Cat. No.	List Price
0.037	PCG	\$1.45

ONE-THIRD ACTUAL SIZE

### TYPE "P" GLAND GASKET

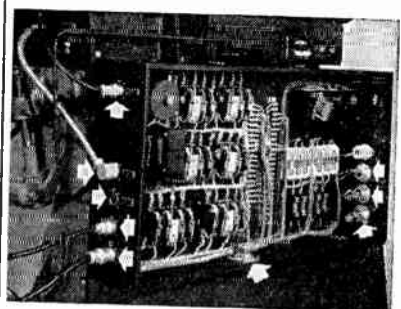


As used in Straight Glands and Clamp Glands. Made of soft white rubber.

Cat. No.	List Price
P Gasket	\$.22

ONE-THIRD ACTUAL SIZE

## APPLICATION



Type "P" CONNECTORS on Mitchell Camera Background Projector

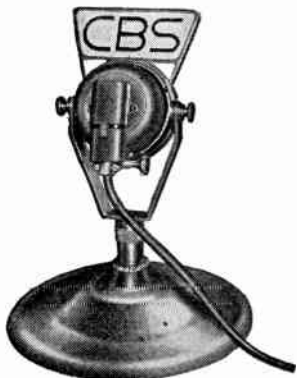




# CANNON ELECTRIC COMPANY

## TYPE O FITTINGS

CANNON "TYPE O" PLUGS AND RECEPTACLES. This series consists of a line of 3-contact oval-shaped plugs and receptacles, equipped with Latch Locking Device. Contacts are silver-



plated, full-floating, non-twisting, carry 30-amp. capacity. Solder terminals are tinned for ease of wiring. 30-amp. contacts accommodate No. 30-amp. contacts accommodate No. 10 B&S stranded wire. 2400v flashover.

### TYPE "03-42" MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)

Has flat base, with two lugs for mounting with #4-40 oval-head screws. Made of die-cast zinc, and cadmium plated.



Contact Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.271 03-42 \$8.65

### TYPE "03-41" 90° MICROPHONE OR PANEL RECEPTACLE (Socket Insert)



Flat base is flanged and is attached to microphone or panel by means of two #4-40 oval-head mounting screws. Made of die-cast zinc, cad. plated.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.274 03-41 \$8.65

### TYPE "03-11" STRAIGHT CORD PLUG (With Socket Insert)



Has Integral Clamp for  $\frac{1}{8}$ " or smaller cable. Made of die-cast zinc, cadmium plated.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.113 03-11 \$6.10

### TYPE "03-12" STRAIGHT CORD PLUG (With Pin Insert)

Corresponds with No. 03-11 "Type O" Straight Cord Plug (Socket Insert). Has integral cable clamp, for  $\frac{1}{8}$ " or smaller cable. Made of die-cast zinc, cadmium plated.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.104 03-12 \$6.10

### TYPE "03-13" FLUSH WALL RECEPTACLE (With Socket Insert)



Flange is 2" in diameter, drilled with four holes to take #4-40 oval-head mounting screws, 90° apart on a radius of  $\frac{1}{8}$ ". Made of die-cast zinc, cadmium plated. Latch Locking Device is operated from panel front.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.148 03-13 \$7.15

### TYPE "03-14" FLUSH WALL RECEPTACLE (With Pin Insert)

The flange is 2" in diameter, drilled with four holes to take #4-40 oval-head mounting screws, 90° apart, on a radius of  $\frac{1}{8}$ ". Made of die-cast zinc, cadmium plated.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 30-amp. 0.107 03-14 \$7.15

### REPLACEMENT FITTINGS

List — Any Quantity



ONE-FOURTH ACTUAL SIZE

03-35  
\$8.75 List



ONE-FOURTH ACTUAL SIZE

03-36  
\$8.75 List

## TYPE X FITTINGS

The arrow shows spring clip on full-floating socket contact which gives a positive pressure fit connection.



CANNON "TYPE X" PLUGS AND RECEPTACLES—The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily accessible. Cable glands are removable. Contacts are so positive that no latching device is needed for ordinary uses. Operating voltage X-4, 500V, X-2, X-3, 100V.

### TYPE "X-11" CORD PLUG (With Socket Insert)



Sturdily built for dependable service. Light in weight. Shell is diecast zinc, nickel finish. Will take  $\frac{1}{8}$ " to  $\frac{3}{16}$ "

cable. Used in conjunction with the following: X-14 Wall Receptacle, X-12 Straight Cord Plug, and X-42 Microphone Receptacle X-44L Receptacle.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
1 15-amp. 0.081 X-1-11 2.30  
3 15-amp. 0.083 X-3-11 2.30  
4 {3-10-amp.} 0.085 X-4-11 4.25  
4 {1-15-amp.}

### TYPE "X-12" CORD PLUG (With Pin Insert)

For use in conjunction with X-11 Straight Cord Plug (Socket Insert) or X-13 Wall Receptacle



Shell is die-cast zinc, nickel finish. Will take  $\frac{1}{8}$ " to  $\frac{3}{16}$ " cable.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
1 15-amp. 0.061 X-1-12 2.05  
3 15-amp. 0.063 X-3-12 1.65  
4 {3-10-amp.} 0.065 X-4-12 3.00  
4 {1-15-amp.}

### TYPE "X-13" WALL RECEPTACLE (With Socket Insert)



Body fits in  $\frac{7}{8}$ " hole and extends  $1\frac{1}{8}$ " behind flange. Flange is  $1\frac{1}{8}$ " in diameter and drilled for three #4-40 oval-head screws on  $\frac{1}{8}$ " radius  $120^\circ$  apart.

Shell is die-cast zinc, nickel finish. To be used in conjunction with the following X-12.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
1 15-amp. 0.081 X-1-13 2.30  
3 15-amp. 0.083 X-3-13 2.30  
4 {3-10-amp.} 0.085 X-4-13 4.25  
4 {1-15-amp.}

### TYPE "X-14" WALL RECEPTACLE (With Pin Insert)

Body fits in  $\frac{7}{8}$ " hole and extends  $\frac{3}{8}$ " behind the flange, which is  $1\frac{1}{8}$ " in diameter and drilled for three #4-40 oval-head screws on  $\frac{1}{8}$ " radius,  $120^\circ$  apart. Shell is zinc, nickel plated finish. Used in conjunction with straight cord plug (Socket Insert) X-11. Solder pots extend  $\frac{1}{4}$ " beyond rear of body.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
1 15-amp. 0.040 X-1-14 1.65  
3 15-amp. 0.042 X-3-14 1.65  
4 {3-10-amp.} 0.044 X-4-14 3.00  
4 {1-15-amp.}

### TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert)

Has all the features of "Type X" Straight Cord Plugs and Wall Receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Use with X-11 straight Cord Plug (Socket Insert) Mounting holes are .144" in diameter and 1" apart.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.063 X-3-42 1.65  
4 15-amp. 0.063 X-4-42 3.65

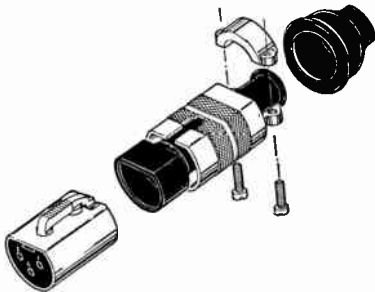


## UA FITTINGS

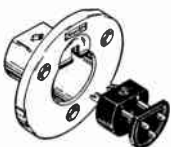
The UA Series of audio connectors designed in cooperation with the RMA Committee has all the features of Type P, O and XL and, in addition, the following: (1) gold-plated contacts for long life and "no noise" (2) double protection rubber relief collar and rubber bushings (3) flat-top polarization for finger-touch action (4) stronger and better latch lock (5) steel plug shells and insert barrel (6) spring-action insert removal — no screws.

Insulators are high dielectric, molded general-purpose Durez. 15-amp. contacts with 2400 v. minimum flash-over; for No. 14 B&S stranded wire. Max. cable entry is 1/2". Write for special UA Bulletin for complete details.

SEMI-EXPLODED VIEW UA-11

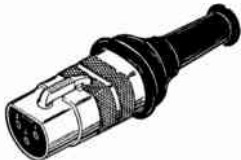


SEMI-EXPLODED VIEW UA-14



showing rubber cushion that fits over pin contacts to avoid shocks, provide protection from moisture, improve insulation factors.

TYPE UA-3-11 PLUG  
(Socket Insert)



The UA-11 plug is approximately 3 1/2" long, including rubber bushing; 1 3/16" maximum width and 1 1/32" thickness. Steel shell and barrel. Mates with UA-12, UA-32 and UA-42.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.15 UA-3-11 5.35

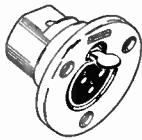
TYPE UA-3-12 PLUG  
(Pin Insert)

The UA-12 plug is approximately 3 1/4" long, including rubber relief collar. Steel shell. Mates with UA-3-11, UA-3-13, UA-3-31.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.11 UA-3-12 4.40

TYPE UA-3-13 RECEPTACLE  
(Socket Insert)



The UA-13 Receptacle has a round flange compared to the rectangular flange of the UA-31. Three mounting holes are provided. 120 dia. countersunk for #4 flat head machine screws. Mates with UA-3-12.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.14 UA-3-13 4.10

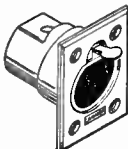
TYPE UA-3-14 RECEPTACLE  
(Pin Insert)

The UA-14 Receptacle has a similar flange construction as the UA-13. Barrel extends 23/32" behind flange with 15/64" solder pot extension. A 63/64" dia. (1") hole is required to mount. Mates with UA-3-11.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.08 UA-3-14 2.50

TYPE UA-3-31 RECEPTACLE  
(Socket Insert)



The UA-31 Receptacle has a rectangular flange construction, and extends 1 3/32" behind flange plus 3/16" max. solder pot extension and requires a 1" hole for 63/64" dia. barrel. Mates with UA-3-12.

Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.13 UA-3-31 4.10

TYPE UA-3-32 RECEPTACLE  
(Pin Insert)

The UA-3-32 Receptacle is similar to UA-31. Barrel extends 25/32" plus 15/64" max. solder pot extension behind flange, and requires a 1" hole for 63/64" dia. barrel. Mates with XL-3-11.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.07 UA-3-32 2.50

TYPE UA-3-42 RECEPTACLE  
(Pin Insert)

The UA-42 is a special mounting receptacle adaptable to microphones and other applications where it is advisable to mount receptacle parallel to the equipment, etc. Similar to XL-42 and X-42 types.



Contacts Capacity Wt. Lbs. Cat. No. List Pr.  
3 15-amp. 0.08 UA-3-42 4.95

## MISCELLANEOUS



Used on telephone recorder connectors made by Western Electric, Automatic Electric, etc.

BP-M7-21C-1/2 Plug  
(CA16881) ..... \$4.86 List  
BP-M7-32S Receptacle  
(CA4128) ..... \$1.97 List

## TELEVISION CAMERA PLUG



Used on Dumont, G.E. and other television cameras.

TV-R24C-22-7/8 Plug  
(CA17898) ..... \$24.96 List

## "300" SERIES PLUGS AND SOCKETS General Specifications

2 Contacts to 33 Contacts. All plugs and sockets are polarized.  
2 Contact Plugs and Sockets are round, others rectangular.  
Plugs of one size cannot fit into sockets of another size.  
Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.  
Molded Bakelite insulation.  
Formed metal caps. Formed fibre linings in caps  
Small size, with good separation between contacts.  
Plug or socket for panel mounting  
Plug or socket with cap.  
Simple, fool-proof assembly.  
Finish on caps—Black Crystal.  
Plug prongs— $\frac{3}{16}$ " wide by  $\frac{3}{32}$ " thick.  
Rated voltage—730 volts RMS.  
Current capacity—10 amperes.  
Contact resistance—.002 ohms average.

### Plug with Angle Brackets

No. Contacts	Ea.
P-302-AB (2)	\$.25
P-303-AB (3)	.48
P-304-AB (4)	.35
P-306-AB (6)	.43
P-308-AB (8)	.50
P-310-AB (10)	.57
P-312-AB (12)	.64

### Socket with Angle Brackets

No. Contacts	Ea.
S-302-AB (2)	\$.28
S-303-AB (3)	.33
S-304-AB (4)	.37
S-306-AB (6)	.46
S-308-AB (8)	.57
S-310-AB (10)	.68
S-312-AB (12)	.79

### Plug with Flush Plate

No. Contacts	Ea.
P-302-FP (2)	\$.44
P-303-FP (3)	.48
P-304-FP (4)	.53
P-306-FP (6)	.59
P-308-FP (8)	.67
P-310-FP (10)	.74
P-312-FP (12)	.81

### Socket with Flush Plate

No. Contacts	Ea.
S-302-FP (2)	\$.45
S-303-FP (3)	.50
S-304-FP (4)	.55
S-306-FP (6)	.63
S-308-FP (8)	.74
S-310-FP (10)	.85
S-312-FP (12)	.96

### Plug with Recessed Plate

No. Contacts	Ea.
P-302-RP (2)	\$.51
P-303-RP (3)	.56
P-304-RP (4)	.61
P-306-RP (6)	.69
P-308-RP (8)	.80
P-310-RP (10)	.87
P-312-RP (12)	1.01

### Socket with Recessed Plate

No. Contacts	Ea.
S-302-RP (2)	\$.53
S-303-RP (3)	.58
S-304-RP (4)	.63
S-306-RP (6)	.75
S-308-RP (8)	.88
S-310-RP (10)	1.01
S-312-RP (12)	1.16

### Plug, Flared Hole in Cap

No. Contacts	Ea.
P-302-FHT (2)	\$.43
P-303-FHT (3)	.47
P-304-FHT (4)	.52
P-306-FHT (6)	.59
P-308-FHT (8)	.67
P-310-FHT (10)	.76
P-312-FHT (12)	.86

### Socket, Flared Hole in Cap

No. Contacts	Ea.
S-302-FHT (2)	\$.44
S-303-FHT (3)	.48
S-304-FHT (4)	.53
S-306-FHT (6)	.63
S-308-FHT (8)	.75
S-310-FHT (10)	.87
S-312-FHT (12)	.99

### Plug, Flared Hole in Cap and with Latches

No. Contacts	Ea.
P-302-FHT-L (2)	\$.58
P-303-FHT-L (3)	.63
P-304-FHT-L (4)	.68
P-306-FHT-L (6)	.75
P-308-FHT-L (8)	.83
P-310-FHT-L (10)	.92
P-312-FHT-L (12)	1.01

### Socket, Flared Hole in Cap and with Keypers

No. Contacts	Ea.
S-302-FHT-K (2)	\$.59
S-303-FHT-K (3)	.64
S-304-FHT-K (4)	.69
S-306-FHT-K (6)	.79
S-308-FHT-K (8)	.91
S-310-FHT-K (10)	1.03
S-312-FHT-K (12)	1.16

### Plug, Cable Clamp in Cap

No. Contacts	Ea.
P-302-CCT (2)	\$.58
P-303-CCT (3)	.63
P-304-CCT (4)	.68
P-306-CCT (6)	.75
P-308-CCT (8)	.83
P-310-CCT (10)	.92
P-312-CCT (12)	1.01

### Socket, Cable Clamp in Cap

No. Contacts	Ea.
S-302-CCT (2)	\$.59
S-303-CCT (3)	.64
S-304-CCT (4)	.69
S-306-CCT (6)	.79
S-308-CCT (8)	.91
S-310-CCT (10)	1.03
S-312-CCT (12)	1.16

### Plug, Cable Clamp in Cap and with Latches

No. Contacts	Ea.
P-302-CCT-L (2)	\$.74
P-303-CCT-L (3)	.79
P-304-CCT-L (4)	.84
P-306-CCT-L (6)	.91
P-308-CCT-L (8)	.98
P-310-CCT-L (10)	1.08
P-312-CCT-L (12)	1.18

### Socket, Cable Clamp in Cap and with Keypers

No. Contacts	Ea.
S-302-CCT-K (2)	\$.75
S-303-CCT-K (3)	.80
S-304-CCT-K (4)	.85
S-306-CCT-K (6)	.95
S-308-CCT-K (8)	1.07
S-310-CCT-K (10)	1.19
S-312-CCT-K (12)	1.31

### Plug with Angle Brackets

No. Contacts	Ea.
P-315-AB (15)	\$.84
P-318-AB (18)	1.05
P-321-AB (21)	1.32
P-324-AB (24)	1.60
P-327-AB (27)	1.88
P-330-AB (30)	2.16
P-333-AB (33)	2.43

### Socket with Angle Brackets

No. Contacts	Ea.
S-315-AB (15)	\$.98
S-318-AB (18)	1.18
S-321-AB (21)	1.46
S-324-AB (24)	1.74
S-327-AB (27)	2.02
S-330-AB (30)	2.30
S-333-AB (33)	2.57

### Plug with End Brackets

No. Contacts	Ea.
P-315-EB (15)	\$.84
P-318-EB (18)	1.05
P-321-EB (21)	1.32
P-324-EB (24)	1.60
P-327-EB (27)	1.88
P-330-EB (30)	2.16
P-333-EB (33)	2.43

### Sockets with End Brackets

No. Contacts	Ea.
S-315-EB (15)	\$.98
S-318-EB (18)	1.18
S-321-EB (21)	1.46
S-324-EB (24)	1.74
S-327-EB (27)	2.02
S-330-EB (30)	2.30
S-333-EB (33)	2.57

### Plug with Shallow Brackets

No. Contacts	Ea.
P-315-SB (15)	\$1.25
P-318-SB (18)	1.54
P-321-SB (21)	1.82
P-324-SB (24)	2.16
P-327-SB (27)	2.43
P-330-SB (30)	2.78
P-333-SB (33)	3.06

### Sockets with Shallow Brackets

No. Contacts	Ea.
S-315-SB (15)	\$1.41
S-318-SB (18)	1.68
S-321-SB (21)	1.96
S-324-SB (24)	2.30
S-327-SB (27)	2.57
S-330-SB (30)	2.93
S-333-SB (33)	3.21

### Plug with Deep Bracket

No. Contacts	Ea.
P-315-DB (15)	\$1.25
P-318-DB (18)	1.54
P-321-DB (21)	1.82
P-324-DB (24)	2.16
P-327-DB (27)	2.43
P-330-DB (30)	2.78
P-333-DB (33)	3.06

### Socket with Deep Bracket

No. Contacts	Ea.
S-315-DB (15)	\$1.41
S-318-DB (18)	1.68
S-321-DB (21)	1.96
S-324-DB (24)	2.30
S-327-DB (27)	2.57
S-330-DB (30)	2.93
S-333-DB (33)	3.21

### Plug with Flared Hole in Top of Cap

No. Contacts	Ea.
P-315-FHT (15)	\$1.11
P-318-FHT (18)	1.40
P-321-FHT (21)	1.67
P-324-FHT (24)	2.02
P-327-FHT (27)	2.30
P-330-FHT (30)	2.65
P-333-FHT (33)	2.93

### Socket, Flared Hole in Top of Cap

No. Contacts	Ea.
S-315-FHT (15)	\$1.25
S-318-FHT (18)	1.54
S-321-FHT (21)	1.82
S-324-FHT (24)	2.17
S-327-FHT (27)	2.44
S-330-FHT (30)	2.79
S-333-FHT (33)	3.07

### Plug, Flared Hole in Top of Cap and with Latches

No. Contacts	Ea.
P-315-FHT-L (15)	\$1.25
P-318-FHT-L (18)	1.54
P-321-FHT-L (21)	1.82
P-324-FHT-L (24)	2.17
P-327-FHT-L (27)	2.44
P-330-FHT-L (30)	2.79
P-333-FHT-L (33)	3.07

### Socket, Flared Hole in Top of Cap and with Keypers

No. Contacts	Ea.
S-315-FHT-K (15)	\$1.41
S-318-FHT-K (18)	1.68
S-321-FHT-K (21)	1.96
S-324-FHT-K (24)	2.31
S-327-FHT-K (27)	2.59
S-330-FHT-K (30)	2.94
S-333-FHT-K (33)	3.22

### Plug, Cable Clamp in Top of Cap and with Latches

No. Contacts	Ea.
P-315-CCT (15)	\$1.32
P-318-CCT (18)	1.60
P-321-CCT (21)	1.88
P-324-CCT (24)	2.22
P-327-CCT (27)	2.51
P-330-CCT (30)	2.93
P-333-CCT (33)	3.14

### Socket, Cable Clamp in Top of Cap

No. Contacts	Ea.
S-315-CCT (15)	\$1.46
S-318-CCT (18)	1.74
S-321-CCT (21)	2.02
S-324-CCT (24)	2.38
S-327-CCT (27)	2.65
S-330-CCT (30)	3.07
S-333-CCT (33)	3.28

### Plug, Cable Clamp in Top of Cap and with Latches

No. Contacts	Ea.
P-315-CCT-L (15)	\$1.46
P-318-CCT-L (18)	1.74
P-321-CCT-L (21)	2.02
P-324-CCT-L (24)	2.38
P-327-CCT-L (27)	2.65
P-330-CCT-L (30)	3.07
P-333-CCT-L (33)	3.28

### Socket, Cable Clamp in Top of Cap and with Keypers

No. Contacts	Ea.
S-315-CCT-K (15)	\$1.61
S-318-CCT-K (18)	1.89
S-321-CCT-K (21)	2.17
S-324-CCT-K (24)	2.52
S-327-CCT-K (27)	2.79
S-330-CCT-K (30)	3.22
S-333-CCT-K (33)	3.42

## "400" SERIES PLUGS AND SOCKETS

(Formerly "Heavy Duty")

### General Specifications

2, 4, 6, 8, 10 and 12 Contacts.

All plugs and sockets are polarized.

Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.

Molded Bakelite insulation.

Fibre linings in caps.

Plug or socket for panel mounting.

Plug or socket with caps.

Finish on caps—Black Crystal.

Plug prong cross section  $\frac{1}{4}'' \times \frac{1}{8}''$ .

Locking fittings available for panel types or extension cables as shown.

Rated voltage—1100 volts RMS.

Current capacity—15 amperes.

Contact resistance—.001 ohms average.

### PLUG—Less Angle Brackets not Drilled or Tapped Unless Specified

No. Contacts	Ea.
P-402-LAB (2)	\$ .35
P-404-LAB (4)	.48
P-406-LAB (6)	.63
P-408-LAB (8)	.76
P-410-LAB (10)	.91
P-412-LAB (12)	1.05

### SOCKET—Less Angle Brackets, Not Drilled or Tapped Unless Specified

No. Contacts	Ea.
S-402-LAB (2)	\$ .43
S-404-LAB (4)	.63
S-406-LAB (6)	.84
S-408-LAB (8)	1.05
S-410-LAB (10)	1.25
S-412-LAB (12)	1.46

### PLUG—with Angle Brackets for 1/16" Panel

No. Contacts	Ea.
P-402-AB (2)	\$ .63
P-404-AB (4)	.76
P-406-AB (6)	.91
P-408-AB (8)	1.05
P-410-AB (10)	1.19
P-412-AB (12)	1.32

### SOCKET—with Angle Brackets

No. Contacts	Ea.
S-402-AB (2)	\$ .70
S-404-AB (4)	.91
S-406-AB (6)	1.11
S-408-AB (8)	1.32
S-410-AB (10)	1.54
S-412-AB (12)	1.74

### PLUG—with Shallow Brackets

No. Contacts	Ea.
P-402-SB (2)	\$ .76
P-404-SB (4)	.98
P-406-SB (6)	1.19
P-408-SB (8)	1.40
P-410-SB (10)	1.61
P-412-SB (12)	1.82

### SOCKET—with Shallow Brackets

No. Contacts	Ea.
S-402-SB (2)	\$ .84
S-404-SB (4)	1.11
S-406-SB (6)	1.40
S-408-SB (8)	1.67
S-410-SB (10)	1.95
S-412-SB (12)	2.22

### PLUG—with Deep Bracket

No. Contacts	Ea.
P-402-DB (2)	\$ .76
P-404-DB (4)	.98
P-406-DB (6)	1.19
P-408-DB (8)	1.40
P-410-DB (10)	1.61
P-412-DB (12)	1.82

### SOCKET—with Deep Brackets

No. Contacts	Ea.
S-402-DB (2)	\$ .84
S-404-DB (4)	1.11
S-406-DB (6)	1.40
S-408-DB (8)	1.67
S-410-DB (10)	1.95
S-412-DB (12)	2.22

## PLUGS

PLUG—Flared Hole in Top		PLUG—Flared Hole in End	
No. Contacts	Ea.	No. Contacts	Ea.
P-402-FHT (2)	\$ .70	P-402-FHE (2)	\$ .70
P-404-FHT (4)	.91	P-404-FHE (4)	.91
P-406-FHT (6)	1.11	P-406-FHE (6)	1.11
P-408-FHT (8)	1.32	P-408-FHE (8)	1.32
P-410-FHT (10)	1.53	P-410-FHE (10)	1.53
P-412-FHT (12)	1.73	P-412-FHE (12)	1.73

## SOCKETS

SOCKET—Flared Hole in Top		SOCKET—Flared Hole in End	
No. Contacts	Ea.	No. Contacts	Ea.
S-402-FHT (2)	\$ .77	S-402-FHE (2)	\$ .77
S-404-FHT (4)	1.06	S-404-FHE (4)	1.06
S-406-FHT (6)	1.33	S-406-FHE (6)	1.33
S-408-FHT (8)	1.61	S-408-FHE (8)	1.61
S-410-FHT (10)	1.89	S-410-FHE (10)	1.89
S-412-FHT (12)	2.17	S-412-FHE (12)	2.17

## PLUGS

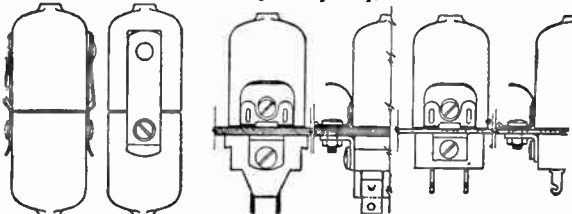
PLUG—Cable Clamp in Top		PLUG—Cable Clamp in End	
No. Contacts	Ea.	No. Contacts	Ea.
P-402-CCT (2)	\$ .98	P-402-CCE (2)	\$ .98
P-404-CCT (4)	1.19	P-404-CCE (4)	1.19
P-406-CCT (6)	1.40	P-406-CCE (6)	1.40
P-408-CCT (8)	1.60	P-408-CCE (8)	1.60
P-410-CCT (10)	1.80	P-410-CCE (10)	1.80
P-412-CCT (12)	2.01	P-412-CCE (12)	2.01

## SOCKETS

SOCKET—Cable Clamp in Top		SOCKET—Cable Clamp in End	
No. Contacts	Ea.	No. Contacts	Ea.
S-402-CCT (2)	\$ 1.06	S-402-CCE (2)	\$ 1.06
S-404-CCT (4)	1.33	S-404-CCE (4)	1.33
S-406-CCT (6)	1.61	S-406-CCE (6)	1.61
S-408-CCT (8)	1.89	S-408-CCE (8)	1.89
S-410-CCT (10)	2.17	S-410-CCE (10)	2.17
S-412-CCT (12)	2.44	S-412-CCE (12)	2.44

## LOCKS FOR 400 SERIES PLUGS AND SOCKETS

(Formerly Heavy Duty)



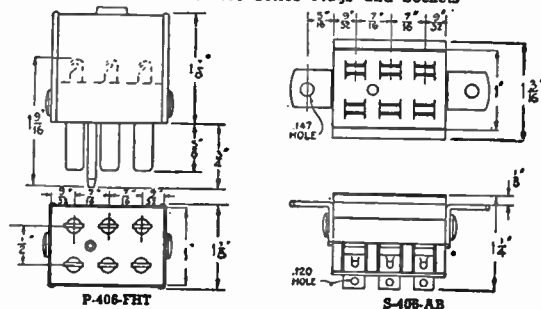
ILLUSTRATING No. 93 LOCK. May be attached to any 400 Series plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 locks."

ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top of panel. Cannot be used on type DB plugs.

No. 93 Lock when attached to plug, add to list per pair \$ .43  
No. 93 Locks ONLY per pair .43

No. 63 Locks ONLY, per pair \$ .43

### Dimensions of 400 Series Plugs and Sockets



## “500” SERIES PLUGS AND SOCKETS

For Complete Listing of 500 SERIES, Write for No. 500 Catalog

Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

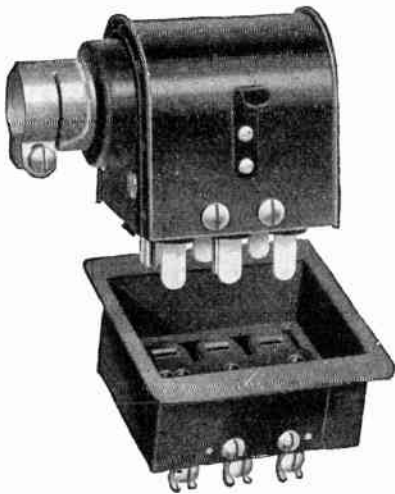
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

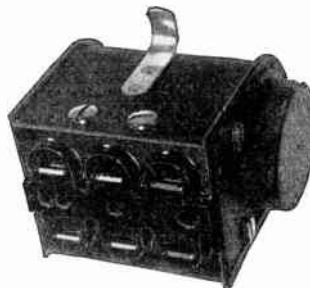
Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section  $\frac{5}{16}$ " x  $\frac{3}{32}$ ".

**IMPORTANT:** For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

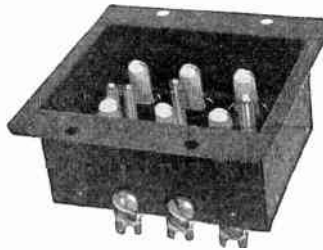
**P-506-CE**  
(Plug with Cap)  
(BX Clamp shown  
but not furnished)



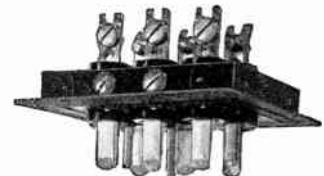
**S-506-DB**  
(Socket with Deep Bracket)



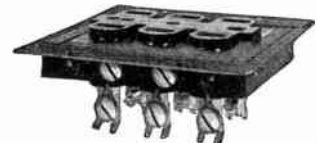
**S-506-CE**  
(Socket with Cap)



**P-506-DB**  
(Plug with Deep Bracket)



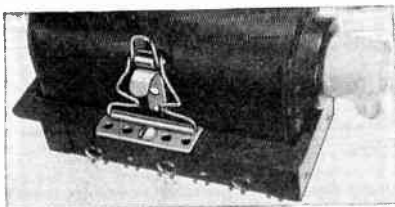
**P-506-SB**  
(Plug with Shallow Bracket)



**S-506-SB**  
(Socket with Shallow Bracket)

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from  $\frac{1}{2}$ " diameter and  $\frac{1}{4}$ " diameter in steps of  $\frac{1}{8}$ ", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.

### LOCKS FOR 500 SERIES PLUGS AND SOCKETS



Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

**No. 500-L Locks**.....Per pair \$0.99

### PLUG

With Cap

Code	Price Ea.
P-502-CE .....	\$3.03
P-504-CE .....	4.36
P-506-CE .....	5.69
P-508-CE .....	7.02
P-510-CE .....	8.35
P-512-CE .....	9.68

### PLUG

With Deep Bracket

Code	Price Ea.
P-502-DB .....	\$2.66
P-504-DB .....	3.82
P-506-DB .....	4.96
P-508-DB .....	6.12
P-510-DB .....	7.26
P-512-DB .....	8.42

### PLUG

With Shallow Bracket

Code	Price Ea.
P-502-SB .....	\$2.66
P-504-SB .....	3.82
P-506-SB .....	4.96
P-508-SB .....	6.12
P-510-SB .....	7.26
P-512-SB .....	8.42

### SOCKET

With Cap

Code	Price Ea.
S-502-CE .....	\$3.03
S-504-CE .....	4.36
S-506-CE .....	5.69
S-508-CE .....	7.02
S-510-CE .....	8.35
S-512-CE .....	9.68

### SOCKET

With Deep Bracket

Code	Price Ea.
S-502-DB .....	\$2.66
S-504-DB .....	3.82
S-506-DB .....	4.96
S-508-DB .....	6.12
S-510-DB .....	7.26
S-512-DB .....	8.42

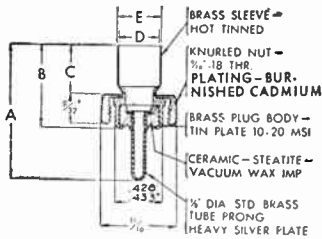
### SOCKET

With Shallow Bracket

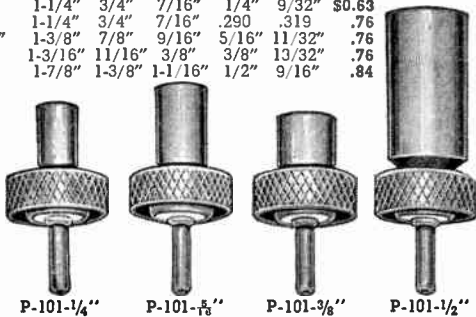
Code	Price Ea.
S-502-SB .....	\$2.66
S-504-SB .....	3.82
S-506-SB .....	4.96
S-508-SB .....	6.12
S-510-SB .....	7.26
S-512-SB .....	8.42

## SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. Assembly meets Navy Specifications. A low loss Plug and Socket ideal for high frequency connections.

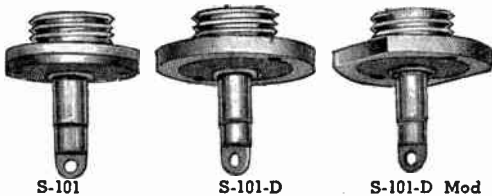


Code No.	A	B	C	D	E	Ea.
P-101-1/4"	1-1/4"	3/4"	7/16"	1/4"	9/32"	\$0.63
P-101-.290	1-1/4"	3/4"	7/16"	.290	.319	.76
P-101-5/16"	1-3/8"	7/8"	9/16"	5/16"	11/32"	.76
P-101-3/8"	1-3/8"	11/16"	3/8"	3/8"	13/32"	.76
P-101-1/2"	1-7/8"	1-3/8"	1-1/16"	1/2"	9/16"	.84



## SERIES 101 SOCKETS

The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass, Nickel Plated with Chrome Flash. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 1 1/8" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 1 3/8" centers.



Price Each—\$0.56      Price Each—\$0.84      Price Each—\$0.84

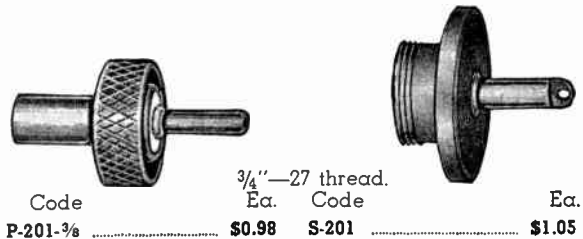
## SERIES 201

### PLUGS

The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16". Prong diameter 5/32". Fits only the 201 Socket.

### SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is nickel plated with Chrome Flash. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications. Mounting holes—No. 30 drill on 1" centers.



Code      3/4"—27 thread.      Code      Ea.

P-201-3/8" ..... \$0.98      S-201 ..... \$1.05

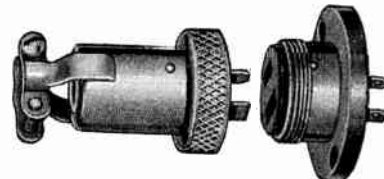
## SERIES 202

### PLUGS

### SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with burnished Cadmium Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4"—27 thread.

Socket Mounting Holes. No. 30 drill on 1" centers.



P-202-CCT—\$0.77      P-202-FHT—\$0.63      S-202-B—\$0.91  
 (as shown above)      (without Cable Clamps)

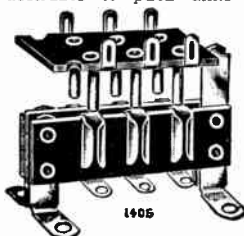
S-202-CCT—\$0.79      S-202-FHT—\$0.64      P-202-B—\$0.89

## 1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separate unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing. Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized—assures

correct coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However we can supply units having as many as 30 or more contacts.

On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.



No. 1405 (5 Contacts)	Ea. \$0.39	No. 1411 (11 Contacts)	Ea. \$0.75
No. 1406 (6 Contacts)	Ea. .45	No. 1412 (12 Contacts)	Ea. .81
No. 1407 (7 Contacts)	Ea. .51	No. 1413 (13 Contacts)	Ea. .87
No. 1408 (8 Contacts)	Ea. .57	No. 1414 (14 Contacts)	Ea. .94
No. 1409 (9 Contacts)	Ea. .63	No. 1415 (15 Contacts)	Ea. .99
No. 1410 (10 Contacts)	Ea. .69	No. 1416 (16 Contacts)	Ea. 1.06

For units with more than 16 contacts, add 7c to the No. 1416 price for each additional contact.

## BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite.

The Terminals and Binder Screws are of brass, nickel plated. Marker Strips may be ordered and imprinted to supply terminal designations. These Marker Strips mount beneath Terminal Strips and also afford insulation from metal mounting surface. See page 21 for imprinting charges. See pages 24 and 25 for dimensions.

5-40 x 1/8 Binder Head Screws

### No. 140 TERMINAL STRIPS

Metal to Metal Spacing over Bakelite 1/4"



No. 2-140



No. 2-140-W



No. 2-140-3/4 W



No. 2-140-Y

No. 140		No. 140-W	
Code	Ea.	Code	Ea.
1-140	\$.15	1-140-W	\$.19
2-140	.24	2-140-W	.32
3-140	.33	3-140-W	.44
4-140	.42	4-140-W	.57
5-140	.51	5-140-W	.69
6-140	.59	6-140-W	.83
7-140	.68	7-140-W	.95
8-140	.77	8-140-W	1.08
9-140	.86	9-140-W	1.21
10-140	.95	10-140-W	1.33
11-140	1.03	11-140-W	1.45
12-140	1.12	12-140-W	1.58
13-140	1.21	13-140-W	1.71
14-140	1.31	14-140-W	1.84
15-140	1.40	15-140-W	1.96
16-140	1.49	16-140-W	2.09
17-140	1.57	17-140-W	2.21
18-140	1.66	18-140-W	2.34
19-140	1.75	19-140-W	2.46
20-140	1.84	20-140-W	2.60
21-140	1.93	21-140-W	2.72

No. 140-3/4 W	
Code	Ea.
1-140-3/4 W	\$.19
2-140-3/4 W	.32
3-140-3/4 W	.44
4-140-3/4 W	.57
5-140-3/4 W	.69
6-140-3/4 W	.83
7-140-3/4 W	.95
8-140-3/4 W	1.08
9-140-3/4 W	1.21
10-140-3/4 W	1.33
11-140-3/4 W	1.45
12-140-3/4 W	1.58
13-140-3/4 W	1.71
14-140-3/4 W	1.84
15-140-3/4 W	1.96
16-140-3/4 W	2.09
17-140-3/4 W	2.21
18-140-3/4 W	2.34
19-140-3/4 W	2.46
20-140-3/4 W	2.60
21-140-3/4 W	2.72

### MARKER STRIPS for 140, 140-W and 140-3/4 W

The standard Marker Strips are of black fibre 1/8" thick and character designations are imprinted in white. Bakelite Marker Strips can be supplied at an increase in price, and are designated by code MSX instead of MS. Prices on application.

Code	Per 100
MS-1-140	\$ 2.48
MS-2-140	3.30
MS-3-140	4.13
MS-4-140	4.95
MS-5-140	5.78
MS-6-140	6.60
MS-7-140	7.43
MS-8-140	8.25
MS-9-140	9.08
MS-10-140	9.90
MS-11-140	10.73
MS-12-140	11.55
MS-13-140	12.38
MS-14-140	13.20
MS-15-140	14.03
MS-16-140	14.85
MS-17-140	15.68
MS-18-140	16.50
MS-19-140	17.33
MS-20-140	18.15
MS-21-140	18.98

### MARKER STRIPS for 140-Y

The standard Marker Strips are of black fibre 1/8" thick and character designations are imprinted in white. Bakelite Marker Strips can be supplied at an increase in price, and are designated by code MSX instead of MS. Prices on application.

Code	Ea.	Code	Per 100
1-140-Y	\$.19	MS-1-140-Y	\$ 5.78
2-140-Y	.32	MS-2-140-Y	6.60
3-140-Y	.44	MS-3-140-Y	7.43
4-140-Y	.57	MS-4-140-Y	8.25
5-140-Y	.69	MS-5-140-Y	9.08
6-140-Y	.83	MS-6-140-Y	9.90
7-140-Y	.95	MS-7-140-Y	10.73
8-140-Y	1.08	MS-8-140-Y	11.55
9-140-Y	1.21	MS-9-140-Y	12.38
10-140-Y	1.33	MS-10-140-Y	13.20
11-140-Y	1.45	MS-11-140-Y	14.03
12-140-Y	1.58	MS-12-140-Y	14.85
13-140-Y	1.71	MS-13-140-Y	15.68
14-140-Y	1.84	MS-14-140-Y	16.50
15-140-Y	1.96	MS-15-140-Y	17.33
16-140-Y	2.09	MS-16-140-Y	18.15
17-140-Y	2.21	MS-17-140-Y	18.98
18-140-Y	2.34	MS-18-140-Y	19.80
19-140-Y	2.46	MS-19-140-Y	20.63
20-140-Y	2.60	MS-20-140-Y	21.45
21-140-Y	2.72	MS-21-140-Y	22.28

6-32 x 1/4 Binder Head Screws

### No. 141 TERMINAL STRIPS

Metal to Metal Spacing over Bakelite 3/8"



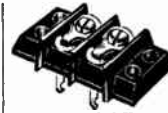
No. 2-141



No. 2-141-W



No. 2-141-3/4 W



No. 2-141-Y

No. 141		No. 141-W	
Code	Ea.	Code	Ea.
1-141	\$.20	1-141-W	\$.24
2-141	.31	2-141-W	.41
3-141	.42	3-141-W	.57
4-141	.54	4-141-W	.74
5-141	.65	5-141-W	.90
6-141	.75	6-141-W	1.07
7-141	.88	7-141-W	1.23
8-141	.99	8-141-W	1.40
9-141	1.10	9-141-W	1.56
10-141	1.22	10-141-W	1.73
11-141	1.33	11-141-W	1.89
12-141	1.44	12-141-W	2.06
13-141	1.56	13-141-W	2.22
14-141	1.67	14-141-W	2.39
15-141	1.78	15-141-W	2.55
16-141	1.90	16-141-W	2.72
17-141	2.01	17-141-W	2.88
18-141	2.12	18-141-W	3.05
19-141	2.24	19-141-W	3.21
20-141	2.35	20-141-W	3.38

No. 141-3/4 W	
Code	Ea.
1-141-3/4 W	\$.24
2-141-3/4 W	.41
3-141-3/4 W	.57
4-141-3/4 W	.74
5-141-3/4 W	.90
6-141-3/4 W	1.07
7-141-3/4 W	1.23
8-141-3/4 W	1.40
9-141-3/4 W	1.56
10-141-3/4 W	1.73
11-141-3/4 W	1.89
12-141-3/4 W	2.06
13-141-3/4 W	2.22
14-141-3/4 W	2.39
15-141-3/4 W	2.55
16-141-3/4 W	2.72
17-141-3/4 W	2.88
18-141-3/4 W	3.05
19-141-3/4 W	3.21
20-141-3/4 W	3.38

### MARKER STRIPS for 141, 141-W and 141-3/4 W

Standard Marker Strips are of black fibre 3/8" thick. See column above for designation for Bakelite Marker Strips.

Code	Per 100
MS-1-141	\$ 2.75
MS-2-141	3.85
MS-3-141	4.95
MS-4-141	6.05
MS-5-141	7.15
MS-6-141	8.25
MS-7-141	9.35
MS-8-141	10.45
MS-9-141	11.55
MS-10-141	12.65
MS-11-141	13.75
MS-12-141	14.85
MS-13-141	15.95
MS-14-141	17.05
MS-15-141	18.15
MS-16-141	19.25
MS-17-141	20.35
MS-18-141	21.45
MS-19-141	22.55
MS-20-141	23.65

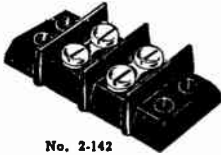
### MARKER STRIPS for 141-Y

Standard Marker Strips are of black fibre 3/8" thick. See column above for designation for Bakelite Marker Strips.

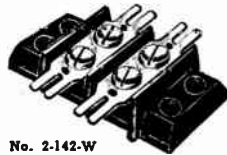
Code	Ea.	Code	Per 100
1-141-Y	\$.24	MS-1-141-Y	\$ 6.05
2-141-Y	.41	MS-2-141-Y	7.15
3-141-Y	.57	MS-3-141-Y	8.25
4-141-Y	.74	MS-4-141-Y	9.35
5-141-Y	.90	MS-5-141-Y	10.45
6-141-Y	1.07	MS-6-141-Y	11.55
7-141-Y	1.23	MS-7-141-Y	12.65
8-141-Y	1.40	MS-8-141-Y	13.75
9-141-Y	1.56	MS-9-141-Y	14.85
10-141-Y	1.73	MS-10-141-Y	15.95
11-141-Y	1.89	MS-11-141-Y	17.05
12-141-Y	2.06	MS-12-141-Y	18.15
13-141-Y	2.22	MS-13-141-Y	19.25
14-141-Y	2.39	MS-14-141-Y	20.35
15-141-Y	2.55	MS-15-141-Y	21.45
16-141-Y	2.72	MS-16-141-Y	22.55
17-141-Y	2.88	MS-17-141-Y	23.65
18-141-Y	3.05	MS-18-141-Y	24.75
19-141-Y	3.21	MS-19-141-Y	25.85
20-141-Y	3.38	MS-20-141-Y	26.95

## BARRIER TYPE TERMINAL STRIPS

8-32 x 1/8" Binder Head Screws No. 142 TERMINAL STRIPS Metal to Metal Spacing over Bakelite 1/8"



No. 2-142



No. 2-142-W



No. 2-142-3/4 W



No. 2-142-Y

No. 142		No. 142-W		No. 142-3/4 W		MARKER STRIPS for 142, 142-W, 142-3/4 W		No. 142-Y		MARKER STRIPS for 142-Y	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100	Code	Ea.	Code	Per 100
1-142	\$.23	1-142-W	\$.30	1-142-3/4 W	\$.30	MS-1-142	\$ 3.03	1-142-Y	\$.30	MS-1-142-Y	\$ 6.33
2-142	.36	2-142-W	.50	2-142-3/4 W	.50	MS-2-142	4.40	2-142-Y	.50	MS-2-142-Y	7.70
3-142	.51	3-142-W	.70	3-142-3/4 W	.70	MS-3-142	5.78	3-142-Y	.70	MS-3-142-Y	9.08
4-142	.65	4-142-W	.90	4-142-3/4 W	.90	MS-4-142	7.15	4-142-Y	.90	MS-4-142-Y	10.45
5-142	.78	5-142-W	1.11	5-142-3/4 W	1.11	MS-5-142	8.53	5-142-Y	1.11	MS-5-142-Y	11.83
6-142	.92	6-142-W	1.31	6-142-3/4 W	1.31	MS-6-142	9.90	6-142-Y	1.31	MS-6-142-Y	13.20
7-142	1.07	7-142-W	1.52	7-142-3/4 W	1.52	MS-7-142	11.28	7-142-Y	1.52	MS-7-142-Y	14.58
8-142	1.20	8-142-W	1.72	8-142-3/4 W	1.72	MS-8-142	12.65	8-142-Y	1.72	MS-8-142-Y	15.95
9-142	1.34	9-142-W	1.93	9-142-3/4 W	1.93	MS-9-142	14.03	9-142-Y	1.93	MS-9-142-Y	17.33
10-142	1.49	10-142-W	2.12	10-142-3/4 W	2.12	MS-10-142	15.40	10-142-Y	2.12	MS-10-142-Y	18.70
11-142	1.62	11-142-W	2.33	11-142-3/4 W	2.33	MS-11-142	16.78	11-142-Y	2.33	MS-11-142-Y	20.08
12-142	1.76	12-142-W	2.53	12-142-3/4 W	2.53	MS-12-142	18.15	12-142-Y	2.53	MS-12-142-Y	21.45
13-142	1.90	13-142-W	2.74	13-142-3/4 W	2.74	MS-13-142	19.53	13-142-Y	2.74	MS-13-142-Y	22.83
14-142	2.04	14-142-W	2.94	14-142-3/4 W	2.94	MS-14-142	20.90	14-142-Y	2.94	MS-14-142-Y	24.20
15-142	2.18	15-142-W	3.15	15-142-3/4 W	3.15	MS-15-142	22.28	15-142-Y	3.15	MS-15-142-Y	25.58
16-142	2.32	16-142-W	3.34	16-142-3/4 W	3.34	MS-16-142	23.65	16-142-Y	3.34	MS-16-142-Y	26.95
17-142	2.45	17-142-W	3.54	17-142-3/4 W	3.54	MS-17-142	25.03	17-142-Y	3.54	MS-17-142-Y	28.33

### No. 150 TERMINAL STRIPS

1 1/4" wide by 3/4" high. Terminals are mounted on 1/4" centers. Screws: 10-32 x 1/8" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite 5/8"

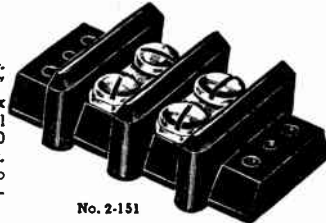


No. 2-151

No. 150		No. 150-W		No. 150-3/4 W		MARKER STRIPS for 150 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-150	\$.55	1-150-W	\$.66	1-150-3/4 W	\$.66	MS-1-150	\$ 6.60
2-150	.94	2-150-W	1.13	2-150-3/4 W	1.13	MS-2-150	8.14
3-150	1.32	3-150-W	1.60	3-150-3/4 W	1.60	MS-3-150	9.68
4-150	1.71	4-150-W	2.07	4-150-3/4 W	2.07	MS-4-150	11.22
5-150	2.09	5-150-W	2.53	5-150-3/4 W	2.53	MS-5-150	12.76
6-150	2.48	6-150-W	3.00	6-150-3/4 W	3.00	MS-6-150	14.30
7-150	2.86	7-150-W	3.46	7-150-3/4 W	3.46	MS-7-150	15.84
8-150	3.25	8-150-W	3.92	8-150-3/4 W	3.92	MS-8-150	17.38
9-150	3.63	9-150-W	4.40	9-150-3/4 W	4.40	MS-9-150	18.92
10-150	4.02	10-150-W	4.87	10-150-3/4 W	4.87	MS-10-150	20.46

### No. 151 TERMINAL STRIPS

2" wide by 1 1/4" high. Terminals are mounted on 3/8" centers. Screws: 12-32 x 3/8" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga. stranded wire. Metal to metal spacing over bakelite 3/4".



No. 2-151

No. 151		No. 151-W		No. 151-3/4 W		MARKER STRIPS for 151 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-151	\$.94	1-151-W	\$1.10	1-151-3/4 W	\$1.10	MS-1-151	\$ 6.60
2-151	1.71	2-151-W	2.04	2-151-3/4 W	2.04	MS-2-151	10.18
3-151	2.48	3-151-W	2.97	3-151-3/4 W	2.97	MS-3-151	13.43
4-151	3.25	4-151-W	3.91	4-151-3/4 W	3.91	MS-4-151	16.73
5-151	4.02	5-151-W	4.84	5-151-3/4 W	4.84	MS-5-151	20.08
6-151	4.79	6-151-W	5.78	6-151-3/4 W	5.78	MS-6-151	23.38
7-151	5.56	7-151-W	6.71	7-151-3/4 W	6.71	MS-7-151	26.68
8-151	6.33	8-151-W	7.65	8-151-3/4 W	7.65	MS-8-151	29.98

### No. 152 TERMINAL STRIPS

2 1/4" wide by 1 1/2" high. Terminals are mounted on 1 1/8" centers. Screws: 1/4"-28 x 1/2" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".



No. 2-152

No. 152		No. 152-W		No. 152-3/4 W		MARKER STRIPS for 152 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-152	\$1.27	1-152-W	\$1.49	1-152-3/4 W	\$1.49	MS-1-152	\$ 7.15
2-152	2.42	2-152-W	2.86	2-152-3/4 W	2.86	MS-2-152	12.65
3-152	3.58	3-152-W	4.24	3-152-3/4 W	4.24	MS-3-152	18.15
4-152	4.73	4-152-W	5.61	4-152-3/4 W	5.61	MS-4-152	23.65
5-152	5.89	5-152-W	6.99	5-152-3/4 W	6.99	MS-5-152	29.15
6-152	7.04	6-152-W	8.36	6-152-3/4 W	8.36	MS-6-152	34.65



Code	For use with Barrier Strip	Per 100
No. W-140	No. 140	\$3.80
No. W-141	No. 141	5.06
No. W-142	No. 142	6.33

Code	For use with Barrier Strip	Per 100
No. W-150	No. 150	\$8.86
No. W-151	No. 151	15.18
No. W-152	No. 152	22.77



Y Solder Terminal

Code	For use with Barrier Strip	Per 100
No. Y-140	No. 140	\$3.80
No. Y-141	No. 141	5.06
No. Y-142	No. 142	6.33



## FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS

**JONES FANNING STRIP**

UPTURNED ENDS HOLD TERMINAL UNDER SCREWS PRIOR TO TIGHTENING.

CLAMPS DOWN OVER INSULATION. HOLDS WIRE SECURELY.

WIRE HELD BY TERMINAL NIB AND SOLDERED FOR POSITIVE CONNECTION.

Eliminates Color Coding  
•  
Speeds up Assembly  
•  
Improves Appearance  
•  
Insures Correct Connections  
•

For Right Angle Mounting

Illustration at right shows a No. 3-162 A-R Fanning Strip connected to a No. 3-142 Barrier Strip.

**JONES FANNING STRIP wired and in position on Jones No. 141 Barrier Strip**

Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.

In many instances where there is not sufficient room for the standard Fanning Strips we can supply those listed formed for right angle mounting permitting use when Barrier mounts flush with the side of the chassis. Specify Series 160A, 161A and 162A instead of 160, 161 and 162. Prices slightly higher.



6-161-L (Cable Clamp on Left)



6-161-R (Cable Clamp on Right)

### THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on  $\frac{3}{8}$ " Bakelite,  $\frac{1}{2}$ " wide and on  $\frac{3}{8}$ " centers.

Code	Ea.	Code	Ea.
2-160-L	\$.13	2-160-R	\$.13
3-160-L	.20	3-160-R	.20
4-160-L	.25	4-160-R	.25
5-160-L	.32	5-160-R	.32
6-160-L	.39	6-160-R	.39
7-160-L	.45	7-160-R	.45
8-160-L	.51	8-160-R	.51
9-160-L	.57	9-160-R	.57
10-160-L	.64	10-160-R	.64
11-160-L	.70	11-160-R	.70
12-160-L	.76	12-160-R	.76
13-160-L	.83	13-160-R	.83
14-160-L	.89	14-160-R	.89
15-160-L	.96	15-160-R	.96
16-160-L	1.01	16-160-R	1.01
17-160-L	1.08	17-160-R	1.08
18-160-L	1.16	18-160-R	1.16
19-160-L	1.21	19-160-R	1.21
20-160-L	1.28	20-160-R	1.28
21-160-L	1.33	21-160-R	1.33

### THE 161 SERIES

The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on  $\frac{3}{8}$ " Bakelite,  $\frac{5}{8}$ " wide and on  $\frac{3}{8}$ " centers.

Code	Ea.	Code	Ea.
2-161-L	\$.14	2-161-R	\$.14
3-161-L	.21	3-161-R	.21
4-161-L	.26	4-161-R	.26
5-161-L	.33	5-161-R	.33
6-161-L	.40	6-161-R	.40
7-161-L	.46	7-161-R	.46
8-161-L	.52	8-161-R	.52
9-161-L	.58	9-161-R	.58
10-161-L	.65	10-161-R	.65
11-161-L	.72	11-161-R	.72
12-161-L	.77	12-161-R	.77
13-161-L	.84	13-161-R	.84
14-161-L	.91	14-161-R	.91
15-161-L	.97	15-161-R	.97
16-161-L	1.03	16-161-R	1.03
17-161-L	1.09	17-161-R	1.09
18-161-L	1.17	18-161-R	1.17
19-161-L	1.22	19-161-R	1.22
20-161-L	1.29	20-161-R	1.29

### THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on  $\frac{3}{8}$ " Bakelite,  $\frac{5}{8}$ " wide and on  $\frac{3}{8}$ " centers.

Code	Ea.	Code	Ea.
2-162-L	\$.17	2-162-R	\$.17
3-162-L	.23	3-162-R	.23
4-162-L	.29	4-162-R	.29
5-162-L	.35	5-162-R	.35
6-162-L	.43	6-162-R	.43
7-162-L	.48	7-162-R	.48
8-162-L	.55	8-162-R	.55
9-162-L	.61	9-162-R	.61
10-162-L	.68	10-162-R	.68
11-162-L	.74	11-162-R	.74
12-162-L	.80	12-162-R	.80
13-162-L	.86	13-162-R	.86
14-162-L	.94	14-162-R	.94
15-162-L	.99	15-162-R	.99
16-162-L	1.06	16-162-R	1.06
17-162-L	1.11	17-162-R	1.11



### CABLE CLAMPS

Cable Clamps are available for the Fanning Strips listed at the left and are furnished in 6 different sizes as listed below. Cable Clamp is of Brass Nickel Plated, with 6-32 round head Nickel Plated Brass Screws. For convenience the Cable Clamps are furnished unassembled.

#### CABLE CLAMP SIZES AVAILABLE

No.	I. D.
CC-161-4	$\frac{1}{4}$ "
CC-161-6	$\frac{3}{8}$ "
CC-161-8	$\frac{1}{2}$ "
CC-161-10	$\frac{5}{8}$ "
CC-161-12	$\frac{3}{4}$ "
CC-161-14	$\frac{7}{8}$ "

List price 12 c each.

Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.



### NO. 1 TERMINAL STRIPS

Terminal  $\frac{1}{8}$ " Round Copper, Flattened at Ends, Tin Plated  
A convenient and compact strip where solder connections are desired.

Insulation: Canvas Base Bakelite,  $\frac{1}{2}$ " wide,  $\frac{3}{8}$ " thick.  
Terminals mounted on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-1	(2 Terminals)	\$ .13	No. 6-1	(6 Terminals)	\$.19
No. 3-1	(3 Terminals)	.14	No. 7-1	(7 Terminals)	.20
No. 4-1	(4 Terminals)	.15	No. 8-1	(8 Terminals)	.21
No. 5-1	(5 Terminals)	.17	No. 9-1	(9 Terminals)	.22



### NO. 12 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Tin Plated

Similar to No. 11, except larger. Solder tab is flat, but will be bent up, if specified.

Screw: 10-32 x  $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{1}{2}$ " wide,  $\frac{3}{8}$ " thick. Terminals mounted on  $\frac{7}{8}$ " centers. Mounting holes  $\frac{7}{8}$ " from center of end terminals. Will take up to No. 9 B & S gauge wire (.114").

Code	Qty	Price	Code	Qty	Price
No. 2-12	(2 Terminals)	\$ .48	No. 6-12	(6 Terminals)	\$1.25
No. 3-12	(3 Terminals)	.67	No. 7-12	(7 Terminals)	1.45
No. 4-12	(4 Terminals)	.87	No. 8-12	(8 Terminals)	1.65
No. 5-12	(5 Terminals)	1.07	No. 9-12	(9 Terminals)	1.84



### NO. 3 TERMINAL STRIPS

Terminal  $\frac{1}{8}$ " Round Copper, Flattened at Each End, Tin Plated

Similar to No. 1, except closer spacing and furnished with hooks instead of hooks.

Insulation: Canvas base Bakelite,  $\frac{1}{2}$ " wide,  $\frac{3}{8}$ " thick.  
Terminals mounted on  $\frac{3}{8}$ " centers. Mounting holes  $\frac{3}{8}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-3	(2 Terminals)	\$ .15	No. 6-3	(6 Terminals)	\$.21
No. 3-3	(3 Terminals)	.17	No. 7-3	(7 Terminals)	.22
No. 4-3	(4 Terminals)	.19	No. 8-3	(8 Terminals)	.23
No. 5-3	(5 Terminals)	.20	No. 9-3	(9 Terminals)	.24



### NO. 16 TERMINAL STRIPS

Terminal .028" Brass, Cadmium Plated

A popular priced screw and solder terminal with many desirable features.

Screw: 6-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{3}{4}$ " wide,  $\frac{1}{2}$ " thick. Terminals spaced on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-16	(2 Terminals)	\$ .14	No. 6-16	(6 Terminals)	\$ .34
No. 3-16	(3 Terminals)	.20	No. 7-16	(7 Terminals)	.39
No. 4-16	(4 Terminals)	.24	No. 8-16	(8 Terminals)	.44
No. 5-16	(5 Terminals)	.29	No. 9-16	(9 Terminals)	.48



### NO. 6 TERMINAL STRIPS

Terminal .046" Brass, Cadmium Plated

Screw and solder terminal. Substantial and reasonably priced.

Screw: 6-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{3}{4}$ " wide,  $\frac{1}{2}$ " thick. Terminals spaced on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-6	(2 Terminals)	\$ .17	No. 6-6	(6 Terminals)	\$.36
No. 3-6	(3 Terminals)	.22	No. 7-6	(7 Terminals)	.41
No. 4-6	(4 Terminals)	.26	No. 8-6	(8 Terminals)	.46
No. 5-6	(5 Terminals)	.32	No. 9-6	(9 Terminals)	.51



### NO. 20 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Burnished Nickel Plate

Strong two screw terminal with ears to hold wire securely under screw.

Screws: 6-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{3}{4}$ " wide,  $\frac{1}{2}$ " thick. Terminals mounted on  $\frac{3}{8}$ " centers. Mounting holes  $\frac{3}{8}$ " from center of end terminals. Will take up to No. 13 B & S gauge wire (.071").

Code	Qty	Price	Code	Qty	Price
No. 2-20	(2 Terminals)	\$ .34	No. 6-20	(6 Terminals)	\$1.01
No. 3-20	(3 Terminals)	.51	No. 7-20	(7 Terminals)	1.20
No. 4-20	(4 Terminals)	.68	No. 8-20	(8 Terminals)	1.35
No. 5-20	(5 Terminals)	.85	No. 9-20	(9 Terminals)	1.53



### NO. 7 TERMINAL STRIPS

Terminal .046" Brass, Burnished Nickel Plate

A two screw insulated terminal strip that can be mounted directly on metal surface.

Screws: 6-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{7}{8}$ " wide,  $\frac{1}{2}$ " thick (total). Terminals mounted on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-7	(2 Terminals)	\$ .24	No. 6-7	(6 Terminals)	\$.68
No. 3-7	(3 Terminals)	.35	No. 7-7	(7 Terminals)	.79
No. 4-7	(4 Terminals)	.46	No. 8-7	(8 Terminals)	.89
No. 5-7	(5 Terminals)	.57	No. 9-7	(9 Terminals)	1.00



### NO. 21 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Burnished Nickel Plate

Similar to No. 20, except larger.

Screw: 8-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{1}{2}$ " wide,  $\frac{1}{2}$ " thick. Terminals mounted on  $\frac{3}{4}$ " centers. Mounting holes  $\frac{3}{4}$ " from center of end terminals. Will take up to No. 11 B & S gauge wire (.080").

Code	Qty	Price	Code	Qty	Price
No. 2-21	(2 Terminals)	\$ .48	No. 6-21	(6 Terminals)	\$1.25
No. 3-21	(3 Terminals)	.68	No. 7-21	(7 Terminals)	1.45
No. 4-21	(4 Terminals)	.87	No. 8-21	(8 Terminals)	1.65
No. 5-21	(5 Terminals)	1.07	No. 9-21	(9 Terminals)	1.84



### NO. 10 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Tin Plated

Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder terminal turned up.

Screw: 6-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{3}{4}$ " wide,  $\frac{1}{2}$ " thick. Terminals spaced on  $\frac{3}{4}$ " centers. Mounting holes  $\frac{3}{4}$ " from center of end terminals. Will take up to No. 15 B & S gauge wire (.057").

Code	Qty	Price	Code	Qty	Price
No. 2-10	(2 Terminals)	\$ .25	No. 6-10	(6 Terminals)	\$.74
No. 3-10	(3 Terminals)	.37	No. 7-10	(7 Terminals)	.86
No. 4-10	(4 Terminals)	.50	No. 8-10	(8 Terminals)	.98
No. 5-10	(5 Terminals)	.62	No. 9-10	(9 Terminals)	1.10



### NO. 22 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Burnished Nickel Plate

Similar to No. 21, except larger.

Screws: 10-32 x  $\frac{3}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{1}{4}$ " wide,  $\frac{1}{2}$ " thick. Terminals mounted on  $\frac{7}{8}$ " centers. Mounting holes  $\frac{7}{8}$ " from center of end terminals. Will take up to No. 8 B & S gauge wire (.128").

Code	Qty	Price	Code	Qty	Price
No. 2-22	(2 Terminals)	\$ .64	No. 6-22	(6 Terminals)	\$1.61
No. 3-22	(3 Terminals)	.88	No. 7-22	(7 Terminals)	1.85
No. 4-22	(4 Terminals)	1.12	No. 8-22	(8 Terminals)	2.09
No. 5-22	(5 Terminals)	1.36	No. 9-22	(9 Terminals)	2.22



### NO. 11 TERMINAL STRIPS

Terminal  $\frac{1}{16}$ " Brass, Tin Plated

Similar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.

Screws: 8-32 x  $\frac{1}{8}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{7}{8}$ " wide,  $\frac{1}{2}$ " thick. Terminals mounted on  $\frac{3}{4}$ " centers. Mounting holes  $\frac{3}{4}$ " from center of end terminals. Will take up to No. 12 B & S gauge wire (.080").

Code	Qty	Price	Code	Qty	Price
No. 2-11	(2 Terminals)	\$ .34	No. 6-11	(6 Terminals)	\$.87
No. 3-11	(3 Terminals)	.47	No. 7-11	(7 Terminals)	1.00
No. 4-11	(4 Terminals)	.61	No. 8-11	(8 Terminals)	1.13
No. 5-11	(5 Terminals)	.74	No. 9-11	(9 Terminals)	1.28



### No. 32 TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

An ideal terminal strip (solder type) for medium heavy wiring. One or more wires may be connected to this terminal.

Insulation: XX Bakelite,  $\frac{3}{4}$ " wide,  $\frac{1}{4}$ " thick. Terminals mounted on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Qty	Price	Code	Qty	Price
No. 2-32	(2 Terminals)	\$ .24	No. 6-32	(6 Terminals)	\$.68
No. 3-32	(3 Terminals)	.35	No. 7-32	(7 Terminals)	.79
No. 4-32	(4 Terminals)	.46	No. 8-32	(8 Terminals)	.89
No. 5-32	(5 Terminals)	.57	No. 9-32	(9 Terminals)	1.00



### NO. 34 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

Very substantial and neat appearing terminal. Ample length solder terminal below panel, with screw connection above.

Screw: 8-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick.

Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-34 (2 Terminals)	\$ .24	No. 6-34 (6 Terminals)	\$ .48
No. 3-34 (3 Terminals)	.31	No. 7-34 (7 Terminals)	.55
No. 4-34 (4 Terminals)	.36	No. 8-34 (8 Terminals)	.61
No. 5-34 (5 Terminals)	.43	No. 9-34 (9 Terminals)	.67



### NO. 53 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

A reliable socket type contact for many uses. Takes 3/8" prongs. May be used with No. 98 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 1/2" wide, 3/8" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-53 (2 Terminals)	\$ .21	No. 6-53 (6 Terminals)	\$ .35
No. 3-53 (3 Terminals)	.24	No. 7-53 (7 Terminals)	.39
No. 4-53 (4 Terminals)	.28	No. 8-53 (8 Terminals)	.43
No. 5-53 (5 Terminals)	.32	No. 9-53 (9 Terminals)	.46



### NO. 36A TERMINAL STRIPS

Terminal .031" Brass, Cadmium Plated

A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel. Screw: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-36A (2 Terminals)	\$ .14	No. 6-36A (6 Terminals)	\$ .34
No. 3-36A (3 Terminals)	.20	No. 7-36A (7 Terminals)	.39
No. 4-36A (4 Terminals)	.24	No. 8-36A (8 Terminals)	.44
No. 5-36A (5 Terminals)	.29	No. 9-36A (9 Terminals)	.48



### NO. 59 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

An inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection.

Insulation: XP Bakelite, 3/8" wide, 1/8" thick. Terminals mounted on 1/8" centers. Mounting holes 1/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-59 (2 Terminals)	\$ .09	No. 6-59 (6 Terminals)	\$ .23
No. 3-59 (3 Terminals)	.12	No. 7-59 (7 Terminals)	.26
No. 4-59 (4 Terminals)	.15	No. 8-59 (8 Terminals)	.31
No. 5-59 (5 Terminals)	.20	No. 9-59 (9 Terminals)	.34



### NO. 42 TERMINAL STRIPS

Terminal, Hard Brass, Cadmium Plated

Similar in construction to No. 53. Takes 1/4" prong. May be used with No. 99 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 1/2" wide, 3/8" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-42 (2 Terminals)	\$ .24	No. 6-42 (6 Terminals)	\$ .44
No. 3-42 (3 Terminals)	.29	No. 7-42 (7 Terminals)	.48
No. 4-42 (4 Terminals)	.34	No. 8-42 (8 Terminals)	.53
No. 5-42 (5 Terminals)	.39	No. 9-42 (9 Terminals)	.58



### NO. 60 TERMINAL STRIPS

Terminal .050" Brass, Cadmium Plated

Screw terminal above panel—solder terminal below. Solder tab is notched.

Screw: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick.

Terminals spaced on 1/8" centers. Mounting holes 1/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-60 (2 Terminals)	\$ .20	No. 6-60 (6 Terminals)	\$ .45
No. 3-60 (3 Terminals)	.26	No. 7-60 (7 Terminals)	.51
No. 4-60 (4 Terminals)	.33	No. 8-60 (8 Terminals)	.57
No. 5-60 (5 Terminals)	.39	No. 9-60 (9 Terminals)	.63



### NO. 43 TERMINAL STRIPS

Terminal, Hard Brass, Cadmium Plated

Same as No. 42, except that it takes 3/8" prongs. May be used with No. 100 terminal strips.

Insulation: XP Bakelite, 3/4" wide, 3/8" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-43 (2 Terminals)	\$ .31	No. 6-43 (6 Terminals)	\$ .55
No. 3-43 (3 Terminals)	.36	No. 7-43 (7 Terminals)	.61
No. 4-43 (4 Terminals)	.43	No. 8-43 (8 Terminals)	.67
No. 5-43 (5 Terminals)	.48	No. 9-43 (9 Terminals)	.73



### NO. 66-S TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

A heavy solder terminal with large oval hole for several wires.

Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-66-S (2 Terminals)	\$ .10	No. 6-66-S (6 Terminals)	\$ .24
No. 3-66-S (3 Terminals)	.13	No. 7-66-S (7 Terminals)	.28
No. 4-66-S (4 Terminals)	.17	No. 8-66-S (8 Terminals)	.32
No. 5-66-S (5 Terminals)	.21	No. 9-66-S (9 Terminals)	.35



### NO. 48 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

A low priced double solder terminal. Insulation: XP Bakelite, 1/2" wide, 1/8" thick. Terminals mounted on 1/8" centers. Mounting holes 1/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-48 (2 Terminals)	\$ .09	No. 6-48 (6 Terminals)	\$ .23
No. 3-48 (3 Terminals)	.12	No. 7-48 (7 Terminals)	.26
No. 4-48 (4 Terminals)	.15	No. 8-48 (8 Terminals)	.31
No. 5-48 (5 Terminals)	.20	No. 9-48 (9 Terminals)	.34



### NO. 66-D TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for heavy work.

Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-66-D (2 Terminals)	\$ .12	No. 6-66-D (6 Terminals)	\$ .32
No. 3-66-D (3 Terminals)	.17	No. 7-66-D (7 Terminals)	.36
No. 4-66-D (4 Terminals)	.22	No. 8-66-D (8 Terminals)	.41
No. 5-66-D (5 Terminals)	.26	No. 9-66-D (9 Terminals)	.46



### NO. 50 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

One of the most popular screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.

Screw: 8-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-50 (2 Terminals)	\$ .23	No. 6-50 (6 Terminals)	\$ .47
No. 3-50 (3 Terminals)	.29	No. 7-50 (7 Terminals)	.53
No. 4-50 (4 Terminals)	.35	No. 8-50 (8 Terminals)	.59
No. 5-50 (5 Terminals)	.41	No. 9-50 (9 Terminals)	.65



### NO. 76 TERMINAL STRIPS

Terminal .028" Brass, Cadmium Plated

Cup shaped top holds wire securely under screw. A compact and good appearing terminal.

Screw: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 3/4" wide, 1/4" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-76 (2 Terminals)	\$ .17	No. 6-76 (6 Terminals)	\$ .36
No. 3-76 (3 Terminals)	.22	No. 7-76 (7 Terminals)	.41
No. 4-76 (4 Terminals)	.26	No. 8-76 (8 Terminals)	.46
No. 5-76 (5 Terminals)	.32	No. 9-76 (9 Terminals)	.51



AG 76

AG-76

Standard Antenna-Ground strip using No. 76 terminals. Insulation:  $\frac{1}{8}$ " Bakelite,  $\frac{1}{4}$ " wide. Mounting centers  $1\frac{1}{4}$ ". Ends rounded. Letters A and G are filled in white. No. AG-76.....Ea. \$ .14



### NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated. Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. 99 or No. 100). Furnished for No. 99 prongs ( $\frac{1}{4}$ " unless otherwise specified). Insulation: XP Bakelite,  $\frac{3}{8}$ " wide,  $\frac{1}{8}$ " thick. Terminals mounted on  $\frac{1}{4}$ " centers. Mounting holes  $\frac{1}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-96 (2 Terminals)	\$ .10	No. 6-96 (6 Terminals)	\$ .24
No. 3-96 (3 Terminals)	.13	No. 7-96 (7 Terminals)	.28
No. 4-96 (4 Terminals)	.17	No. 8-96 (8 Terminals)	.32
No. 5-96 (5 Terminals)	.21	No. 9-96 (9 Terminals)	.35



### NO. 98 TERMINAL STRIPS

Terminal  $\frac{3}{32}$ " Round, Brass, Cadmium Plated

Standard tube base prong of  $\frac{3}{32}$ " diameter. To be used with No. 53 terminal strips. Insulation: XP Bakelite,  $\frac{1}{2}$ " wide,  $\frac{3}{32}$ " thick. Terminals mounted on  $\frac{3}{8}$ " centers.

Code	Ea.	Code	Ea.
No. 2-98 (2 Terminals)	\$ .09	No. 6-98 (6 Terminals)	\$ .23
No. 3-98 (3 Terminals)	.12	No. 7-98 (7 Terminals)	.26
No. 4-98 (4 Terminals)	.15	No. 8-98 (8 Terminals)	.31
No. 5-98 (5 Terminals)	.20	No. 9-98 (9 Terminals)	.34



### NO. 99 TERMINAL STRIPS

Terminal  $\frac{1}{8}$ " Round, Brass, Cadmium Plated

Similar to No. 98, except that it is  $\frac{1}{8}$ " in diameter. To be used with No. 42 terminal strips, and also with No. 96 terminal strips. Insulation: XP Bakelite,  $\frac{1}{2}$ " wide,  $\frac{3}{32}$ " thick. Terminals mounted on  $\frac{1}{2}$ " centers.

Code	Ea.	Code	Ea.
No. 2-99 (2 Terminals)	\$ .12	No. 6-99 (6 Terminals)	\$ .32
No. 3-99 (3 Terminals)	.17	No. 7-99 (7 Terminals)	.36
No. 4-99 (4 Terminals)	.22	No. 8-99 (8 Terminals)	.41
No. 5-99 (5 Terminals)	.26	No. 9-99 (9 Terminals)	.46



### NO. 100 TERMINAL STRIPS

Terminal  $\frac{5}{32}$ " Round, Brass, Cadmium Plated

Similar to No. 99, except  $\frac{5}{32}$ " in diameter. To be used with No. 43 terminal strip, and No. 96 terminal strip. Insulation: XP Bakelite,  $\frac{3}{8}$ " wide,  $\frac{3}{32}$ " thick. Terminals mounted on  $\frac{3}{8}$ " centers.

Code	Ea.	Code	Ea.
No. 2-100 (2 Terminals)	\$ .19	No. 6-100 (6 Terminals)	\$ .44
No. 3-100 (3 Terminals)	.25	No. 7-100 (7 Terminals)	.50
No. 4-100 (4 Terminals)	.32	No. 8-100 (8 Terminals)	.56
No. 5-100 (5 Terminals)	.37	No. 9-100 (9 Terminals)	.62



### NO. 130 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

An inexpensive terminal strip with two screw terminals. Screws:  $5-40 \times \frac{1}{4}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $\frac{3}{8}$ " wide,  $\frac{3}{8}$ " thick. Terminals mounted on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-130 (2 Terminals)	\$ .19	No. 6-130 (6 Terminals)	\$ .57
No. 3-130 (3 Terminals)	.28	No. 7-130 (7 Terminals)	.67
No. 4-130 (4 Terminals)	.37	No. 8-130 (8 Terminals)	.76
No. 5-130 (5 Terminals)	.47	No. 9-130 (9 Terminals)	.86



### NO. 131 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 130, except larger. Screws:  $6-32 \times \frac{1}{4}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide,  $\frac{3}{8}$ " thick. Terminals mounted on  $\frac{3}{4}$ " centers. Mounting holes  $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-131 (2 Terminals)	\$ .23	No. 6-131 (6 Terminals)	\$ .67
No. 3-131 (3 Terminals)	.34	No. 7-131 (7 Terminals)	.77
No. 4-131 (4 Terminals)	.45	No. 8-131 (8 Terminals)	.88
No. 5-131 (5 Terminals)	.56	No. 9-131 (9 Terminals)	.99



### NO. 132 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 131, except larger. Screws:  $8-32 \times \frac{1}{2}$ " brass, binder head, burnished nickel plate. Insulation: XP Bakelite,  $1\frac{1}{2}$ " wide,  $\frac{1}{2}$ " thick. Terminals mounted on  $\frac{3}{4}$ " centers. Mounting holes  $\frac{3}{4}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 2-132 (2 Terminals)	\$ .28	No. 6-132 (6 Terminals)	\$ .76
No. 3-132 (3 Terminals)	.40	No. 7-132 (7 Terminals)	.88
No. 4-132 (4 Terminals)	.52	No. 8-132 (8 Terminals)	1.00
No. 5-132 (5 Terminals)	.64	No. 9-132 (9 Terminals)	1.12



### No. 143 TERMINAL STRIPS

Terminal .040" Brass, Tin Plated

A strong two-way solder terminal. Solder tabs lie flat. Crimps securely around edges of panel. These strips can be made up special, with terminals mounted on any centers, from  $\frac{3}{8}$ " up.

#### Special Strips

#### Standard Strips

Insulation: XP Bakelite,  $\frac{3}{8}$ " wide,  $\frac{3}{32}$ " thick. Terminals mounted on  $\frac{1}{2}$ " centers. Mounting holes  $\frac{1}{2}$ " from center of end terminals. Terminals may be numbered or lettered in white, as illustrated. (See page 18 for imprinting cost.)

Code	Ea.	Code	Ea.
No. 2-143 (2 Terminals)	\$ .12	No. 6-143 (6 Terminals)	\$ .26
No. 3-143 (3 Terminals)	.15	No. 7-143 (7 Terminals)	.31
No. 4-143 (4 Terminals)	.20	No. 8-143 (8 Terminals)	.34
No. 5-143 (5 Terminals)	.23	No. 9-143 (9 Terminals)	.37



### NO. 170 TERMINAL STRIPS

Terminal .032" Brass, Tin Plated

A heavy solder terminal. Insulation: Black molded Bakelite,  $\frac{1}{2}$ " wide,  $\frac{1}{4}$ " thick. Terminals mounted on  $\frac{3}{8}$ " centers. Mounting holes are  $\frac{3}{8}$ " from center of end terminals.

Code	Ea.	Code	Ea.
No. 1-170 (1 Terminal)	\$ .20	No. 6-170 (6 Terminals)	\$ .44
No. 2-170 (2 Terminals)	.24	No. 7-170 (7 Terminals)	.48
No. 3-170 (3 Terminals)	.29	No. 8-170 (8 Terminals)	.53
No. 4-170 (4 Terminals)	.34	No. 9-170 (9 Terminals)	.58
No. 5-170 (5 Terminals)	.39	No. 10-170 (10 Terminals)	.63



### NO. 2000 TERMINAL STRIPS

Terminals .019" Brass, Tin Plated

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc. Insulation: Bakelite. Brackets: Steel, cadmium plated. Terminals spaced on  $\frac{1}{8}$ " centers.

Code	Mounting Hole Centers:	Per 100
No. 2002 (2 Terminals)	1"	\$7.74
No. 2003 (3 Terminals)	1-5/16"	8.47
No. 2004 (4 Terminals)	1-5/8"	9.20
No. 2005 (5 Terminals)	1-15/16"	9.92
No. 2006 (6 Terminals)	2-1/4"	10.65
No. 2007 (7 Terminals)	2-9/16"	11.37
No. 2008 (8 Terminals)	2-7/8"	12.10
No. 2009 (9 Terminals)	3-3/16"	12.83
No. 2010 (10 Terminals)	3-1/2"	13.55
No. 2011 (11 Terminals)	3-13/16"	14.28
No. 2012 (12 Terminals)	4-1/8"	15.00
No. 2013 (13 Terminals)	4-7/16"	15.73

# CINCH-JONES SALES ★

## CINCH SOCKETS ARE STANDARD

### MOLDED OCTAL 1-5/16" MOUNTING CENTERS



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and sturdy steel press-on type saddle with 4 ground lugs. Mounts in 1" chassis hole.

No.	Description	List Price
8AB	Black	Each \$ .15
8AM	Mica-Filled	Each .22

### MOLDED OCTAL 1 1/2" MOUNTING CENTERS



Same as 8A series molded octal above except has clinch-on type saddle with 4 ground lugs and mounts in 1 1/2" chassis hole. Available in black, mica-filled bakelite, or ceramic.

No.	Description	List Price
8EB	Black	Each \$ .15
8EM	Mica-Filled	Each .22
8EC	Ceramic	Each .51



### MOLDED LOKTAL

Steel mounting saddle with solder coated brass contacts and center guide clip with locking spring. 1 1/8" mounting centers.

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Mounts in 1" chassis hole.

No.	Description	List Price
8LB	Black	Each \$ .22
8LM	Mica-Filled	Each .29

### CHASSIS CLINCH OCTAL AND LOKTAL



Designed to save valuable chassis space. Mounted in specially punched 1" chassis holes, and are rigidly fastened by lugs sheared from the chassis. No mounting plate or ring required. Molded from high dielectric black bakelite. Solder coated brass contacts and center guide clip.

No.	Description	List Price
8CC	Octal	Each \$ .13
8CCL	Loktal	Each .18



### RING MOUNT OCTAL

Molded from high dielectric black bakelite. Solder coated brass contacts. Used extensively on test equipment, public address amplifiers and on other apparatus where sockets are exposed. Molded keyway

in side engages key in chassis hole, preventing socket from turning. Mounts in 1 1/4" chassis hole. Crimped retainer ring is furnished with these sockets.

No.	Description	List Price
8R1	For 3/8" thick chassis	Each \$ .19
8R2	For 1/2" thick chassis	Each .19



### MOLDED LOKTAL

Has same characteristics as molded loktal shown in left column, except saddle has 4 ground lugs.

No.	Description	List Price
8LB1	Black	Each \$ .22
8LM1	Mica-Filled	Each .29

### WAFER LOKTAL 1-5/16" MOUNTING CENTERS



Laminated bakelite socket. Sturdy and positive grip solder coated contacts and center guide clip with locking spring. Mounts in 1 1/8" chassis hole.

Has two .136 diameter mounting holes.

No.	List Price
8LWS	Each \$ .17



### GLASS TUBE SOCKETS

Laminated bakelite sockets with solder coated positive grip brass contacts. 1 1/2" mounting centers. .140 diameter mounting

prong tubes. Designed to fit four, five and seven prong tubes.

No.	Description	List Price
4WX	4 Prong	Each \$ .13
5WY	5 Prong	Each .13
6WZ	6 Prong	Each .14
7WU	7 Prong	Each .15
7WA	7 Prong (Large)	Each .15

### WAFER LOKTAL 1 1/2" MOUNTING CENTERS



Laminated bakelite socket. Solder coated brass contacts and center guide clip with locking spring. Mounts in 1 1/4" diameter chassis hole. Two .136

diameter mounting holes.

No.	List Price
8LWL	Each \$ .17



### WAFER OCTAL

Laminated bakelite sockets with solder coated brass positive grip contacts. Designed to fit all standard eight prong tubes. Available in 1 1/8" or 1 1/2" mounting centers. Both styles have .136 diameter mounting holes.

No.	Description	List Price
8W1	1 1/8" Mounting Centers	Each \$ .15
8W2	1 1/2" Mounting Centers	Each .15

## CINCH CAPACITOR "PLUG-IN" SOCKETS

Motion picture, telephone, airborne radio, broadcasting equipment, electric organs, and other electrical equipment need instant replacement when failures in electronic circuits occur at the capacitor connections. Cinch "Know How" has solved this problem.



SMALL

Designed for use with Mallory and Magnavox 1" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel mounting saddle has 4 ground lugs. 1 1/2" mounting centers. 3 recessed center contacts for extended

prongs of condenser and two outer contacts flush with surface for short prongs of condenser. All contacts are solder coated for fast, easy soldering.

No.	List Price
2C5	Each \$ .55



LARGE

prongs of condenser and three outer contacts flush with surface for short prongs of condenser. All contacts are solder coated.

No.	List Price
2C7	Each \$ .68

## CRYSTAL SOCKETS



### 2 PRONG 31/64" CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated beryllium copper contacts on 31/64" centers. .120" diameter recessed mounting hole. Socket body is 3/16" long, 3/16" thick, and 3/16" high. For use with FT243 type crystal.

No.	Description	List Price
2KB	Black	Each \$ .33
2KM	Mica-Filled	Each .37



### 4 PRONG

Molded from mica-filled low loss bakelite. Silver plated beryllium copper contacts on 3/16" centers. .140 diameter mounting hole recessed 3/16" from surface in 3/16" diameter hole. Socket body is 3/16" long, 3/16" wide, and 1/2" high. Designed for use with two No. FT243 type crystals.

No.	List Price
2K4	Each \$ .44



### 2 PRONG 1/2" CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated phosphor bronze contacts on 1/2" centers. No. 4-40 tap mounting hole. 1 1/2" long, 3/8" wide and 7/16" high. For No. CR-1 and CR-7 type crystals.

No.	Description	List Price
2K1B	Black	Each \$ .44
2K1M	Mica-Filled	Each .50

# CINCH-JONES SALES ★

## 7 PIN MINIATURE SOCKETS AND SHIELDS



### MOLDED SADDLE TYPE Bottom Mount

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Cadmium plated steel saddle with  $\frac{7}{8}$ " mounting centers. .093 diameter mounting holes. Solder coated positive grip brass contacts. Designed for mounting through bottom of chassis in  $\frac{5}{8}$ " diameter hole. For use with all standard seven pin miniature tubes.

No.	Description	List Price
7EB	Black	Each \$ .24
7EM	Mica-Filled	Each .31



### WAFER TYPE

#### $\frac{7}{8}$ " Mounting Centers

Laminations consists of  $\frac{1}{8}$ " top plate and  $\frac{3}{4}$ " bottom plate from high grade chocolate XP bakelite. .095 diameter mounting holes. Solder coated brass contacts. Available with or without solder center shield and ground strap.

No.	Description	List Price
7W1	With center shield & ground strap	Each \$ .23
7W2	With center shield only	Each .21
7W3	Without center shield & ground strap	Each .21
7W4	Same as 7W1 except has two (2) $\frac{1}{8}$ " Top Plates	Each .25



### TUBE SHIELD AND BASE Snap-On Type

Shield fits over and outside of retaining spring. Indentation on shield locks into ridge on base. Spring steel shield is  $1\frac{1}{32}$ " long. Base is made of hardened carbon steel supplying adequate spring retentivity on shield. Base has  $\frac{7}{8}$ " mounting centers with mounting holes that coincide with those for miniature 7 pin sockets as established by R.M.A. standards. For use with saddle type and wafer sockets with  $\frac{7}{8}$ " mounting centers illustrated on this page.

No.	List Price
7S1	Each \$ .18



### TUBE SHIELDS "J" Slot Type

Durable steel shields complete with tube securing spring. "J" slot feature designed to fit securely with Cinch shield base type sockets, such as 7X series shown in next column. Also fit and are rigidly fastened by lugs

hole and are rigidly fastened by lugs shown from the chassis. No mounting plate or ring is required.

No.	Description	List Price
7S2	$1\frac{1}{8}$ " Long	Each \$ .18
7S3	$1\frac{3}{4}$ " Long	Each .19
7S4	$2\frac{1}{4}$ " Long	Each .28



### SHIELD BASES FOR ABOVE SHIELDS

Durable steel shield bases designed for use with "J" slot type shields illustrated above. Available in two sizes:  $\frac{7}{8}$ " high or  $\frac{3}{4}$ " high. Both types have  $\frac{7}{8}$ " mounting centers.

No.	Description	List Price
7SB	$\frac{7}{8}$ " High	Each \$ .12
7SB1	$\frac{3}{4}$ " High	Each .19



### MOLDED SADDLE TYPE Top Mount

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. Cadmium plated steel saddle with  $\frac{7}{8}$ " mounting centers and .093 diameter mounting holes. Solder coated brass contacts. Designed for mounting through top of chassis in  $\frac{5}{8}$ " diameter hole. Will securely hold all standard seven pin miniature tubes.

No.	Description	List Price
7AB	Black	Each \$ .24
7AM	Mica-Filled	Each .31
7AC	Ceramic	Each .35



### RING MOUNT TYPE

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and center shield. Mounts in  $\frac{5}{8}$ " diameter round or "D" shaped hole. Complete with retainer ring.

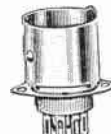
No.	Description	List Price
7RB	Black	Each \$ .23
7RM	Mica-Filled	Each .30



### CHASSIS CLINCH TYPE

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed to save valuable chassis space. Mounted in specially punched  $\frac{5}{8}$ " chassis hole and are rigidly fastened by lugs shown from the chassis. No mounting plate or ring is required.

No.	Description	List Price
7CCB	Black	Each \$ .21
7CCM	Mica-Filled Bakelite	Each .26



### SHIELD BASE TYPE

Shield base is attached to socket body for mounting through top of chassis. Molded from high dielectric black bakelite, mica-filled low loss bakelite or ceramic material. Solder coated brass contacts and center shield. Cadmium plated steel shield base with  $\frac{7}{8}$ " mounting centers. Use No. 7S2, 7S3, or 7S4 shields illustrated to left with these sockets.

No.	Description	List Price
7XB	Black	Each \$ .44
7XM	Mica-Filled Bakelite	Each .50
7XC	Ceramic	Each .72



### WAFER TYPE with

#### 1" & 1-5/16" Mtg. Centers

Newly developed 7 pin miniatures to replace octal sockets for auto radios, television, and other sets. Newly designed contacts will hold tube firmly in place without using a tube shield despite constant vibration. Same pin circle as standard 7 pin miniature sockets with  $\frac{7}{8}$ " mounting centers for all standard 7 pin miniature tubes. Available with or without center guide pin and ground strap.

### 1" Mounting Centers

No.	Description	List Price
7WL1	With center pin and ground strap	Each \$ .19
7WL2	With center pin only	Each .18
7WL3	Without center pin or ground strap	Each .17

### 1-5/16" Mounting Centers

No.	Description	List Price
7WL4	With center pin	Each .19
7WL5	Without center pin	Each .18

## 9 PIN MINIATURE SOCKETS AND SHIELDS

### MOLDED — SADDLE TYPE Bottom Mount



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through bottom of chassis in  $\frac{3}{4}$ " diameter hole.  $1\frac{1}{8}$ " mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

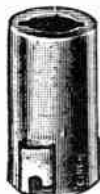
No.	Description	List Price
9EB	Black	Each \$ .36
9EM	Mica-Filled Bakelite	Each .42



### SHIELD BASE

Durable steel shield base designed for use with shields illustrated to right.  $1\frac{1}{8}$ " mounting centers. May be used with any 9 pin wafer or saddle type sockets shown in right column.

No.	List Price
9SB	Each \$ .24



### TUBE SHIELDS

Made from durable steel. Complete with tube securing spring. "J" slot feature designed to fit securely with Cinch 9X series shield base type sockets illustrated to the right. Will also fit No. 9SB shield base shown at left. Available in three lengths.

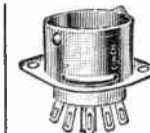
No.	Description	List Price
9S1	$1\frac{1}{2}$ " Long	Each \$ .29
9S2	$1\frac{1}{8}$ " Long	Each .31
9S3	$2\frac{3}{8}$ " Long	Each .40



### MOLDED—SADDLE TYPE Top Mount

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through top of chassis in  $\frac{3}{4}$ " diameter hole.  $1\frac{1}{8}$ " mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

No.	Description	List Price
9AB	Black	Each \$ .36
9AM	Mica-Filled	Each .42



### SHIELD BASE TYPE

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. One-piece cadmium plated steel shield base and saddle with .093 diameter mounting holes on  $1\frac{1}{8}$ " centers. Solder coated brass contacts and center shield. Mounts through top of chassis in  $\frac{3}{4}$ " diameter hole. Use Cinch 9S type shields with these sockets.

No.	Description	List Price
9XB	Black	Each \$ .63
9XM	Mica	Each .68
9XC	Ceramic	Each .96



### WAFER TYPE

Has two laminations consisting of  $\frac{1}{8}$ " top plate and  $\frac{3}{4}$ " bottom plate made from  $1\frac{1}{8}$ " mounting centers with .093 diameter holes. Solder coated brass contacts and center shield.

No.	List Price
3W	Each \$ .33

# CINCH-JONES SALES ★

## CINCH SOCKETS ARE STANDARD FOR TELEVISION!

Television is growing by leaps and bounds. To meet the increasing demand Cinch "Know How" has engineered and perfected Magnal, Duodecal, and Diheptal sockets for cathode ray and television tubes. Other television products illustrated on this page include second anode connectors and Corona insulating shields.



### MAGNAL—11 PRONG

Molded from mica-filled low loss bakelite. Socket is 1 3/8" wide and 1 1/4" high. Full floating silver plated beryllium copper contacts designed to insure easy insertion of tubes and yet provided excellent electrical connections. For use with 5BP1 and 2AP1 type cathode ray tubes.

No.	Description	List Price
3M11	Mica Socket	Each \$6.60
3R11	Steel Mounting Ring	Each .46



### DUODECAL—12 PRONG

No larger in diameter than the tube base and only slightly longer than the tube pin. A new feature incorporates wire strain relief as an integral part of the contact. Molded from high dielectric black bakelite. For use with 10BP4, 2BP1, 5TP4, etc., type tubes.

No.	List Price
3B12	Each \$ .88



### DIHEPTAL 14 PRONG

Molded from high dielectric black bakelite or mica-filled low loss bakelite. 2 3/8" wide and 1 1/8" high. Possesses same features as Cinch Magnal socket shown above.

No.	Description	List Price
3B14	Black Socket	Each \$2.20
3M14	Mica Socket	Each 2.75
3R14	Steel Mounting Ring	Each .46



### SECOND ANODE CONNECTORS

For television tubes—Silver plated snap button type plug well insulated by 1 1/2" diameter rubber protective cap. Snaps into opening on side of tube. Available in three lengths wire leads.

No.	Description	List Price
3A2	12" Wire Lead	Each \$ .99
3A3	15" Wire Lead	Each 1.16
3A4	18" Wire Lead	Each 1.38



### CORONA SHIELDS

Specifically designed for Television and high voltage wiring. These cadmium plated brass shields will provide excellent protection at proper positions in electrical connections. Outside diameter .470. Hole diameter .136. Thickness .172.

No.	List Price
3C1	Per C \$3.03



### SECOND ANODE CONNECTOR

For diheptal based tubes. Cadmium plated brass contact surrounded by rubber insulator 3/4" wide and 1 3/8" long. Snaps over .096 diameter prong on side of diheptal tubes.

No.	List Price
3A1	Each \$ .83



### 110-250 VOLT SOCKET (Underwriters Listed)

When space is at a premium use this 110-250 volt 2 prong socket. Rated at 15 Amp., 110 V. or 10 Amp., 250 V. Molded from high dielectric black bakelite. Solder coated brass contacts on 1/2" centers designed to accept any 2 prong standard electric plug. Mounts in 2 3/8" x 3/8" hole. .144 diameter mounting holes on 1 1/8" centers. Ideal for radio chassis and many other applications.

No.	List Price
2R2	Each \$ .22



### SUB-MINIATURE HEARING AID SOCKETS

Used extensively for hearing aids, radio controlled model airplanes and numerous other applications which require sub-miniature tubes. Molded from mica-filled low loss bakelite with silver plated beryllium copper contacts. For Raytheon type CK series sub-miniature tubes. Available with 5, 6, or 7 contacts. Four prong tubes use No. 2H5 five prong socket.

No.	Description	List Price
2H5	5 Prong	Each \$ .41
2H6	6 Prong	Each .43
2H7	7 Prong	Each .45

## CONNECTOR PLUGS AND SOCKETS



18G



6K2



5K2



18E



Assembled

These low cost plugs and sockets are ideal for a multitude of applications. A "Cinch" where space is at a premium. Complete assembly of plug, socket, male and female shell will close to a compact unit of 1 1/2" long. Polarized—Nickel plated brass tube pins—Solder coated brass contacts. Plugs, sockets and shells have lock feature which prevents turning in shells.

#### PLUGS

Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
5K2	2	6K2	18E	.08 ea.
5K3	3	6K3	18E	.09 ea.
5K4	4	6K4	18E	.10 ea.
5K5	5	6K5	18E	.11 ea.
5K6	6	6K6	18F	.13 ea.

#### SOCKETS

Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
6K2	2	5K2	18G	.07 ea.
6K3	3	5K3	18G	.08 ea.
6K4	4	5K4	18G	.09 ea.
6K5	5	5K5	18G	.10 ea.
6K6	6	5K6	18H	.11 ea.

# CINCH-JONES SALES ★

## CINCH BATTERY PLUGS

Cinch manufactures a complete line of dependable plugs to fit all types of batteries. Made with nickel plated brass tube pins mounted on high grade chocolate bakelite. The chart below indicates the correct plug for most popular batteries. In addition to the battery plugs illustrated in this catalogue, Cinch manufactures a complete line of wafer plugs for radio chassis, speakers, and numerous other electrical applications. Send us a sample or sketch of the plug you may require.



SAB1



SA1



SA2



SA3



SA4



SA5



SB1



SB2



6K4



SM



SF



SMFA



SC1



SC2

THIS REFERENCE CHART WILL ASSIST YOU IN SELECTING THE CORRECT PLUG FOR POPULAR BATTERIES

Part Number	Voltage	For Burgess No.	For Eveready No.	For R.C.A. No.	For Philco No.	For Ray-O-Vac No.	List Price
SA1	1½ "A"	4F, 4FL, 6F, 8F, 8FL, TE	741, 742, 743, 1052P	VS004, VS005, VS007, VS008	P94, P96, P8F1	P94A, P94L, PX, P96A, P98A, P98L	Ea. \$ .08
SA2	3 "A"	20F2	X125	VS025	P8024	P9403	Ea. .07
SA3	4½ "A"	G-3	746	VS002	P100	P-83A	Ea. .06
SA4	6 "A"	2F4, 2F4L, F4PL, T5	A509, 718, 744, 747	VS009, VS010, VS011	P4F4R	P684A, P696L, P698A, P698L	Ea. .06
SA5	7½ "A"	G-5	687	VS003		P85A	Ea. .08
SB1	45 "B" Small	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .07
SB2	45 "B" Large	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .08
SM	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Per C 4.40
SF	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Per C 5.50
SMFA	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .30
SC1	4½ "C"	2370PI	X771	VS030	P3D	P231W	Ea. .10
SC2	22½ "C"	5156PI	768	VS031	P15B5	P5151	Ea. .11
SAB1	1½ "A"-90 "B"	17GD60, 5DA60, 6TA60	758	VS022, VS043	P60D11L	AB82, 10793	Ea. .10
6K4	9 "A"-90 "B"	G6B60	752	VS047			Ea. .09
SAB2	1½ "A"-63-90 "B"	6FA60, 4GA41, 4GA42		VS037	P60A-4L, P41A4G	AB419	Ea. .08
SAB3	6 "A"-90 "B"	2FA60		VS044	P60A8F4	AB694	Ea. .09
SAB4	6 "A"-90 "B"	F4B60		VS048			Ea. .13
SAB5	6 "A"-90 "B"	D4A60, 2F4B60, F4A41		VS046	P41AFL	10896, AB648	Ea. .10
SAB6	7½ "A"-90 "B"	G5A42, F5A60		VS038	P87, P841	AB794	Ea. .11
SAB7	9 "A"-90 "B"	F6A60, G6M60	753, 754	VS018, VS019	P841A	AB878, AB994	Ea. .13
SAB8	9 "A"-90 "B"	4FA60					Ea. .11

### LAMINATED SOCKETS

Cinch also manufactures a complete line of wafer sockets, round or rectangular, for a variety of applications; for batteries, speakers, and various other radio connections. Let us know your requirements.



## PLUG CAPS AND SHELLS

For above Battery Plugs and for Connector Plugs and Sockets on page T-34.



No. 18A

Cadmium plated brass shell with rolled edge on 1/8" diameter neck opening. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. Designed for use with Cinch No. SA1, SB1, SA2, and SA3 type battery plugs.

List Price  
Each \$ .03



No. 18C

Brass shell with black nickel finish. 1/4" hole on top. Complete with fibre insulator. For use with Cinch No. SAB1, SAB5, SB2, SA2, and SA5 type battery plugs.

List Price  
Each \$ .06

No. 18D

Part No. 18D same as 18C except has 1/2" diameter hole drilled between center hole and outside edge.

List Price  
Each \$ .07



No. 5C2

Cadmium plated brass shells complete with fibre insulator. Available with 3/8" or 1/2" diameter hole with rolled edge. Inside diameter 1/2" high. For use with Cinch No. SC1, SC2, SAB6, SAB7, SAB8, SK2, SK3, SK4, SK5, and SK6 type plugs.

List Price  
Each \$ .08

No. 18E

3/8" Diameter Hole

No. 18F

1/2" Diameter Hole

List Price  
Each \$ .11



No. 18G

Cadmium plated steel shells complete with fibre insulator. Available with 3/8" or 1/2" diameter hole with rolled edge. Inside diameter 1/2", 3/8" high. For use with Cinch No. 6K2, 6K3, 6K4, 6K5, and 6K6 type sockets.

List Price  
Each \$ .07

3/8" Diameter Hole

1/2" Diameter Hole



No. 5B1

No. 5B2

No. 5B3

Cadmium plated brass shell with 3/4" diameter opening on top of shell. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. 1/2" high. Designed for use with Cinch No. SA1, SAB5, SB2, and SAB3 type battery plugs.

List Price  
Each \$ .04



No. 18J

Cadmium plated brass shell complete with fibre insulator. Same as Cinch No. 18B shell except has 1/2" neck with 3/8" hole riveted to base. For use with same plugs as No. 18B.

List Price  
Each \$ .11



# CINCH-JONES SALES ★

## PIN PLUGS — JACKS — CONNECTORS — STRIPS — TERMINALS



### PHONO PLUGS

R.C.A. type. For a multitude of applications: record players, auto radios, receivers, recording and reproducing equipment, experimental units, etc. Nickel plated  $\frac{1}{8}$ " diameter tube pin. Available in two lengths:  $\frac{3}{8}$ " and  $\frac{1}{2}$ ". Use No. 13A with type 81A and 81B phono jacks. Use No. 13E with type 81E extension jack.

No.	Description	List Price
13A	$\frac{3}{8}$ " Pin	Each \$ .09
13E	$\frac{1}{2}$ " Pin	Each .09



### ANTENNA PLUG

Motorola type. Nickel plated  $\frac{1}{8}$ " tube pin extends  $\frac{3}{4}$ " from cadmium plated split brass shell whose 8 cutting edges provide positive grounded connection when inserted into a Cinch No. 81C or 81F connector.

No.	List Price
13B	Each \$ .13



### INSULATED PIN PLUG

Nickel plated  $\frac{1}{8}$ " brass tube pin  $\frac{1}{8}$ " long, assembled to  $\frac{1}{4}$ " long fibre insulator. May be used with Cinch No. 81A and 81B type phono jacks or with No. 49 series contact strips illustrated in right column.

No.	List Price
13C	Each \$ .10



### STAND-OFF TERMINALS

Insulated terminals for television and other high voltage electronic equipment. Provides excellent insulation for passing high voltages with through chassis. Molded from mica-filled low loss bakelite. Available in two lengths:  $\frac{3}{32}$ " or  $\frac{1}{8}$ ". Diameter of cylinder is  $\frac{1}{16}$ ". Mounts in  $\frac{3}{32}$ " dia. hole. Actual size illustration of No. 16L.

No.	Description	List Price
16S	$\frac{3}{32}$ "	Each \$ .83
16L	$\frac{1}{8}$ "	Each .83

### SHIELDED EXTENSION JACK



Cadmium plated brass shell  $2\frac{1}{8}$ " long with black bakelite insert providing insulation for solder coated brass positive grip contact. Use Cinch No. 13E Phono plug with this jack.

No.	List Price
81E	Each \$ .28



### DOUBLE PHONO JACK

Two positive grip phono jacks mounted on  $\frac{1}{8}$ " bakelite panel with  $1\frac{1}{8}$ " mounting centers. Jacks are spaced on  $\frac{1}{2}$ " centers. Panel is  $1\frac{1}{2}$ " x  $\frac{1}{2}$ ". Used on recording units, receivers, etc. Use Cinch No. 13A phono plug with this jack.

No.	List Price
81B	Each \$ .18



### SINGLE PHONO JACK

Precision engineered for many uses, such as: R.C.A. type recording units, receivers, and auto sets. Single prong positive grip phono jack mounted on  $\frac{1}{8}$ " chocolate bakelite disc with  $\frac{1}{8}$ " mounting centers Use Cinch No. 13A phono plug with this jack.

No.	List Price
81A	Each \$ .13

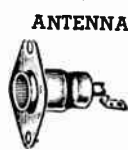
### ANTENNA CONNECTOR



#### Shell Type

Same as No. 81F on right except without flange. This connector may be soldered in position. Use Cinch No. 13B antenna plug with this jack.

No.	List Price
81C	Each \$ .13



### ANTENNA CONNECTOR

#### Flange Type

Motorola type shielded jack. Sturdy steel flange with  $\frac{1}{8}$ " mtg. centers with  $\frac{1}{16}$ " dia. mtg. holes. Solder coated shell, flange and contact. Can be mounted with screws or rivets. Used extensively on auto radios. Use Cinch No. 13B antenna plug with this jack.

No.	List Price
81F	Each \$ .20



### ADAPTER SHELL

Converts Motorola pin plug to Delco bayonet type receptacle. Cadmium plated brass shell  $1\frac{1}{8}$ " long. Use with No. 13B Antenna plug.

No.	List Price
81K	Each \$ .15

### SCREW TYPE TERMINAL STRIPS



Ideal for chassis or breadboard layouts. Solder coated brass terminals.  $\frac{1}{16}$ " diameter mounting holes. Strips with 1 to 6 lugs are of  $\frac{1}{8}$ " bakelite; 7 to 10 terminals mounted on  $\frac{3}{8}$ " bakelite. Ends of screws are captivated to prevent removal. Terminals are spaced on  $\frac{1}{8}$ " centers.

No.	Lugs	Mounting Centers	List Price
17-1	1	$\frac{7}{8}$ "	Each \$ .06
17-2	2	$1\frac{1}{8}$ "	Each .09
17-3	3	$1\frac{3}{4}$ "	Each .13
17-4	4	$2\frac{1}{8}$ "	Each .17
17-5	5	$2\frac{5}{8}$ "	Each .20
17-6	6	$3\frac{1}{8}$ "	Each .24
17-7	7	$3\frac{1}{2}$ "	Each .30
17-8	8	$3\frac{3}{4}$ "	Each .34
17-9	9	$4\frac{1}{8}$ "	Each .39
17-10	10	$4\frac{1}{2}$ "	Each .43

### LUG TYPE TERMINAL STRIPS

These bakelite strips are handy for neatly supporting resistors, condensers, etc., in circuit wiring. Solder coated brass lugs are spaced on  $\frac{3}{8}$ " centers with  $\frac{1}{16}$ " diameter mounting holes. Chocolate bakelite strips are  $\frac{1}{16}$ " thick and  $\frac{3}{8}$ " wide.

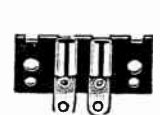
No.	Mtg. Centers	List Price
51		\$2.75 c
51A		2.86 c
51B		2.75 c
51C		2.86 c
51R		2.75 c
51L		2.75 c
51E		2.75 c
51F		3.03 c
52		3.74 c
52A		3.85 c
52B		3.74 c
52C		3.85 c
52E	$\frac{3}{4}$ "	5.17 c
52F	$\frac{3}{4}$ "	5.39 c
52R		3.74 c
52T		4.18 c
53	$1\frac{1}{2}$ "	6.27 c
53A	$1\frac{1}{2}$ "	6.49 c
53B	$\frac{3}{4}$ "	6.27 c
53C	$\frac{3}{4}$ "	6.49 c
53E		4.84 c
53F		4.95 c
53T		5.61 c
54	$1\frac{7}{8}$ "	7.49 c
54A	$1\frac{7}{8}$ "	7.70 c
54B		6.05 c
54C		6.16 c
54R		6.05 c
55	$2\frac{1}{4}$ "	8.58 c
55A	$2\frac{1}{4}$ "	8.80 c
55B	$1\frac{1}{2}$ "	8.58 c
55C	$1\frac{1}{2}$ "	8.80 c
56	$2\frac{5}{8}$ "	10.34 c
56A	$2\frac{5}{8}$ "	10.56 c
56B	$1\frac{7}{8}$ "	10.34 c
56C	$1\frac{7}{8}$ "	10.56 c



### PHONO TIP JACKS

Double and triple tip jacks for speakers, headphones, etc.  $\frac{3}{16}$ " dia. mounting holes on  $\frac{1}{8}$ " centers. Nickel plated. Brass shells are  $\frac{1}{8}$ " long. Solder coated contact  $\frac{3}{16}$ " long. Contacts for double jack are on  $\frac{7}{16}$ " centers. Triple jack contacts on  $\frac{7}{16}$ " centers. Mounted on  $\frac{1}{8}$ " chocolate XP grade bakelite.

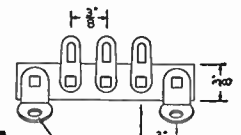
No.	Description	List Price
81D	Double	Each \$ .17
81T	Triple	Each .28



### CONTACT STRIPS

For connections which must be changed quickly and easily. Solder coated spring steel contacts spaced on  $\frac{3}{8}$ " centers and mounted on  $\frac{1}{8}$ " bakelite. Contacts are sized for  $\frac{1}{8}$ " diameter tube pins such as Cinch No. 13C illustrated in first column on this page.

No.	Con-tacts	Mounting Centers	List Price
49-1	1	$\frac{3}{4}$ "	Ea. \$ .06
49-2	2	$1\frac{1}{8}$ "	Ea. .09
49-3	3	$1\frac{1}{2}$ "	Ea. .11
49-4	4	$1\frac{7}{8}$ "	Ea. .14
49-5	5	$2\frac{1}{4}$ "	Ea. .17
49-6	6	$2\frac{5}{8}$ "	Ea. .20



# CINCH-JONES SALES ★

## RADIO HARDWARE

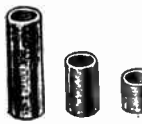
### CABLE CLAMPS



Cadmium plated sturdy steel cable clamps designed for securing cables ranging from 1/8" diameter to 5/8" diameter. Illustrations are half size.

No.	Dia. of arc	Hole Dia.	Over-all Width	Length	Hole cent. to arc	List Price
85A	1/8"	.149	3/8"	3/8"	1/4"	\$3.30 C \$28.60 M
85B	3/16"	.140	3/8"	3/8"	3/8"	2.31 C 20.35 M
85C	1/4"	.144	3/8"	3/8"	3/8"	2.09 C 16.50 M
85D	5/16"	.136	3/8"	1/2"	1/2"	1.49 C 12.65 M
85E	3/8"	.147	3/8"	3/8"	3/8"	2.86 C 25.85 M
85F	1/2"	.171	3/8"	1"	1/2"	1.54 C 13.20 M

### METAL SPACER SLEEVES



Zinc plated brass spacer sleeves. Six (6) popular sizes for spacing chassis, panels, etc. Illustrations are full size.

No.	Length	Outside Dia.	Inside Dia.	List Price
43A	3/8"	1/4"	3/16"	\$1.65 C
43B	1/2"	1/4"	3/16"	1.93 C
43C	3/8"	1/4"	3/16"	1.93 C
43D	1/2"	1/4"	3/16"	1.93 C
43E	3/4"	1/4"	3/16"	2.20 C
43F	1"	1/4"	3/16"	2.48 C

### KNOB SPRINGS



For fastening knobs to shafts. Four (4) popular sizes. Fabricated from high grade spring steel. Heat treated to retain spring retentivity.

No.	Description	List Price
83A	For 3/8" Shaft	\$ .88 C \$ 7.15 M
83B	For 1/2" Shaft	1.10 C 9.35 M
83C	For 5/8" Shaft	1.21 C 10.45 M
83D	For 3/4" Shaft	1.60 C 13.20 M

### GRID CAPS

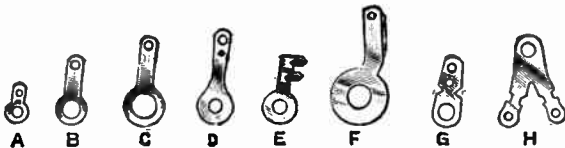
For glass or metal tubes. Made of heavy gage brass, solder coated for fast, easy soldering.



No. 60A is for 3/8" diameter tube caps. All others designed for 1/4" diameter tube caps.

No.	List Price
60A	\$1.27 C \$10.45 M
60B	1.16 C 9.35 M
60C	1.32 C 11.00 M
60D	1.27 C 10.45 M
60E	1.10 C 8.80 M

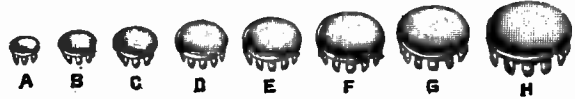
### SOLDER LUGS



Popular flat type solder lugs for a multitude of wiring applications. Eight (8) different styles. All solder coated for fast, easy soldering. Illustrations are half size.

No.	Length	Diameter Large Hole	Diameter Small Hole	List Price
14A	3/8"	.110	.078	\$ .61 C \$ 4.95 M
14B	5/8"	.165	.093	.77 C 6.60 M
14C	1"	.250	.093	.66 C 5.50 M
14D	1 1/8"	.145	.093	.83 C 7.15 M
14E	1 1/4"	.125	None	1.43 C 12.10 M
14F	1 1/2"	.260	.093	2.26 C 19.25 M
14G	1 3/4"	.140	.093	.61 C 4.95 M
14H	2"	.141	.093	1.32 C 11.00 M

### PLUG BUTTONS



Used to cover punched or drilled holes in metal, wood, fibre, tubes, plastic, cardboard, etc. Nickel plated steel plug buttons for eight popular size holes. Other sizes available, let us know your requirements. Spring tension prongs hold plug bottom firmly in position. Illustrations are 1/2 actual size.

No.	For hole Diameter	Cap Diameter	List Price
41A	1/4"	3/8"	\$2.75 C
41B	3/8"	1/2"	2.75 C
41C	1/2"	3/4"	3.03 C
41D	5/8"	1"	3.85 C
41E	3/4"	1 1/8"	3.85 C
41F	7/8"	1 3/8"	4.68 C
41G	1"	1 5/8"	6.05 C
41H	1 1/4"	1 7/8"	6.60 C

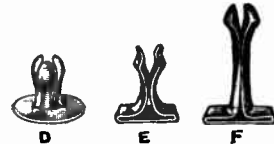
### DIAL PULLEYS



Precision engineered aluminum idler dial pulleys. Five (5) popular sizes.

No.	Outside Dia.	String Dia.	Hub Dia.	List Price
70A	3/8"	5/16"	1/8"	\$1.54 C
70B	1/2"	3/8"	1/8"	2.09 C
70C	5/8"	1/2"	1/8"	2.20 C
70D	3/4"	5/8"	3/16"	3.30 C
70E	1 1/8"	1"	3/8"	4.68 C

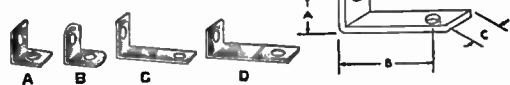
### SNAP-IN TRIMOUNTS



For holding two or more thicknesses of material firmly together. Can easily be removed a multitude of applications such as fastening dials, built-in aerals, cabinet backs, etc. Actual size illustrations of six (6) popular types.

No.	For Hole Diameter	Cap Diameter	Length	List Price
40A	.125	3/8"	1 1/2"	\$ .99 C \$ 8.25 M
40B	.136	3/8"	1 1/2"	1.21 C 9.90 M
40C	.144	3/8"	1 1/2"	1.32 C 11.00 M
40D	.171	3/8"	1 1/2"	1.54 C 13.20 M
40E	.156	3/8"	1 1/2"	1.71 C 14.30 M
40F	.125	3/8"	3/8"	1.43 C 12.10 M

### ANGLE BRACKETS



Cadmium plated brass and steel brackets for a variety of radio and other electronic applications. Illustrations are half size.

No.	"A" Dim.	"B"	"C"	"A" Hole	"B" Hole	List Price
33A	7/8"	1 1/8"	1 1/8"	.136	6-32 Tap	\$2.75 C \$23.10 M
33B	7/8"	1 1/8"	1 1/8"	.140	.140	1.65 C 13.75 M
33C	7/8"	3/4"	1/4"	.156	.140	1.32 C 11.00 M
33D	7/8"	3/4"	3/8"	.136	.187	2.09 C 17.60 M

### DIAL POINTERS

#### NEW! WIRE TYPE INDICATOR

Red enameled indicator 3 1/2" long. May be cut to any length and curved or bent to any desired position. May be inserted from front or rear and projected upward or downward. Wire may then be tightly crimped into carriage. Aluminum carriage rides easily on rail. Simply installed by hooking dial cable over extrusions on rear of carriage.

No. 11A List Price Each \$ .15

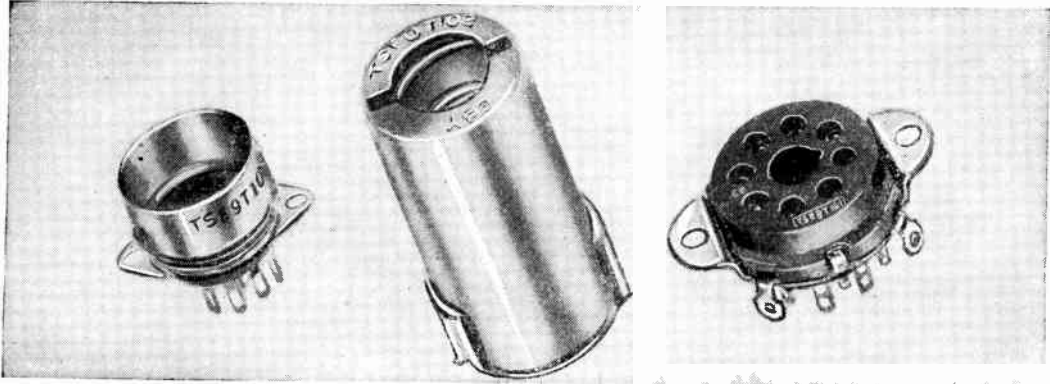
#### BROAD BAND TYPE INDICATOR

Similar to wire type indicator except has 1/4" wide aluminum band, white enameled with red center stripe. Band is 2 3/4" long and may be cut or bent as desired. Indicator band is welded to aluminum carriage which rides on dial rail. Easily installed by hooking dial cable over outside extrusions and under center extrusion on rear of carriage.

No. 11B List Price Each \$ .26

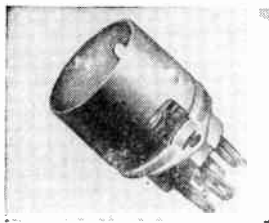


## JAN SOCKETS & SHIELDS



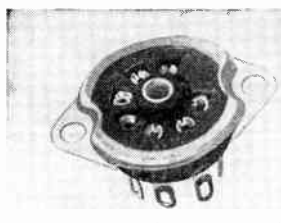
JAN NO.		EBY NO.	DESCRIPTION	LIST PRICE
S-28 A	S-28 A1			
TSE 7T 102	TS 102 C 01	9715	7 Pin Shield Base, Ceramic	\$1.05 Ea.
TSE 7T 101	TS 102 P 01	9736	7 Pin Shield Base, Mica-filled	.60 Ea.
TSE 9T 102	TS 103 C 01	9717	9 Pin Shield Base, Ceramic	1.60 Ea.
TSE 9T 101	TS 103 P 01	9718	9 Pin Shield Base, Mica-filled	.80 Ea.
TSF 0T 101	TS 102 U 01	9700	7 Pin Tube Shield—1 3/8"	.25 Ea.
TSF 0T 102	TS 102 U 02	9701	7 Pin Tube Shield—1 3/4"	.25 Ea.
TSF 0T 103	TS 102 U 03	9702	7 Pin Tube Shield—2 1/4"	.31 Ea.
TSF 0T 104	TS 103 U 01	9703	9 Pin Tube Shield—1 1/2"	.31 Ea.
TSF 0T 105	TS 103 U 02	9704	9 Pin Tube Shield—1 3/4"	.33 Ea.
TSF 0T 106	TS 103 U 03	9710	9 Pin Tube Shield—2 3/8"	.40 Ea.
TSB 8T 102	TS 101 C 01	9756	Octal, Saddle, Ceramic	1.25 Ea.
TSB 8T 101	TS 101 P 01	9753	Octal, Saddle, Mica-filled	.80 Ea.

## STANDARD MINIATURE SOCKETS & SHIELDS



**SHOCK SHIELD TYPE**

Cat. No.	Description	List each
8322	7 Pin, black bake., 7/8" M.C.	\$0.30
8329	7 Pin, mica-filled, 7/8" M.C.	.35
8328	7 Pin, ceramic, 7/8" M.C.	.55
9723	9 Pin, black bake., 1 1/8" M.C.	.45
9714	9 Pin, mica-filled, 1 1/8" M.C.	.50
9716	9 Pin, ceramic, 1 1/8" M.C.	.95



**SADDLE TYPE, TOP MOUNT**

Cat. No.	Description	List each
8323	7 Pin, black bake., 7/8" M.C.	\$0.15
8327	7 Pin, mica-filled, 7/8" M.C.	.20
8326	7 Pin, ceramic, 7/8" M.C.	.45
9001	9 Pin, black bake., 1 1/8" M.C.	.20
9430	9 Pin, mica-filled, 1 1/8" M.C.	.25
9735	9 Pin, ceramic, 1 1/8" M.C.	.75



**SADDLE TYPE, BOTTOM MOUNT**

Cat. No.	Description	List each
8578	7 Pin, black bake., 7/8" M.C.	\$0.15
9064	7 Pin, mica-filled, 7/8" M.C.	.20
9012	9 Pin, black bake., 1 1/8" M.C.	.20
9401	9 Pin, mica-filled, 1 1/8" M.C.	.25
9713	9 Pin, ceramic, 1 1/8" M.C.	.75

**SHIELDS FOR SADDLE TYPE SOCKET**

8757	Shield for 7 pin, 1 3/4" high	List Price, ea. \$0.10	8759	Shield for 9 pin 2-1/16" high	List Price, ea. \$0.15
8758	Adaptor for above	.05	8760	Adaptor for above	.05

See JAN table above for shields for shock shield type sockets.



**OCTAL SADDLE SOCKETS**

No. 9067—Black bake., cadmium plated steel saddle, 4 gnd. lugs. Cadmium plated brass contacts. 1-15/16" M.C. List, ea. \$0.14  
 No. 8451—Loctal type, same specifications as above List, ea. .17

**OCTAL ALL-MOLDED SOCKETS**

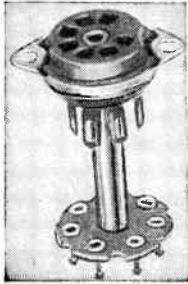
No. 8490—Black bake., cadmium plated brass contacts. 1-15/16" mounting centers. List ea. \$0.15  
 No. 8191—Loctal type, same specifications as above List, ea. .15





## TURRET SOCKETS

Widely recognized for their usefulness in simplifying wiring and sub-assembly work. Space-saving and economical, lead lengths are reduced to a minimum thereby reducing capacitance. Available with 7 and 9 pin mica-filled miniature sockets. Spacer is brass, cadmium plated; terminals are brass, silver plated; base is phenolic.



**7 PIN**

Cat. No.	List Price each
9801 Saddle Mt., 1 1/8" shaft.....	\$1.40

**9 PIN**

Cat. No.	List Price each
9809 Saddle Mt., 1 1/8" shaft.....	\$1.65
9813 Shield Mt., 1 1/8" shaft.....	1.80



## LAMINATED MINIATURE SOCKETS



Cat. No.	List Price each
49-1 7 Pin, 7/8" M.C., 1 1/16" wide.....	\$0.10
49-2 W/center shield & ground strap.....	.11
49-21 9 Pin, 1 1/8" M.C., 1" wide.....	.13
49-22 W/center shield & ground strap.....	.14

Additional sizes available.

## LAMINATED OCTAL SOCKET



Cat. No. 46-5-E 8 prong:

Dimensions:

Mounting Centers	1-5/16"
Overall Width	1-13/32"
Overall Length	1 5/8"

List Price \$0.10 ea.

Cat. No. 46-1-E 8 prong:

Dimensions:

Mounting Centers	1 1/2"
Overall Width	1-13/32"
Overall Length	1-27/32"

List Price \$0.10 ea.

## CRYSTAL SOCKET

CR-7 For crystals having .050 diameter pins and .486 spacing between pins. Steatite, grade L-5 JAN-1-10.

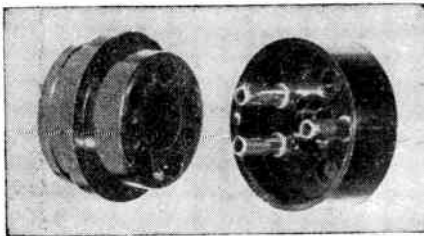


No.	List Price Each
Cat. 8879 Phosphor bronze cadmium plated contacts	\$0.25
9006 Beryllium copper silver plated contacts	.35

## GLASS TUBE TYPE:

Cat. No.	Mounting Centers	Width	Length	List Price each
34-1AA 4 prong	1 1/2"	1 3/8"	1 7/8"	\$0.12
34-1-B 5 prong	1 1/2"	1 1/2"	1 7/8"	0.13
34-1-C 6 prong	1 1/2"	1 1/2"	1 7/8"	0.14

## SPEAKER CONNECTORS



Made of general purpose bakelite, plug is one piece construction, with protective flange that prevents touching of live contacts. Female is supplied with separate contacts for rapid assembly.

60-3M	3 Prong Male	List Price \$ .11 Ea.
60-4M	4 Prong Male	List Price .12 Ea.
60-5M	5 Prong Male	List Price .13 Ea.
60-5F	5 Contact Female for use with 3, 4, or 5 prong male	List Price .12 Ea.

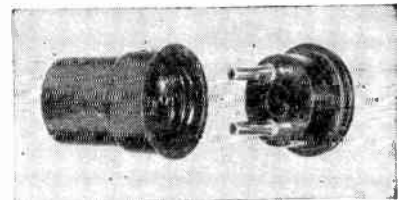
Above with wire leads available on request.

## PHONO CONNECTORS

Designed for use in combining radio and phonograph sections of instrument, made of general purpose bakelite. Female is supplied with separate contacts, for use with 2, 3 or 4 prong male.

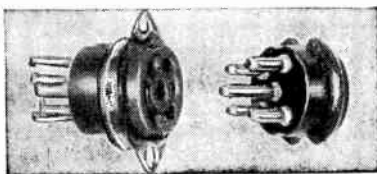
75-2M	2 Prong Male	List Price \$ .10 Ea.
75-3M	3 Prong Male	List Price .10 Ea.
75-4M	4 Prong Male	List Price .10 Ea.
75-4F	4 Contact Female	List Price .14 Ea.

Above with wire leads available on request.



## ALL-PURPOSE CONNECTOR

A new, compact connector made of general purpose bakelite for use where space is an important factor. Female, for use with 2, 3, 4 or 5 prong male, has saddle mount.



119-2M	2 Prong Male	List Price \$ .10 Ea.
119-3M	3 Prong Male	List Price .10 Ea.
119-4M	4 Prong Male	List Price .10 Ea.
119-5M	5 Prong Male	List Price .10 Ea.
119-5F	5 Contact Female	List Price .15 Ea.

## TERMINAL STRIPS & SCREW TERMINALS

A complete selection of terminal lug strips and screw terminals are available on request. Write for our complete catalog.



## INSULATED BINDING POSTS

Knob and base are molded bakelite, with brass inserts and have non-removable tops. Following have knurled base to prevent post twisting.

Spec's.	No. 30 Junior	No. 37 Ensign	No. 40 Commander	No. 43 Admiral	No. 48
	Knob Diam.	1/2" x 7/16" H.	1/2" x 7/16" H.	9/16" x 1/2" H.	
Base Diam.	1/2" x 1/4" H.	1/2" x 1/4" H.	5/8" x 1/4" H.	23/32" x 1/4" H.	
Stem	6-32, 3/8"	6-32, 3/8"	8-32, 7/8"	8-32, 3/4"	
Neck Diam.	3/16"	3/16"	13/64"	13/64"	
Neck Hole	3/32"	3/32"	3/32"	None	
List Price	\$35 Ea.	\$40 Ea.	\$55 Ea.	\$70 Ea.	



Following have boss on base to insulate stem from metal panel. Boss is flat on two sides. Stem length is from bottom of boss.

Spec's.	No. 38 Ensign	No. 41 Commander	No. 44 Admiral	No. 46 Admiral	No. 49
	Knob Diam.	1/2" x 7/16" H.	9/16" x 1/2" H.	5/8" x 17/32" H.	
Base Diam.	17/32" x 1/4" H.	5/8" x 1/4" H.	23/32" x 1/4" H.	23/32" x 1/4" H.	
Stem	6-32, 1/2"	8-32, 3/8"	8-32, 9/16"	8-32, 9/16"	
Neck Diam.	3/16"	13/64"	13/64"	13/64"	
Neck Hole	3/32"	3/32"	None	None	
List Price	\$45 Ea.	\$60 Ea.	\$60 Ea.	\$75 Ea.	



Following have dowel pin on base.

Spec's.	No. 39 Ensign	No. 42 Commander	No. 45 Admiral	No. 47 Admiral	No. 50
	Knob Diam.	1/2" x 7/16" H.	9/16" x 1/2" H.	5/8" x 17/32" H.	
Base Diam.	1/2" x 1/4" H.	5/8" x 1/4" H.	23/32" x 1/4" H.	23/32" x 1/4" H.	
Stem	6-32, 9/16"	8-32, 3/4"	8-32, 3/4"	8-32, 3/4"	
Neck Diam.	3/16"	13/64"	13/64"	13/64"	
Neck Hole	3/32"	3/32"	None	None	
List Price	\$45 Ea.	\$60 Ea.	\$60 Ea.	\$75 Ea.	



### TWIN BINDING POSTS



**No. 21-R.** All-molded Bakelite, non-removable tops. Both posts completely insulated. Center mounting screw 6/32" x 1/4" long. Base is 2" long, 11/16" wide

and 3/16" thick. Center distance between posts is 7/8".

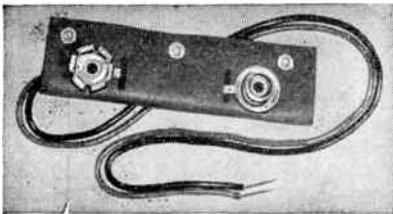
List Price \$0.85 Ea.

**No. 21-S.** Same as above with one post insulated. One mounting screw at end of base, ground post is second mounting screw.

List Price \$0.90 Ea.

Individual metal and spring type binding post are also available in a variety of sizes and styles. Write for our complete catalog.

### BATTERY STRAPS



**67-2** Battery snap fastener for 67 1/2 volt B Battery. + and - terminal connections securely staked on tough fibreboard insulator. List Price \$0.28 Ea.  
**69-2** Same as above for 90 volt battery. List Price \$0.30 Ea.

### TIP JACKS

**No. 49.** Top diameter 1/2" x 5/32" thick. Threaded brass body 5/16" — 40 x 3/4" long. One hexagon nut and two insulating washers furnished. Hole for washers is 19/64". Red or black bakelite top.

List Price: Red and Black \$0.20 Ea.

**No. 52.** Top diameter 1/2" x 1/8" thick. Body is 5/16" x 3/4" long. Special steel assembly washers, cadmium plated, are furnished. Red or black bakelite.

List Price: Red \$0.13 Ea.  
Black 0.11 Ea.

**No. 76.** Same style as No. 52. Top diam. 3/8" x 5/32" thick. Body is .500 x 27/32" long. List Price: Red \$0.20 Black \$0.17



### TWIN & TRIPLE JACKS



**No. 17.** One piece moulded bakelite base. Two terminals, 1 3/8" apart. Has 6-32 x 1/4" mounting screw at center.

List Price \$0.78 Ea.



**No. 18.** Laminated Bakelite. Two terminals, 7/8" apart. 1-11/16" mounting centers. 3/8" wide x 2-1/16" long.

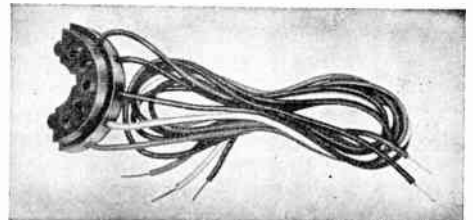
List Price \$0.15 Ea.

**No. 18-T.** Same as above with 3 terminals 9/16" apart. 1-15/16" M.C. 2 3/8" long. List Price \$0.23 Ea.

### WIRED TELEVISION SOCKET

#### Half Duo-Decal

9719 Five contact economy socket with 18" leads. Rear plate completely covers connections. Leads emerge from slots in side. Fits all standard duo-decal tube bases. List Price \$0.70 Ea.





R. F.  
Connectors,

# WALTHAM CONNECTORS

## WALTHAM HOROLOGICAL CORPORATION

### WALTHAM 54, MASSACHUSETTS



Telephone  
Plugs



Since it is impossible to show all of the various styles and types of connectors we manufacture we list below a few of the most popular numbers for reference purposes only. It is suggested that those interested send for our complete catalog.

ITEM NO.	TYPE - DESCRIPTION	ITEM NO.	TYPE - DESCRIPTION	ITEM NO.	TYPE - DESCRIPTION
1	UG 9/U PLUG .....(N)	44	UG 61A/U PANEL JACK .....(HN4)	89	UG 260A/U PLUG .....(BNC)
2	UG 10/U PANEL JACK .....(N)	45	UG 83/U ADAPTER .....(N to UHF)	90	UG 261/U JACK .....(BNC)
3	UG 11/U JACK .....(N)	46	UG 85/U PLUG .....(BN)	91	UG 261A/U JACK .....(BNC)
4	UG 12/U PLUG .....(N)	47	UG 87/U RECEPTACLE .....(BN)	92	UG 262/U PANEL JACK .....(BNC)
5	UG 13/U PANEL JACK .....(N)	48	UG 88/U PLUG .....(BNC)	93	UG 273/U ADAPTER .....(BNC to UHF)
6	UG 14/U JACK .....(N)	49	UG 89/U JACK .....(BNC)	94	UG 274/U ADAPTER TEE
7	UG 15/U PLUG .....(N)	50	UG 91A/U PLUG .....(N)	95	UG 290/U RECEPTACLE .....(BNC)
8	UG 16/U PANEL JACK .....(N)	51	UG 92A/U JACK .....(N)	96	UG 291/U PANEL JACK .....(BNC)
9	UG 18A/U PLUG .....(N)	52	UG 93A/U PANEL JACK .....(N)	97	UG 306/U ADAPTER RT. ANGLE (BNC)
10	UG 18B/U PLUG .....(N)	53	UG 94A/U PLUG .....(N)	98	UG 309/U ADAPTER .....(BNC to HN)
11	UG 19A/U PLUG .....(N)	54	UG 95A/U JACK .....(N)	99	UG 342/U PLUG RT. ANGLE .....(BN)
12	UG 19B/U PLUG .....(N)	55	UG 96A/U PANEL JACK .....(N)	100	UG 414/U ADAPTER STRAIGHT (BNC)
13	UG 20B/U PLUG .....(N)	56	UG 97A/U ADAPTER RT. ANGLE ... (LN)	101	UG 421/U PLUG .....(UHF3)
14	UG 21/U PLUG .....(N)	57	UG 98A/U RECEPTACLE .....(LN)	102	UG 496/U
15	UG 21A/U PLUG .....(N)	58	UG 100A/U PLUG .....(LN)	103	UG 516/U ADAPTER .....(LN to N)
16	UG 21B/U PLUG .....(N)	59	UG 101A/U PANEL JACK .....(LN)	104	UG 535/U RECEPTACLE
17	UG 21C/U PLUG .....(N)	60	UG 102A/U PLUG .....(UHF)		RT. ANGLE .....(BNC)
18	UG 21D/U PLUG .....(N)	61	UG 103A/U RECEPTACLE .....(UHF)	105	UG 536/U PLUG .....(N)
19	UG 22B/U PANEL JACK .....(N)	62	UG 104A/U ADAPTER RT. ANGLE (UHF)	106	UG 589/U
20	UG 22C/U PANEL JACK .....(N)	63	UG 105A/U ADAPTER STRAIGHT (UHF)	107	UG 625/U RECEPTACLE .....(BNC)
21	UG 22D/U PANEL JACK .....(N)	64	UG 107B/U ADAPTER TEE .....(N)	108	MX 913/U CAP & CHAIN .....(N)
22	UG 23/U JACK .....(N)	65	UG 131/U ADAPTER .....(SKL to N)	109	CW 123/U CAP & CHAIN
23	UG 23B/U JACK .....(N)	66	UG 146/U ADAPTER .....(N to UHF)	110	CW 155/U CAP
24	UG 23C/U JACK .....(N)	67	UG 159A/U JACK BULKHEAD .....(N)	111	SO 239 RECEPTACLE .....(UHF)
25	UG 27A/U RT. ANGLE ADAPTER .....(N)	68	UG 160A/U JACK BULKHEAD .....(N)	112	PL 258 ADAPTER STRAIGHT .....(UHF)
26	UG 27B/U RT. ANGLE ADAPTER .....(N)	69	UG 160B/U JACK BULKHEAD .....(N)	113	PL 259 PLUG .....(UHF)
27	UG 28/U ADAPTER TEE .....(N)	70	UG 173/U ADAPTER REDUCING ..(UHF)	114	PL 259A PLUG .....(UHF)
28	UG 28A/U ADAPTER TEE .....(N)	71	UG 175/U ADAPTER REDUCING ..(UHF)	115	PL 274 PLUG .....(UHF)
29	UG 29/U ADAPTER STRAIGHT .....(N)	72	UG 176/U ADAPTER REDUCING ..(UHF)		
30	UG 29B/U ADAPTER STRAIGHT .....(N)	73	UG 180A/U PLUG .....(PULSE)		
31	UG 30/U ADAPTER BULKHEAD	74	UG 181A/U JACK BULKHEAD ... (PULSE)		
	PRESS .....(N)	75	UG 182A/U JACK .....(PULSE)		
32	UG 30B/U ADAPTER BULKHEAD	76	UG 185/U RECEPTACLE		
	PRESS .....(N)	77	UG 188/U PLUG .....(N)		
33	UG 35/U RECEPTACLE	78	UG 201/U ADAPTER .....(BNC to N)		
34	UG 39/U COVER FLANGE	79	UG 206/U RECEPTACLE .....(BN)		
35	UG 40/U CHOKE FLANGE	80	UG 212A/U ADAPTER RT. ANGLE (HN4)		
36	UG 53/U COVER FLANGE	81	UG 213/U ADAPTER .....(N to LN)		
37	UG 54/U CHOKE FLANGE	82	UG 213A/U ADAPTER .....(N to LN)		
38	UG 57B/U ADAPTER, STRAIGHT .....(N)	83	UG 224/U ADAPTER BULKHEAD (UHF)		
39	UG 58/U RECEPTACLE .....(N)	84	UG 241/U PLUG TO RECEPTACLE		
40	UG 58A/U RECEPTACLE .....(N)	85	UG 242/U ADAPTER, TEE .....(BN)		
41	UG 59A/U PLUG .....(HN4)	86	UG 254A/U RECEPTACLE PRESS		
42	UG 59B/U PLUG .....(HN4)	87	UG 255/U ADAPTER .....(BNC to UHF)		
43	UG 60A/U JACK .....(HN4)	88	UG 260/U PLUG .....(BNC)		

**SEND FOR THIS CATALOG**  
complete - illustrated - comprehensive  
listing all Waltham products.



TELEPHONE PLUGS MADE IN ACCORDANCE WITH JAN-P-642 SPEC.  
SCREWS, TERMINALS & SHELLS PACKED SEPARATELY  
TYPE PJ 047B, PJ 051 (#310), PJ 054B, PJ 540B, PJ 055B, PJ 068

# PRICES

Prices of manufacturers and suppliers' products listed in **RADIO'S MASTER** are subject at all times to change without notice — they should not be considered final.

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Loose-leaf, flexible binder.  
Contains over 1100 pages.

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# DELIVERY

Delivery is often dependent on the availability of raw materials. So check with your distributor for delivery information.

# American Beauty

## ELECTRIC SOLDERING IRONS

These electric soldering irons embody features of design and construction that specialized experience dating from 1894 in the exclusive manufacture of electric heating appliances has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands are in use throughout the world in a wide variety of manufacturing plants; in service, maintenance and repair shops and in telephone, telegraph, radio and TV stations. Because of their proven dependability, durability and efficiency they are preferred by those who measure the value of a tool or mechanical device by the service rendered.

No. 3128—For servicing TV, electronic and radio equipment and similar light work.

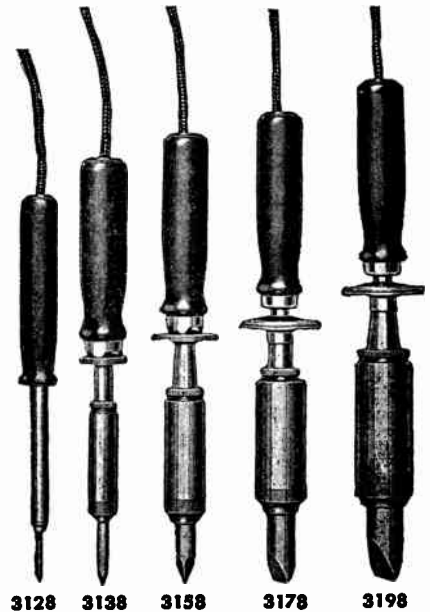
No. 3138—For TV, electronic and radio production; also for telephone, telegraph and similar work.

No. 3158—For the same purposes as the No. 3138 but for work requiring an iron of greater capacity.

No. 3178—For use on still heavier work than that for which the Nos. 3138 and 3158 irons are adapted.

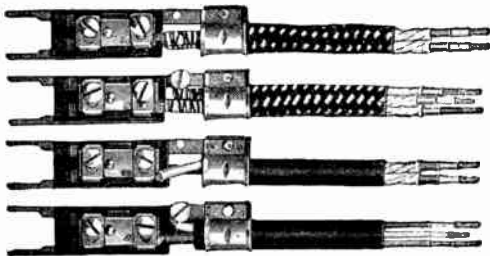
No. 3198—For use on very heavy soldering operations of all kinds.

Made in standard voltages and for 32 volts. No. 3138 also made for 6, 12, 24 and 55 volts. All sizes can be equipped with 3-conductor cord, one wire grounded, at slight additional charge. Separate heat-insulating stand supplied with each iron.



### RELATIVE SIZES, SPECIFICATIONS AND PRICES

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Casing Diameter	Approx. Ship. Wt.	List Price Each	Net Price Each (Less than 6)	Net Price Each (6 or more)
3128	1/4"	60	7 1/2 oz.	12 1/4"	9/16"	16 oz.	\$ 5.50	\$ 3.67	\$ 3.51
3138	3/8"	100	16 oz.	12 7/8"	7/8"	2 lbs.	8.75	5.83	5.58
3138 is made also in 130- and 150-watt inputs.)									
3158	5/8"	200	28 oz.	13 5/8"	1 1/4"	3 lbs.	10.25	6.83	6.53
3178	7/8"	300	42 oz.	14 3/8"	1 9/16"	4 lbs.	13.50	9.00	8.61
3198	1 1/8"	550	60 oz.	15"	1 3/4"	5 3/4 lbs.	17.50	11.66	11.16



### TERMINAL CONDUCTOR ASSEMBLY

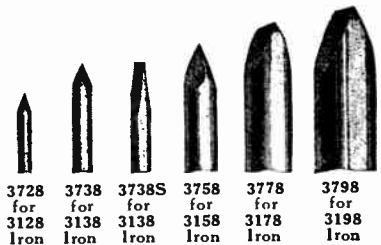
This illustration shows the Terminal Connector Assembly used in all American Beauty electric soldering irons. It is designed for use with either 2- or 3-conductor standard heater cord or rubber-covered cord—Types SJ, HSJ, etc.

This assembly permits easy grounding for safety by a third conductor—particularly desirable when irons are used on 220-volt circuits or on metal benches accommodating groups of operators.

The cord is held firmly in place by a strain-clamp.

## American Beauty COPPER TIPS

American Beauty Copper Tips are made from commercially pure, drawn bar copper rod and are heavily nicked to resist corrosion and oxidation. Standard shaped tips with which various models are equipped are shown in illustration but pyramidal, instead of chisel type, and vice versa can be supplied when so specified without additional charge. For No. 3138 a special long, semi-chisel shaped tip (No. 3738-S) can be supplied for telephone, switchboard, television and radio work.



3728 for 3128 Iron  
3738 for 3138 Iron  
3738S for 3138 Iron  
3758 for 3158 Iron  
3778 for 3178 Iron  
3798 for 3198 Iron



## American Beauty TEMPERATURE REGULATING STAND

For use on (AC) Alternating Current Only

This is a thermostatically controlled device for the regulation of the temperature of an Electric Soldering Iron while at rest. Through an adjustment on bottom of stand the thermostat may be set for maintenance of any desired heat—from very low, or warm, to full working temperature. It is designed for use with Electric Soldering Irons up to 660 watts capacity and on circuits up to 240 volts.

Cat. No.	Net Weight	List Price	Net Price
475	27 oz.	\$6.25	\$4.41



# DRAKE



# RADIO IRONS

## Suggested for Maintenance Work and for the Radio Service Man



60 Watt Iron with  $\frac{3}{8}$ " Tip. An excellent iron for light work. Porcelain element. Six ft. cord and small stand.

No. 315 ..... List \$2.50  
 Element..... List \$1.00      Tip..... List \$0.90  
 Shipping Weight 1 lb.

100 Watt Iron with  $\frac{3}{8}$ " Tip. An ideal iron for those who require a hotter iron than our No. 315. Porcelain element. Six ft. cord and small stand.

No. 316 ..... List \$3.40  
 Element..... List \$1.50      Tip..... List \$1.80  
 Shipping Weight 1 lb.



80 Watt Iron with  $\frac{3}{8}$ " Tip. Recommended for light radio work. Mica wound element. Six ft. cord and large stand.

No. 225 ..... List \$5.50  
 Element..... List \$3.40      Tip..... List \$1.25  
 Shipping Weight 1 1/2 lbs.

100 Watt Iron with  $\frac{3}{8}$ " Tip. Recommended for general radio work. Mica wound element. Six ft. cord with large stand.

No. 325 ..... List \$6.00  
 Element..... List \$4.00      Tip..... List \$1.25  
 Shipping Weight 1 1/2 lbs.



125 Watt Iron with  $\frac{3}{8}$ " Tip. An extra hot iron for the serviceman. Mica wound element. Six ft. cord and large stand.

No. 326 ..... List \$6.50  
 Element..... List \$5.00      Tip..... List \$1.25  
 Shipping Weight 2 lbs.

200 Watt Iron with  $\frac{5}{8}$ " Tip. Recommended for medium heavy work. Mica wound element. Six ft. cord and large stand.

No. 425 ..... List \$11.00  
 Element..... List \$9.00      Tip..... List \$ 2.00  
 Shipping Weight 2 lbs.

## INDUSTRIAL IRONS



60 Watt Iron with  $\frac{1}{4}$ " Tip. An extra small iron for midget sets. Only 9" long.

No. 400 ..... List \$6.00  
 Element..... List \$4.50      Tip..... List \$0.60  
 Shipping Weight 1 lb.

100 Watt Iron with  $\frac{3}{8}$ " Tip. Only 10 inches over all. Ideal for close work on radio sets.

No. 600-10 ..... List \$9.00  
 Element..... List \$7.00      Tip..... List \$1.25  
 Shipping Weight 2 lbs.

140 Watt Iron with  $\frac{3}{8}$ " Tip. An extra hot iron for high speed work on production lines.

No. 600 Special ..... List \$9.50  
 Element..... List \$7.50      Tip..... List \$1.25  
 Shipping Weight 2 lbs.



80 Watt Iron with  $\frac{3}{8}$ " Tip. Recommended for fine instruments, light telephone and other light soldering.

No. 450 ..... List \$7.00  
 Element..... List \$5.00      Tip..... List \$1.25  
 Shipping Weight 2 lbs.

100 Watt Iron with  $\frac{3}{8}$ " Tip. The standard 100 watt iron. Ideal for switchboards and radio sets.

No. 600 ..... List \$8.50  
 Element..... List \$6.50      Tip..... List \$1.25  
 Shipping Weight 2 lbs.

200 Watt Iron with  $\frac{5}{8}$ " Tip. For general factory work such as art glass, medium tin work.

No. 800 ..... List \$11.00  
 Element..... List \$9.00      Tip..... List \$ 2.00  
 Shipping Weight 3 lbs.



## MODEL 350 MIDGET

Recommended for voice coil leads on speaker cones, meter connections, test equipment, hearing aids, crystal pickups, headphone leads, etc. This iron is a continuous duty 35 watt iron with a nickel-chromium element wound over mica insulation on a steel core.

No. 350 ..... List \$5.50  
 Element..... List \$4.00      Tips, ea..... List \$0.25  
 Shipping Weight 1 lb.

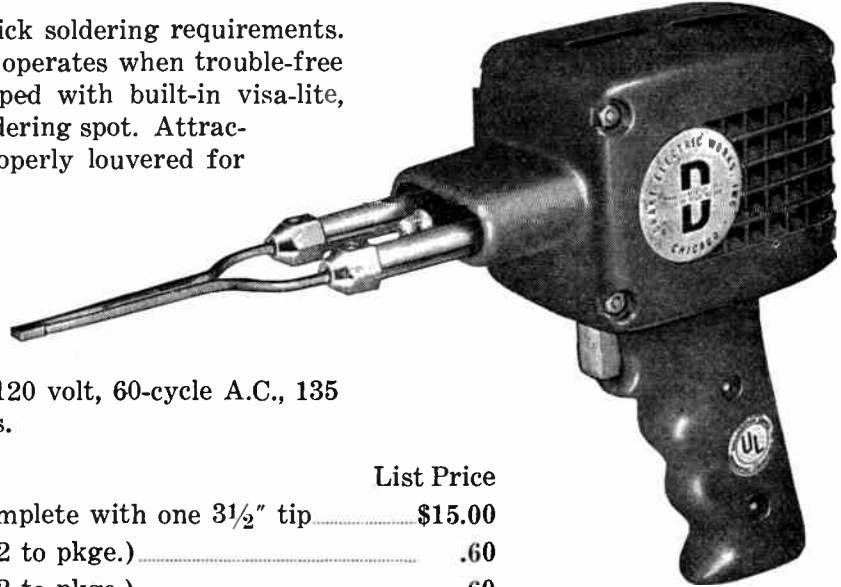
# DRAKE



**SOLDER GUN  
HEAT CONTROLS  
SOLDER POTS**

## DRAKE "insta-heat" SOLDERING GUN

Always ready to use for quick soldering requirements. Saves power since gun only operates when trouble-free trigger is squeezed. Equipped with built-in visa-lite, properly focused to light soldering spot. Attractive maroon plastic case properly louvered for operation. Balance engineered by one of America's most famous industrial designers. Complete with easily removed tip, one 3 1/2" tip for ordinary soldering. Operates on 110-120 volt, 60-cycle A.C., 135 watts. Shipping weight 3 lbs.



List Price

No. 900	Soldering Gun, complete with one 3 1/2" tip	\$15.00
No. 901	Extra 3 1/2" Tips (2 to pkge.)	.60
No. 902	Extra 6 1/2" Tips (2 to pkge.)	.60

## DRAKE Pee Wee SOLDERING IRON

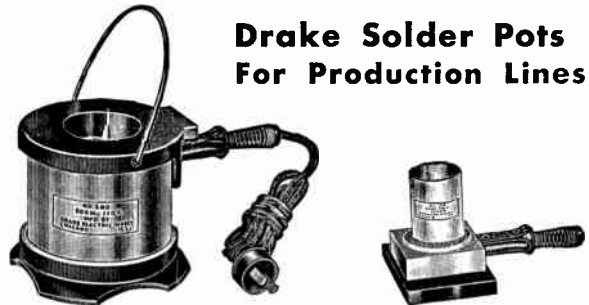


ACTUAL SIZE 7 1/2 IN.

Designed specifically to be carried in a tool kit for "on the job" soldering. Excellent for all fine work—small, compact size makes it easy to handle. A full 35 watts with 3/16" tip. Operates on 110-120 volt, 60-cycle A. C. Baffle plates keep handle cool. Blued finish. Shipping weight, complete with stand, 1 lb.

Element.....	List \$3.60	Tip.....	List \$0.40
			Shipping weight 1 lb.
No. 360	List Price \$4.50		

## Drake Solder Pots For Production Lines



### Model No. 200—300 Watt Unit

An ideal electric solder pot for production use. Used in factory production of tinned wire ends, terminal tinning and countless other volume tinning applications. Holds 2 lbs. of bar solder in 2 1/2" diameter 2" deep cast iron well. Complete with detachable Underwriters' Approved cord and plug, and bale type carrying handle. Genuine nichrome element. Shipping weight 6 lbs.

No. 200	List Price \$7.50
---------	-------------------

### Model No. 100—150 Watt Unit

Designed for light tinning. Ideal for occasional jobs. Suited especially for tinning ends of stranded wires to prevent fraying. Can also be used for soldering cord tips to cables. One piece cast iron construction holds heat longer. Size of pot 1 1/2" diameter 1" deep. Holds 1 lb. of bar solder. Complete with Underwriters' Approved cord and detachable plug. Shipping weight 3 lbs.

No. 100	List Price \$6.00
---------	-------------------



# SOLDERING IRONS

With Calrod\* Heaters  
 FOR EVERY RADIO REQUIREMENT  
 MANUFACTURING — SERVICE

\*Registered trade-mark

- **HIGH-SPEED SOLDERING.** You can solder as fast and continuously as the nature of the work will allow.
- **UNIFORM PERFORMANCE.** Operating characteristics remain constant day after day. No appreciable decrease in efficiency even after months of service.
- **EASY, LOW-COST REPAIR.** Assembling and disassembling are easy.

● **LONG LIFE AND LOW MAINTENANCE.** Life is lengthened, and over-all costs are kept low because sturdy construction eliminates need of frequent repairs.

● **THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR.** Irons can be repaired on the job without special tools or skill.

Cat. No. 6A161

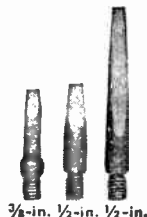
Listed Under Re-examination Service  
 of Underwriters' Laboratories



Watts 75  
 Volts 115

Calorized tip ..... \$11.80\*†  
 IRONCLAD tip ..... 12.50\*†

Tip diam.  
 See note below\*



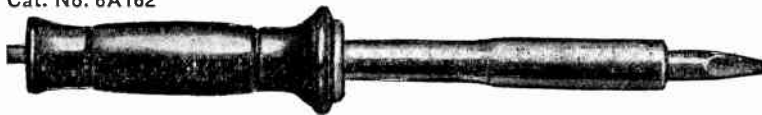
For light, intermittent soldering such as radio assembly and repair and installation, switchboard, ignition, wiring devices, meters and instruments, or very light high-speed soldering of similar products

WEIGHTS: Less cord, 16 oz. With cord, 20 oz. Shipping, 26 oz. Equal to old-style copper—1 3/4-lb.

\*Cat. No. 6A161 and Cat. No. 6A162 can be supplied with either a 3/8- or 1/2-inch diameter tip at prices given. The long 1/2-inch diameter tip projects 3 3/8 inches from the snell. Price of iron with long calorized tip—\$12.30 with long IRONCLAD tip—\$13.40.

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices, ignition. Excellent for service and repair men.  
 WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz. Equal to old-style copper—1 3/4 lb.

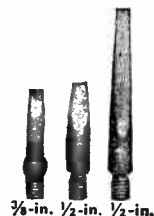
Cat. No. 6A162



Watts 100  
 Volts 115

Calorized tip ..... \$11.80\*†  
 IRONCLAD tip ..... 12.50\*†

Tip diam.  
 See note above\*



Cat. No. 6A200



Watts 100  
 Volts 115

Calorized tip ..... \$13.30\*†  
 IRONCLAD tip ..... 14.90\*†

Tip diam.  
 3/4 inch

For light, high-speed soldering, such as assembly of radios and switchboards, medium intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for shop and farm.

WEIGHTS: Less cord, 16 oz. With cord, 21 oz. Shipping, 27 oz. Equal to old-style copper—2-lb.

For medium, high-speed soldering of automobile and airplane assembly, electric equipment, light tanks and containers of copper and steel. Excellent general-purpose iron for manufacturing plant.  
 WEIGHTS: less cord, 24 oz. With cord, 29 oz. Shipping, 34 oz. Equal to old-style copper—3-lb.

Cat. No. 6A201



Watts 200  
 Volts 115

Calorized tip ..... \$16.60\*†  
 IRONCLAD tip ..... 18.60\*†

Tip diam.  
 1 inch

Cat. No. 6A202



Watts 300  
 Volts 115

Calorized tip ..... \$20.10\*†  
 IRONCLAD tip ..... 22.10\*†

Tip diam.  
 1 1/4 inch

For heavy work such as light commutators, large-diameter pipe, medium-gauge copper or steel tank and container material, roofing, heavy tinware.  
 WEIGHTS: Less cord, 37 oz. With cord, 42 oz. Shipping, 48 oz. Equal to old-style copper—4-lb.

## ASK ABOUT IRONCLAD TIPS

IRONCLAD TIPS MEAN

- No Filing
- Lower Upkeep Cost
- Less Maintenance
- Longer Life



Effect of solder (250 C for 363.5 hours) on plain copper (left) and Ironclad copper (right) soldering tips.

Note—230-volt irons available on request. Same prices apply. Above prices include supporting stand.

† Mfg.'s suggested retail price.

ASK YOUR DISTRIBUTOR FOR A COPY OF BULLETIN GEA-4519.



# MIDGET SOLDERING IRONS

FOR MANUFACTURING AND SERVICE  
OF RADIO AND ELECTRONIC EQUIPMENT

## APPLICATION

This 8-inch, 1 3/4-ounce featherweight iron for close-quarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has Ironclad copper tips either 1/8- or 3/16-inch diameter, as desired.

### THIS MIDGET DOES A BIG JOB IN

- Boosting Production Rates
  - Increasing Operator Efficiency
  - Cutting Down Employee Fatigue
  - Saving on Repair and Maintenance
  - Reducing Rejects
  - Manufacturing and Repairing:
    - Radios and other electronic equipment
    - Meters
    - Instruments
    - Jewelry
    - Appliances
- . . . and many other products requiring precision soldering

**RATING: 6 VOLTS, 25 WATTS**

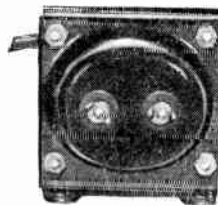


1/8- and 3/16-in. dia. tip, Cat. Nos. 6A212 and 6A214

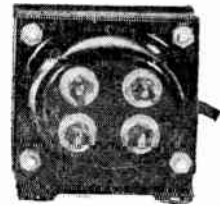


1/4-in. dia tip, Cat. No. 6A210

### SPECIAL TRANSFORMERS (OPTIONAL) FOR G-E MIDGET SOLDERING IRONS



Single-tap, Cat. No. 6A362



Four-tap, Cat. No. 6A364

Specially designed 115-volt transformers are available as optional equipment in two types:

1. Single-tap 115/6 volts—for use where only one soldering heat is required
2. Four-tap 115/6.3/6/5.7/5.4 volts — gives wide range of heats (from 20 to 30 watts) for close temperature control of tips

Transformers are small, lightweight, but sturdy. Their 6-foot extension cords can be plugged in any 115-volt a-c circuit.

Description	Cat. No.	Price†
1/8-in. Ironclad copper tip (pyramid-shaped)	6A212	\$6.60
1/4-in. Ironclad copper tip (chisel-shaped)	6A210	6.60
3/16-in. Ironclad copper tip (pyramid-shaped)	6A214	6.60
1/8-in. Renewal tip and heater assembly	6A213	3.60
1/4-in. Renewal tip and heater assembly	6A211	3.60
3/16-in. Renewal tip and heater assembly	6A215	3.60

Description	Cat. No.	Price†
Single-tap .....	6A362	\$5.30
Four-tap .....	6A364	7.90

Net weight iron less cord 1 3/4 oz.  
Net weight iron including cord 5 oz.  
Shipping weight complete iron 8 oz.  
Standard package consists of 6 irons of one tip size. Tip and heater assemblies can be purchased in any quantities.

Publication Reference .....GEA-4519

## THE MIDGET OFFERS MAJOR ADVANTAGES

**Low-cost soldering**—Solders more efficiently, using only approximately one-fourth wattage normally used.

**Fingertip operation**—Only 8 inches long, weighs but 1 3/4 ounces. Styled for fingertip grip.

**Quick, continuous heat**—Famous G-E Calrod\* heater built into Ironclad copper tip for rapid heat transfer.

**Easy renewal**—Ironclad tip and heater can be replaced as a unit merely by unscrewing from handle.

**Long life, low maintenance**—Low voltage permits use of heavy, long-lasting resistant wire. Reduced servicing with long-lasting Ironclad copper tip.

\* Registered trade-mark.  
† Manufacturers' suggested retail price.



# ELECTRIC SOLDERING IRONS



**GENERAL INFORMATION**—Equipped with 6 ft. (10,000 cycle) approved heater cord (covered with twine braid for extra long wear) and rubber plug. Continental or English type plugs 25c extra list. Metal stand furnished with each iron. Heating elements made of best grade nickel-chromium resistance wire, insulated with finest mica obtainable. Elements in the plug tip irons are replaceable by the user and in the screw tip irons replaceable at

the factory. Tips in all irons are replaceable; made of hard drawn pure copper. Case is made from solid Hexacon steel (except No. 50 and P-30), affording it great mechanical strength, preventing denting. Terminal easily accessible and constructed to relieve cord strain. Smooth, cool, comfortable handle—readily replaceable. Voltage range: 32 to 250. Standard voltages 110/120, 121/130, 220/250. All other voltages \$1.00 extra list.

## SCREW TIP IRONS



No. 50—For light soldering on radio, telephone and electrical apparatus. 50 Watts. Tip diam.,  $\frac{1}{8}$ ". Ship. wt., 1 lb. Equal to  $\frac{1}{2}$ -lb. old style copper.....each \$5.00

No. 60—Medium light soldering on telephone, radio, apparatus and linemen's kits. 60 Watts. Tip diam.,  $\frac{1}{2}$ ". Ship. wt.,  $1\frac{1}{2}$  lb. Equal to 1-lb. old style copper.....each \$7.00



No. 85—A high speed tool for telephone, radio and home use. 90 Watts. Tip diam.,  $\frac{1}{2}$ ". Ship. wt.,  $1\frac{1}{4}$  lb. Equal to  $1\frac{1}{2}$ -lb. old style copper.....each \$7.75



No. 120—Light tinware, toys, typewriter, light auto, etc. A high speed iron. 120 Watts. Tip diam.,  $\frac{5}{8}$ ". Ship. wt.,  $1\frac{3}{4}$  lb. Equal to 2-lb. old style copper.....each \$8.50



No. 130—Same as No. 120 except has larger tip and 10 more watts capacity. 130 Watts. Tip diam.,  $\frac{7}{8}$ ". Ship. wt.,  $1\frac{1}{2}$  lb. Equal to 2-lb. old style copper.....each \$9.50

No. 170—Medium tinware, small cans, auto repairs, pipes, gutters, toys, small motors. 175 Watts. Tip diam., 1". Ship. wt.,  $2\frac{1}{4}$  lb. Equal to  $2\frac{1}{2}$ -lb. old style copper.....each \$10.50



No. 225—Medium tinware, cans, auto repairs, metal patterns, light roofing, small branders. 250 Watts. Tip diam.,  $1\frac{1}{8}$ ". Ship. wt., 2 $\frac{1}{2}$  lb. Equal to 3-lb. old style copper.....each \$12.50



No. 350—Heavy tinware, large cans, autos, roofing, refrigerators, ship and airplane. 350 Watts. Tip diam.,  $1\frac{1}{2}$ ". Ship. wt., 3 $\frac{3}{4}$  lb. Equal to 4-lb. old style copper.....each \$14.00



No. 500—Auto repairs, sinks, roofs, cans, armatures, large branders, tinsmiths, etc. 500 Watts. Tip diam., 1 $\frac{1}{2}$ ". Ship. wt., 4 lb. Equal to 5-lb. old style copper.....each \$16.00

No. 700—For extra heavy soldering and large branders. 700 Watts. Tip diam., 1 $\frac{3}{4}$ ". Ship. wt., 5 lbs. Equal to 7-lb. old style copper.....each \$30.00

OPERATE ON A.C. OR D.C., ANY CYCLE

## PLUG TIP IRONS



No. P-30—For extremely light soldering on finest wire and delicate instruments. 40 Watts. Tip diam.,  $\frac{1}{4}$ ". Ship. wt.,  $\frac{5}{8}$  lb. Equal to  $\frac{1}{4}$ -lb. old style copper.....each \$5.00

No. P-70—For light soldering on radio and telephone apparatus and electrical instruments. 80 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt.,  $1\frac{1}{8}$  lb. Equal to 1-lb. old style copper.....each \$7.00



No. P-100—A high speed tool for telephone switchboards, electrical instruments, etc. 100 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt.,  $1\frac{1}{4}$  lb. Equal to  $1\frac{1}{2}$ -lb. old style copper.....each \$7.75

No. P-125—For light tinware, toys, typewriter type bars, small cans, auto, etc. 130 Watts. Tip diam.,  $\frac{5}{8}$ ". Ship. wt.,  $1\frac{1}{2}$  lb. Equal to 2-lb. old style copper.....each \$9.25



No. P-150—Extra high speed iron for radios, electrical apparatus and where a light iron with small diameter is required. 150 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt., 1 $\frac{3}{4}$  lb. Equal to 2-lb. old style copper.....each \$8.50

No. P-151—Same as No. P-150, except where a larger tip is desired. 175 Watts. Tip diam.,  $\frac{1}{2}$ ". Ship. wt.,  $1\frac{3}{4}$  lb. Equal to  $2\frac{1}{2}$ -lb. old style copper.....each \$9.00



No. P-200—For medium tinware, cans, auto repairs, light roofing, sheet metal, etc. 200 Watts. Tip diam.,  $\frac{5}{8}$ ". Ship. wt.,  $2\frac{1}{2}$  lb. Equal to  $2\frac{3}{4}$ -lb. old style copper.....each \$9.50

No. P-250—Same as No. P-200, except where greater speed is required for manufacturing. 250 Watts. Tip diam.,  $\frac{5}{8}$ ". Ship. wt.,  $2\frac{3}{4}$  lb. Equal to 3-lb. old style copper.....each \$10.75



No. P-300—For heavy tinware, large cans, auto, roofing, refrigerator work, etc. 300 Watts. Tip diam.,  $\frac{7}{8}$ ". Ship. wt.,  $2\frac{3}{4}$  lb. Equal to 4-lb. old style copper.....each \$12.50

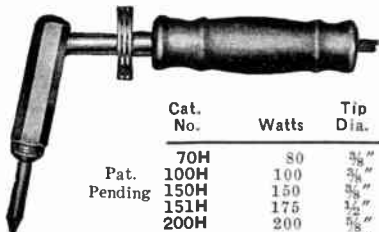


No. P-550—For auto radiators, copper sinks, roofs, heavy armatures, large branders, etc. 550 Watts. Tip diam.,  $1\frac{1}{8}$ ". Ship. wt.,  $4\frac{1}{2}$  lb. Equal to 5-lb. old style copper.....each \$16.50

SPECIFY VOLTAGE WHEN ORDERING

## HEXACON HATCHET TYPE IRON

For same use as Plug Tip irons of equal wattage, shown above. Replaceable elements and all other features of Plug Tip Irons.

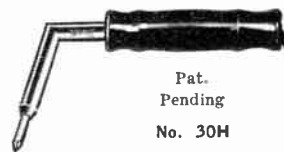


Perfect Balance  
Less Fatigue  
Better Soldered Joints

	Cat. No.	Watts	Tip Dia.	Ship. Wt.	Price
	70H	80	$\frac{3}{8}$ "	1 $\frac{3}{8}$ lbs.	\$ 9.00
Pat.	100H	100	$\frac{3}{8}$ "	1 $\frac{1}{2}$ lbs.	9.75
Pending	150H	150	$\frac{3}{8}$ "	2 lbs.	10.50
	151H	175	$\frac{1}{2}$ "	2 lbs.	11.00
	200H	200	$\frac{5}{8}$ "	2 $\frac{3}{8}$ lbs.	11.50
	300H	300	$\frac{7}{8}$ "	2 $\frac{3}{8}$ lbs.	14.50

## HEXACON FEATHERWEIGHT HATCHET IRON

So light its weight is hardly noticeable, but more powerful than the wattage rating would indicate. Hatchet design makes iron effortless to use. No transformer or other cumbersome and expensive equipment required.



List Price..... \$5.50

Weight: 5 $\frac{1}{2}$  ozs. (less cord).

\*Watts: 40, 50 or 60.

Both  $\frac{1}{8}$ " and  $\frac{1}{4}$ " dia. tips furnished with each iron.

Shipping weight: 1 lb.

\*Specify watts when ordering.



# SOLDERMASTER Royal Blue Line ELECTRIC SOLDERING IRONS



**GENERAL INFORMATION**—Replaceable elements. Best grade of Madagascar mica for insulation. No. 55 has brass-sheathed cartridge element. Best grade nickel-chrome resistance wire. Replaceable hard drawn copper tips. All one piece swaged cases

gun metal finish. Equipped with 6 ft. Underwriters' Approved heater cord, rubber plug. Continental or English type plug 25c extra list. Stand for resting iron furnished.

VOLTAGES 110/120 220/250 A.C. or D.C., ANY CYCLE  
SPECIFY VOLTAGE WHEN ORDERING

## SCREW TIP IRONS



No. 55B—For light soldering, radio apparatus, etc. 55 Watts. Tip diam.,  $\frac{1}{8}$ ". Ship. wt., 13 oz.....each \$2.75



No. 76B—For light work, electrical instruments, etc. 75 Watts. Tip diam.,  $\frac{1}{2}$ ". Ship. wt., 15 oz.....each \$4.50



No. 100B—Same as No. 76B except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip diam.,  $\frac{1}{2}$ ". Ship. wt., 16 oz.....each \$5.00



No. 150B—Ideal size for garage and repair work. For home use. 170 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt., 24 oz.....each \$7.00



No. 300B—For heavy steel metal, auto radiators, etc. 275 Watts. Tip diam.,  $1\frac{1}{8}$ ". Ship. wt., 38 oz.....each \$10.00

## PLUG TIP IRONS



No. 71B—For light work, radio repairs, etc. 75 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt., 16 oz.....each \$4.50



No. 101B—For same work as No. 71B, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip diam.,  $\frac{3}{8}$ ". Ship. wt., 18 oz.....each \$5.00



No. 121B—High speed iron for radio and electrical repairs. 125 Watts. Tip diam.,  $\frac{3}{8}$ ". S hip. wt.,  $1\frac{3}{4}$  lbs.....each \$6.00



No. 201B—For same work as No. 150B, except where plug tip is desired. 200 Watts. Tip diam.,  $\frac{5}{8}$ ". Ship. wt., 34 oz.....each \$8.00



No. 301B—For same work as No. 300B, except where plug tip is desired. 300 Watts. Tip diam.,  $\frac{7}{8}$ ". Ship. wt., 46 oz.....each \$10.00

## DISPLAYS

Increase your sales with these silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

### SCROLL TYPE DISPLAY

Striking, Modernistic, All Metal Panel



#### No. 1 DISPLAY Illustrated

Size 15" x 17  $\frac{1}{2}$ " (Nos. 1B, 2B, and 3B also same size)

This Display Panel Also Furnished With  
Five or Seven Irons (See Below)

	Ship. Wt.	List Price
No. 1B—Nine Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B, 201B, 301B ...	20 lbs.	\$56.75
No. 2B—Seven Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B.....	17 lbs.	38.75
No. 3B—Five Iron with Nos. 55B, 76B, 100B, 150B, 300B.....	15 lbs.	29.25
No. 4B—Five Iron with Nos. 71B, 101B, 121B, 201B, 301B .....	16 lbs.	33.50

### ATTRACTIVE THREE COLOR CARDBOARD DISPLAY

This same display card also furnished with No. 5B and No. 5DB, but mounted with irons listed below.

#### No. 6B DISPLAY Illustrated

Size 12" x 16  $\frac{1}{2}$ "

(Nos. 5B, 5DB also same size)



	Ship. Wt.	List Price
No. 5B—Three Iron with Nos. 55B, 76B, 100B...	4 lbs.	\$12.25
No. 5DB—Three Iron with Nos. 55B, 100B, 150B on display and 2 No. 55B and 1 No. 100B for stock.....	8 lbs.	25.25
No. 6B—Three Iron with Nos. 71B, 101B, 121B....	5 lbs.	15.50

# ESICO

REG. U. S. PAT. OFF.

## ELECTRIC SOLDERING IRONS FOR HOME, PROFESSIONAL MECHANIC AND FACTORY

### ● GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.



No. 415—List \$2.15— $\frac{3}{8}$ " Tip—55 Watts



No. 416—List \$3.25— $\frac{1}{4}$ " Tip—60 Watts



No. 417—List \$4.35— $\frac{3}{8}$ " Tip—100 Watts



No. 418—List \$5.45— $\frac{1}{2}$ " Tip—130 Watts

### ● ORANGE LABEL LINE

For Professional Mechanics—light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.



No. 62—List \$5.45— $\frac{1}{4}$ " Tip—60 Watts



No. 63—List \$6.55— $\frac{3}{8}$ " Tip—100 Watts



No. 64—List \$7.65— $\frac{1}{2}$ " Tip—130 Watts



No. 65—List \$8.75— $\frac{5}{8}$ " Tip—200 Watts



No. 67—List \$9.85— $\frac{7}{8}$ " Tip—300 Watts



No. 69—List \$12.05— $1\frac{1}{8}$ " Tip—500 Watts

### ● RED LABEL LINE

For Production Line Continuous Operations. These Irons are of most rugged construction.



No. 38—List \$7.65— $\frac{3}{8}$ " Tip—100 Watts



No. 58—List \$9.85— $\frac{5}{8}$ " Tip—200 Watts



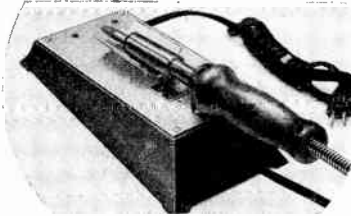
No. 78—List \$12.05— $\frac{7}{8}$ " Tip—300 Watts



No. 98—List \$14.25— $1\frac{1}{8}$ " Tip—550 Watts

## FOR FASTER SOLDERING... LONGER IRON LIFE

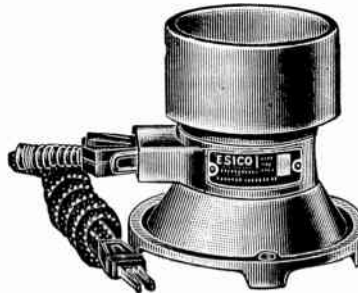
MAINTAINS DESIRED IRON TEMPERATURE BETWEEN JOBS • PREVENTS OVERHEATING  
SAVES ELECTRIC CURRENT • ADJUSTABLE TO ANY SIZE IRON  
SAVES TIME • NO LONG WARM-UP PERIOD



A practical, time and money saving device which accurately regulates and maintains soldering iron temperature between jobs. Lengthens iron life by reducing tip oxidation and amalgamation of tip with solder which increases with over-heating.

When placed on stand, iron rests in a copper cradle which conducts heat of iron and actuates a bimetal to open or close a switch. Temperature is easily regulated by an adjusting slide at bottom of stand. As iron is removed from stand, full current is instantly supplied. Stem rest adjustable to accommodate various lengths of irons. Stand is a heavy gray iron casting—stays firmly fixed without being fastened.

### ● SOLDERING POTS



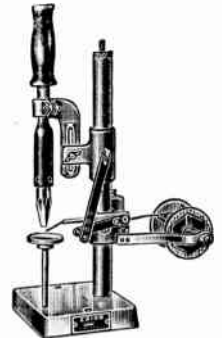
Ruggedly constructed, cast iron pots for production work. Elements are easily replaced even while pots are hot.

	Net Price
Cat. No. 12— $1\frac{1}{2}$ " dia. Cap.	
$\frac{3}{4}$ lbs. ....	\$ 4.95
Cat. No. 36— $2\frac{1}{2}$ " dia. Cap.	
$2\frac{1}{4}$ lbs. ....	6.05
Cat. No. 60— $3\frac{1}{2}$ " dia. Cap.	
$3\frac{3}{4}$ lbs. ....	7.15

### ● SPOT SOLDERING MACHINE

Model "F" is a treadle operated machine which feeds solder forward as the iron moves away from the work. Suitable for spot soldering where a mechanical connection has first been made. Net price .....\$16.50

Model "N" is a treadle operated machine for the advancement of the iron, but without a solder feed attachment. Net price.....\$8.25



### ● GLUE POTS

The catalogue No. 700 Glue Pot is of two quart capacity. It is the water jacket type and has a gasket sealed element and thermostat completely protected from moisture. Thermostat is normally set at 150 degrees for use with glue, but can be set at various temperatures for use with wax, etc. Net price .....\$20.35

## ELECTRIC SOLDERING IRON CO., INC.

Radio's Master - 17th Edition

40

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U-8

# THERMOSTATICALLY CONTROLLED KWIKHEAT ELECTRIC SOLDERING IRONS

Built-in Vanatta Automatic Thermostat



## KWIKHEAT TYPE NO. 300

225-Watts — 115 or 230 Volts AC Only

Weight of Iron with Standard No. 1 Tip.....14 oz.  
Shipping Weight per Iron with No. 1 Tip &  
resting stand ..... 1½ lb.  
Length of Iron with No. 1 Tip.....13"  
Length of Heater Cord.....6 ft.

### LIST PRICES

Iron with tip	
300/115/2 .....	\$12.25
115v 2 conductor bayonet plug	
300/230/2 .....	13.00
230v 2 cond. cord bayonet plug	
300/115/3 .....	14.00
115v 3 cond. cord bayonet or twist lock plug	
300/230/3 .....	14.75
115v 3 cond. cord bayonet or twist lock plug	
Replacement Elements	
328/115 .....	8.60
328/230 .....	9.35
Tips, any style .....	1.50
#20 Anti-freeze compound .....	.60

### TEMPERATURE

The Kwikheat Element can be set at the factory to any desired tip temperature between 275° and 875° F. Additional charges for this service.

1 to 49 .....	\$1.00 ea.
50 to 99 .....	.50 ea.
100 or more .....	standard price.

### CORROSION RESISTANT

Tips and core are forged of tellurium copper alloy and plated for resistance to corrosion.

### HOT IN 90 SECONDS

Kwikheat Thermostatically controlled Soldering Irons are the only irons containing built-in thermostats. Allowing a much greater watt density with less radiation of heat.

### TEMPERATURES ARE PRE-SET

Thermostat NOW set to give proper heat at the tip to flow solders allowed under tin conservation order M 8.

WHEN IRONS ARE TO BE USED FOR HEAVY OR HIGH SPEED SOLDERING SPECIFY A PRODUCTION IRON.

The use of recently developed alloys have permitted the increase of thermostat temperatures with reduced creep.

Please contact your jobber for trade discounts.

**KWIKHEAT MFG. CO.**

**Glendale 4, California**

## — 6 INTERCHANGEABLE TIPS —



For light soldering — radio and radar hook-up — light mechanical joints of all kinds . . . television and other delicate electronic soldering.



Standard tip — light to medium soldering — electrical wiring — many uses for soldering various electronic components.



For light soldering that is hard to reach with a straight tip — light production soldering where a twist of the wrist will put the end of the tip on the work.



Medium to heavy soldering — heavy wiring — light sheet metal soldering — radio, radar, and television chassis soldering.



A small melting and tinning pot holding 1 ounce of solder.



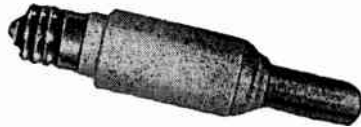
For use when continuous soldering is done — such as production line soldering.



Get **TRIPLE** soldering efficiency with

# Ungar Elkaloy Tiplets

No. 1235  
Thread-in Unit  
—\$1.35 ea.



No. 535  
Thread-in Unit  
—\$1.10 ea.



No. 331 Pencil  
Tiptet—15c ea.



No. 332 Offset  
Pencil Tiptet—  
15c ea.

No. 333 Chisel  
Tiptet—15c ea.

**Now a Single Heating Unit Does the Work of THREE!**

Now — more versatility with Ungar ELKALOY TIPLETs plus two thread-in heating units: No. 535 for general soldering (23½ watts) and the new No. 1235 (37½ watts) for production-line industrial soldering where more heat is required. Now—Ungar Elkaloy Tiplets make the famed Ungar Soldering Pencil 3 times more efficient. They save (1) Time (2) Money (3) Strategic Copper. Made of Elkaloy "A" for perfect tinning, stepped-up heat conductivity, and extra resistance to pitting and corrosion, each of the three tips threads into either of the heating units. In turn the heating unit fits the famed light-as-a-feather Ungar Handle. YOU CONTINUE TO USE THE HEATING ELEMENT WITH TIP AFTER TIP!

Check These Improvements  
in the Famous No. 776  
**Ungar Handle**  
Now Better Than Ever!

Check these features: Extra length brass shell firmly engages all threads, keeps heating unit tight; Spring action rivet assures positive contact; Extra flexible cord protected with molded Neoprene sleeve; Cooler handle of durable molded plastic, perfectly balanced; Form-fit cork grip; Ceramic insulation for double safety; Underwriters' listed (110-120V, 37½ watts). No. 776 Handle & Cord Set only \$1.15 ea.

NEW PROTECTIVE  
RUBBER SLEEVE  
fits over cord and prevents wear.



NEW FORM-FITTED CORK BUSHING  
keeps handle tilted at 10-degree angle  
— eliminates need for extra handle-rest  
— keeps hot tip pointed up, away from  
bench surface.



## UNGAR ELKALOY TIPLETs SCORE THESE ADVANTAGES:

**CONSERVES STRATEGIC MATERIALS.** By substituting Elkaloy "A" for the tips, and iron for the heating units, we have helped solve the copper problem — and can assure you immediate delivery of heating units and Elkaloy Tiplets IN ANY QUANTITY. (Note: Nos. 537S, and 537C and 538 Tips have been discontinued until further notice.)

**SAVES YOU MONEY** because you no longer discard the heating unit when the tip has worn down. Long-lived heating units can be used over and over again.

**EASIER TINNING.** Elkaloy "A" requires no special tinning procedure. Does not oxidize as rapidly as copper. No flux or paste ever required. Eliminates unnecessary and costly maintenance.

**EXCELLENT HEAT CONDUCTIVITY.** Elkaloy "A" absorbs heat from heating unit — delivers it directly to point of contact.

**INTERCHANGE TIPS EASILY AND QUICKLY.** When Elkaloy Tiptet is worn down, simply unthread used tip with pliers and screw in new tip. Difference in coefficient of expansion assures maximum heat conductivity — eliminates corrosion and gumming.

## PLUS 5 INTERCHANGEABLE TIPS



No. 536 Tellurium  
Pyramid Tip, 3/16",  
20-Watts \$1.10 ea.

No. 539 Tellurium  
Chisel Tip, 3/16",  
20-Watts \$1.10 ea.

No. 1236 HI-HEAT  
Pyramid Tip, 1/8",  
37½-W. \$1.35 ea.

No. 1239 HI-HEAT  
Chisel Tip, 1/8",  
37½-W. \$1.35 ea.

No. 540 Comb. of  
#267 Heating Unit  
& #122 Brass Knife  
Tip for Plastics —  
20-Watts \$1.10 ea.  
No. 267 85¢ ea.  
No. 122 25¢ ea.

DISCOUNTS: \$1.10 — \$9.90, 20%; \$10 — \$99, 35%; \$100 or more, 40%.  
PLEASE CONTACT YOUR JOBBER — WE DO NOT SELL DIRECT.

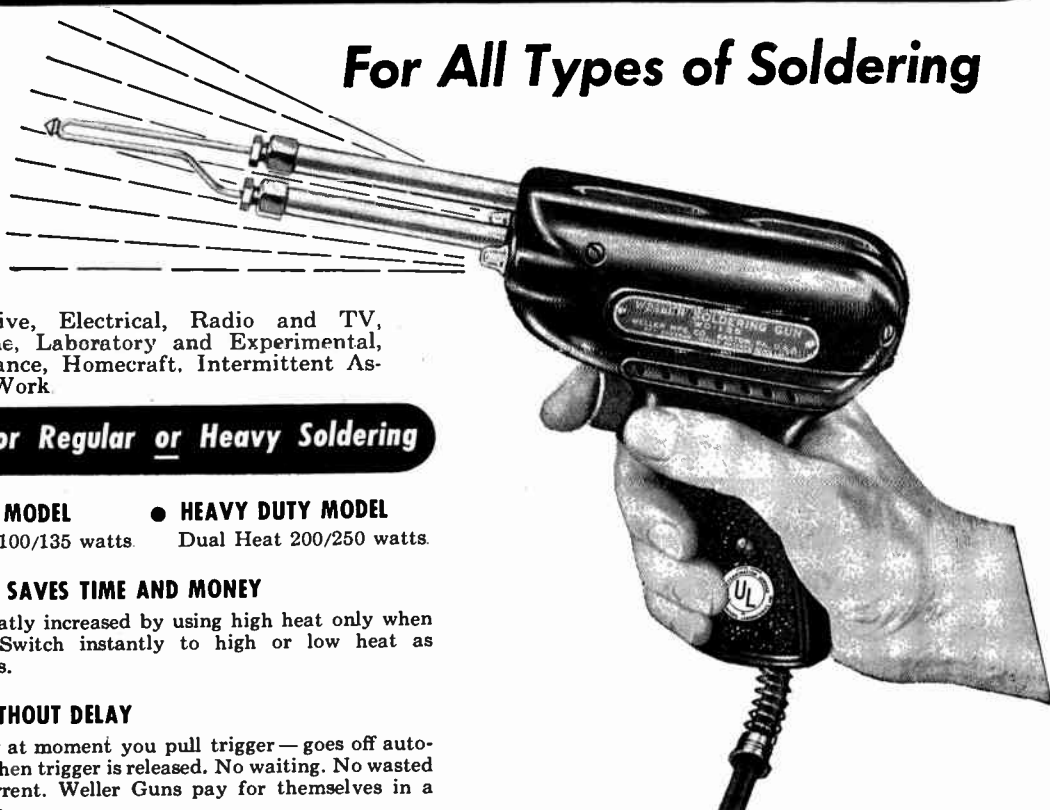


**Ungar Electric Tools, Inc.**

Los Angeles 54,  
California

# WELLER SOLDERING GUNS

## For All Types of Soldering



Automotive, Electrical, Radio and TV, Telephone, Laboratory and Experimental, Maintenance, Homecraft, Intermittent Assembly Work

### Models for Regular or Heavy Soldering

- **STANDARD MODEL** Dual Heat 100/135 watts
- **HEAVY DUTY MODEL** Dual Heat 200/250 watts

- **DUAL HEAT SAVES TIME AND MONEY**

Tip life greatly increased by using high heat only when necessary. Switch instantly to high or low heat as job requires.

- **SOLDER WITHOUT DELAY**

Instant heat at moment you pull trigger—goes off automatically when trigger is released. No waiting. No wasted time or current. Weller Guns pay for themselves in a few months

- **EXCLUSIVE TIP-FASTENING ARRANGEMENT**

Wiping action of tip-fastening nut eliminates contact resistance and oxidation—assures full, constant heat.

- **DUAL SPOTLIGHTS BANISH SHADOWS**

Built-in, prefocused spotlights locate work quickly—let you see clearly, even in dark corners. No more "blind soldering". No more flashlights

- **HIGH-IMPACT HOUSING—PERFECT BALANCE**

Rugged Hycar phenolic plastic housing protects against damage. Streamlined design and built-in transformer give pistol balance and soldering convenience.


- **SLIDES EASILY INTO TIGHT SPACES**


Longer reach slips easily between wiring—handles difficult, deep-corner jobs with ease. Speeds work and ends damage to insulation.

U.S. Pat. No. 2405866, Other Pat. Pending. Printed in U.S.A

- **LOW-COST, REPLACEABLE WELLERTIPS**

No redressing or unnecessary tinning. Change tips in just a few moments—at low cost. Chisel shape tip gives greater surface area for faster heat transfer.

MODEL	WATTS	CYCLES	VOLTS	NET PRICE	TYPE OF TIP
WS-100	single heat 100	60	115	\$ 8.95	 <b>STURDITIP</b> No. 7135 Package of 2—25c
WD-135	dual heat 100/135	60	115	10.95	

WS-200 <sup>1</sup>	single heat 200	60	115	9.95	 <b>RIGIDTIP</b> No. 7250 Package of 2—35c
WD-250	dual heat 200/250	60	115	11.95	

Also available: DURATIP No. 7300, for all previous model Weller Soldering Guns. Package of 2—25c

- **Handy Soldering Guide**

"SOLDERING TIPS" New, revised, fully up-to-date edition now ready. 20 illustrated pages show ways to faster, easier soldering. Price 10c at your Distributor—or order direct.

**Weller**  
Better from Grip to Tip

The Finest Soldering Tools for the Finest Craftsmen

## SOLDERING GUNS



Vasco QUICK-HEAT SOLDERING IRON HEATER



FULL LENGTH LEVER SWITCH ALLOWS HOLDING IRON IN ANY POSITION

DELIVERS FULL HEAT LOAD IN 5-SECONDS BY A NICHROME ELEMENT INSIDE THE REMOVABLE TIP

TWO (2) HEATS...  
HIGH - For Heavy Work  
NORMAL - For Most Jobs

Another Vasco FIRST!

A LITTLE IRON THAT DOES A *Big Job!*

Vasco  
**PETITE**  
SOLDERING IRON

**in the home...**

*It's convenient.* Because it cools as fast as it heats, you can put it in a kitchen drawer the minute you finish the job. It is always on hand for that quick repair job on a lamp, on jewelry, on utensils.

*It eliminates fire hazards.* You don't need a special rack to hold the iron while your hands are busy. Only the tip is hot, and the plastic handle keeps the tip from burning anything if you place the iron on carpet or table top.

*It saves time.* You don't need to wait ten or fifteen minutes for the iron to warm up for a job. Five seconds after you pick it up your Quick-Heat is ready to work.

**in the shop...**

*It's a money-maker.* Your service man can take his Quick-Heat with him on the job, plug it in anywhere, and get to work on radio or electrical appliance immediately . . . without danger of damage to a customer's furniture or carpets.

*It speeds the work.* A special model for shop use contains a stand-by heating arrangement . . . a resistor cord that maintains partial heat between jobs. As soon as you press the trigger, the tip is at working heat level. For all-day use in a shop, the Quick-Heat offers the user instant service the very second he wants it.

**in the factory**

*An extra bonus.* Besides all the advantages that Quick-Heat provides for other users, it makes employees on assembly lines more comfortable and more efficient by reducing heat radiation drastically. Moreover, in regular assembly-line use it can cut your electricity bill by as much as 85 percent.

**See the new Vasco QUICK-HEAT at your dealer's, or write for further information to**

Vasco Division of  
**MITCHELL INDUSTRIES, INC.**  
MINERAL WELLS, TEXAS POST OFFICE BOX 17

# Two famous

## KESTER FLUX-CORE SOLDERS



### KESTER "RESIN-FIVE" CORE SOLDER

Formulated especially for Radio and TV; will easily solder such metals as brass, zinc and ferrous alloys. It is non-corrosive and non-conductive.



### KESTER PLASTIC ROSIN-CORE SOLDER

The most widely used solder in the TV and radio field. All Kester Solders are made from the finest tin and lead available.

- ★ Kester Plastic Rosin-Core Solder
- ★ Kester "Resin-Five" Core Solder
- ★ Kester "44" Resin-Core Solder
- ★ Kester Radio Solder
- ★ Kester Acid-Core Solder
- ★ Kester "A" Flux-Core Solder
- ★ Kester Nosput Flux-Core Solder
- ★ Kester Knorust Flux-Core Solder
- ★ Specialized Flux-Core Solders
- ★ Solid Wire and Bar Solders
- ★ Kester Solderforms, Rings, Pellets, Washers, Ribbon
- ★ External Rosin Soldering Fluxes
- ★ Other Fluxes
- ★ Kester Soldering Iron Brackets

### For Peak Soldering Efficiency, It's Kester!

Kester offers every conceivable type of Solder product. Strand sizes as small as .008" diameter in Flux-Core Solder, unusual alloys and varying Flux contents or Core sizes.

### A Technical Service for Manufacturers

If you are not getting peak efficiency or have a specific problem in your soldering operations, take advantage of the facilities of Kester's Technical Department. . . . It costs you nothing.

STANDARD FOR THE TV AND RADIO FIELD

**KESTER  
SOLDER**

KESTER SOLDER COMPANY

4253 Wrightwood Avenue, Chicago 39, Illinois • Factories Also at Newark, New Jersey - Brantford, Canada

**ERSIN** *Multicore* **3 CORE SOLDER**



Ersin Multicore conforms with following specifications:

Federal QQ-S-571 b

Army-Navy-Air Force Mil-S-6872 (AN-S-62)

U.S. Air Force No. 41065-B-Method 31

Made of virgin metals only:

Tin 99.95% pure

Lead 99.97% pure



Available in a wide range of alloys and gauges. Every reel or carton clearly marked as to gauge and alloy, tin/lead content, and color coded.

**MULTICORE SALES CORPORATION**

**NEW YORK 13, N. Y.**



**THE ONLY SOLDER MADE WITH NON-CORROSIVE, EXTRA-ACTIVE ERSIN FLUX**

Actual performance proves it melts more rapidly due to thin-wall construction. Removes surface oxides, prevents reforming and will bond difficult metals safely, surely and economically.

**TECHNICAL ADVANTAGES**

**ERSIN FLUX**

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high grade, water white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use.

Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.



**MULTICORE SOLDER**

Three separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are three cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in the same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

**MULTICORE SALES CORPORATION**

**NEW YORK 13, N. Y.**

alert craftsmen prefer

# SOLDER

by **ALPHA**

*foremost in Quality*

*All Alpha Solders are approved by Underwriters Laboratories and exceed ASTM Class "A" Specifications. The most modern Rolling, Casting, Extrusion and Drawing Equipment, plus 58 years of experience in fabricating Tin Lead Alloys combine to bring you the finest solders that can be made.*

## TRI-CORE "ENERGIZED" ROSIN-FILLED SOLDER

Three cores for faster fluxing—contains faster acting "Energized" Rosin. Requires less heat, makes a fast, sure bond. "Takes" faster, especially on plated or oxidized surfaces. Non-corrosive, non-conducting. Used by leading Radio, Electronic and Television manufacturers.

SPOOLS—1 & 5 lbs.  
DIAMETERS—.081 or .062  
ALLOYS—Forty, Fifty or Sixty Grade\*

## ALPHA SOLID WIRE SOLDER

For use where separate flux is required. Made of finest virgin Tin & Lead. Alpha wire solder is extruded by the "Unity Process" assuring Homogenous alloy and uniform wire diameter throughout.

SPOOLS—1, 5, 25 or 50 lbs.  
DIAMETERS—.125 or .062  
ALLOYS—Forty, Fifty, or Sixty Grade\*

## OTHER ALPHA PRODUCTS

Bar Solder, Preforms, Sheet & Strip Foil, Powdered Solders, Lead & Tin Pipe & Tubing. Lead Anodes, Music Engraving Plates. Lead & Tin products in any form. Rolled, Cast, Extruded or Drawn.

## TRI-CORE "LEAK-PRUF" ACID-FILLED SOLDER

For general all purpose soldering. Three cores of chalk-like flux which will not leak. No need to crimp or seal after using. Can be formed into rings, segments or pieces without loss of flux. Fast acting; solders Stainless Steel and other difficult metals. Non-sputtering, non-toxic, less corrosive. Used by leading metal manufacturing fabricators.

SPOOLS—1 & 5 lbs.  
DIAMETER—.125  
ALLOYS—Forty, Fifty or Sixty Grade\*

## ALPHA HANDY CANS — Rosin or Acid Core

For the small user, Ham, Hobbyist or Householder. A generous coil of Tri-Core solder in Acid or Rosin Core. Attractive metal tin packed in Handy counter display box. Retail 25c. 12 cans per box.

### STANDARD PACKING

1 lb. spools—Individual Cartons—50 Cartons per Shipping Container.  
5 lb. spools—Packed 10 spools per shipping container.



**ALPHA METALS, INC.**

*buy from your parts jobber*



\*Subject to Government Restrictions

# VACO PRODUCTS COMPANY • CHICAGO 11, ILLINOIS • U. S. A.



Hand Forged Chrome Vanadium Screw and Nut Drivers With Ambery<sup>l</sup> S/B<sup>†</sup> (Slo-Burn)  
Fire Safe Break and Shock Proof Handles

\*Trade Marks Registered U. S. Pat. Off.

## ROUND BLADE SCREW DRIVERS



**Pocket Styles\*—3/32" & 1/8" Blades.**  
\*High carbon tool steel blades only.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 010-2	1 3/32" x 13/4"	3/32" x 1 3/8"	1/4 lb.
A 130-2	1/2" x 1 7/8"	1/8" x 2"	1/2 lb.
A 130-3	1/2" x 1 7/8"	1/8" x 3"	2/3 lb.
A 116-2	1/2" x 2 1/2"	3/32" x 2"	2/3 lb.
A 116-3	1/2" x 2 1/2"	3/32" x 3"	1/3 lb.

**Electrician and Regular Cabinet Styles — 3/16" Blades.**

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 316-3	7/8" x 3 1/2"	3/16" x 3"	1 1/4 lbs.
A 316-4	7/8" x 3 1/2"	3/16" x 4"	1 3/4 lbs.
A 316-6	7/8" x 3 1/2"	3/16" x 6"	1 3/4 lbs.
A 316-8	7/8" x 3 1/2"	3/16" x 8"	2 lbs.
A 316-10	7/8" x 3 1/2"	3/16" x 10"	2 1/2 lbs.

**Electrician and Cabinet Styles—1/8" Blades.**

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 216-2*	5/8" x 2 3/4"	1/8" x 2"	3/4 lb.
A 216-4	5/8" x 2 3/4"	1/8" x 4"	1 lb.
A 216-6	5/8" x 2 3/4"	1/8" x 6"	1 1/4 lbs.
A 216-8	5/8" x 2 3/4"	1/8" x 8"	1 3/4 lbs.
A 216-10	5/8" x 2 3/4"	1/8" x 10"	1 3/4 lbs.

**General Service Round Blade Styles — 1/4" Blades.**

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 416-4	1" x 3 5/8"	1/4" x 4"	2 1/4 lbs.
A 416-5	1" x 3 5/8"	1/4" x 5"	2 1/2 lbs.
A 416-6	1" x 3 5/8"	1/4" x 6"	2 3/4 lbs.
A 416-8	1" x 3 5/8"	1/4" x 8"	3 1/4 lbs.
A 416-10	1" x 3 5/8"	1/4" x 10"	3 1/2 lbs.

## Heavy Duty General Service Round Blade Styles — 5/16" Blades.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 516-6	1-1/16" x 4"	5/16" x 6"	4 lbs.
A 516-8	1-1/16" x 4"	5/16" x 8"	4 1/2 lbs.
A 516-10	1 1/8" x 4 3/4"	5/16" x 10"	5 1/2 lbs.
A 516-12	1 1/8" x 4 3/4"	5/16" x 12"	6 1/2 lbs.

## RADIO ALIGNING TOOLS NON-METALLIC ALIGNER

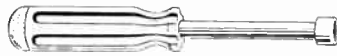
No metal — completely non-capacitance. Bone fibre blade may be reprinted as required.



Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
AT 55	1/2" x 2 1/2"	5/32" x 5"	3/4 lbs.

## VACO Super Hard NUT DRIVERS

Color Coded Hollow Handles For Quick Size Identification, For Use on Hardened Steel Self-Threading Sheet Metal Screws, Etc.



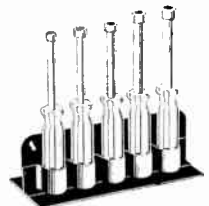
Stock Number	Hexagon Size (Across Flats)	Handle Diameter and Length	Color Code	Fits Machine Screw Nos.
S 61	3/16"	1" x 3 5/8"	Brown	2 and 3
S 82	1/4"	1" x 3 5/8"	Red	4
S 103	5/16"	1" x 3 5/8"	Green	5 and 6
S 114	11/32"	1" x 3 5/8"	Ivory	8
S 125	3/8"	1" x 3 5/8"	Blue	10
S 176	7/16"	1" x 3 5/8"	Orange	12 and 1/4"
S 167	1/2"	1" x 3 5/8"	Yellow	5/16"

## VACO EXTRA HARD NUT DRIVERS

Size Stamped on Each Shaft for Easy Identification  
Solid Ambery<sup>l</sup> S/B Fire Safe Handles



Stock Number	Hexagon Size	Handle Diameter and Length	Weight per Doz.
S 5	5/32"	7/8" x 3 1/2"	1 lb. 8 oz.
S 6	3/16"	7/8" x 3 1/2"	1 lb. 10 oz.
S 7	7/32"	7/8" x 3 1/2"	1 lb. 11 oz.
S 8	1/4"	7/8" x 3 1/2"	1 lb. 12 oz.
S 9	9/32"	7/8" x 3 1/2"	1 lb. 14 oz.
S 10	5/16"	7/8" x 3 1/2"	2 lbs.
S 11	11/32"	7/8" x 3 1/2"	2 lbs. 8 oz.
S 12	3/8"	7/8" x 3 1/2"	2 lbs. 12 oz.
S 14	7/16"	7/8" x 3 1/2"	2 lbs. 14 oz.
S 15	15/32"	7/8" x 3 1/2"	2 lbs. 15 oz.
S 16	1/2"	7/8" x 3 1/2"	3 lbs.



## No. 500 METAL BENCH HOLDER

Furnished with 1 each of five most popular sizes: S 8, S 10, S 11, S 12, S 14. Weight each . . . 1 1/2 lbs.

## ALL HOLLOW SHAFT NUT DRIVERS

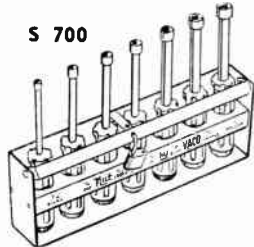


Stock Number	Hexagon Size (Across Flat)	Handle Diameter and Length	Weight per Doz.
S 160	1/2"	1" x 3 5/8"	3 lbs. 4 oz.
S 180	9/16"	1" x 3 5/8"	3 lbs. 8 oz.

## Extra Large Size

Stock Number	Hexagon Size	Handle Diameter and Length	Weight per Doz.
S 17	17/32"	1-1/16" x 4"	4 1/2 lbs.
S 18	9/16"	1-1/16" x 4"	4 1/2 lbs.
S 19	19/32"	1-1/16" x 4"	4 1/2 lbs.
S 20	5/8"	1-1/16" x 4"	4 1/2 lbs.

## S 700

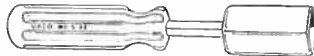


## VACO WALL OR BENCH PADLOCK TYPE NUT DRIVER STAND

Holds One Complete Driver Outfit . . . from 3/16" to 1/2".

Stock Number	Weight (Packed)
S 700	2 1/4 lbs.
S 700 (Stand only)	1 lb. 2 oz.

## VACO AMBERYL ELECTROLYTIC CONDENSER NUT DRIVERS



Weight per box . . . 3 lbs.

Packed 4 each of following sizes in display box, or assorted as desired:  
No. S 32 for 3/16" Nuts  
No. S 34 for 1/4" Nuts  
No. S 36 for 1-5/32" Nuts

## AMBERYL HANDLE PHILLIPS SCREW DRIVERS



Stock Number	Point Number	Handle Diameter and Length	Blade Diameter and Length	Takes Screws Number	Weight per Doz.
P 01	1	5/8" x 2 3/4"	3/16" x 2 1/2"	4 and smaller	3/4 lb.
P 1	1	7/8" x 3 1/2"	3/16" x 3"	4 and smaller	1 1/4 lbs.
P 2	2	1" x 3 5/8"	1/4" x 4"	5 to 9	2 1/2 lbs.
P 3	3	1-1/16" x 4"	5/16" x 6"	10 to 16	3 1/2 lbs.
P 4	4	1-3/16" x 4 3/4"	3/8" x 8"	18 and larger	6 lbs.
P 5	2	1 1/4" x 2 1/2"	1/2" x 1 3/4"	5 to 9	1 1/2 lbs.
P 6	1	1 1/8" x 1 3/4"	3/16" x 1 1/4"	4 and smaller	1 lb. 2 oz.
P 12	1	3/2" x 2 1/2"	1/4" x 2 1/2"	4 and smaller	11 oz.
P 101*	1	3/4" x 3"	3/16" x 3"	4 and smaller	1 1/4 lbs.

## WOOD HANDLE PHILLIPS SCREW DRIVERS

High Carbon Tool Steel Blades . . . Chrome Vanadium Blades Also Available.



Stock Number	Handle Diameter and Length	Blade Diameter and Length	Takes Screws Number	Weight per Doz.
WP 10	1" x 4"	3/16" x 3"	4 and smaller	1 1/4 lbs.
WP 20	1 1/8" x 5"	1/4" x 4 3/4"	5 to 9	2 1/2 lbs.
WP 30	1 1/2" x 6"	5/16" x 6"	10 to 16	3 1/2 lbs.
WP 40	1-5/16" x 7"	3/8" x 8"	18 and larger	5 lbs.
WP 50 (Stub)	1-5/16" x 2 1/4"	1/4" x 1 3/4"	5 to 9	1 lb. 2 oz.
WP 60 (Stub)	1-5/16" x 2 1/4"	3/16" x 1 1/4"	4 and smaller	1 lb.

## VACOMBO Nut Setter Kit No. ZS 60

Kit consists of:

- 1 — ZH 1 Ambery<sup>l</sup> Handle with Clutch
- 1 — ZS 8 Hex. Wrench 3/4" x 3"
- 1 — ZS 10 Hex. Wrench 5/16" x 3"
- 1 — ZS 11 Hex. Wrench 11/32" x 3"
- 1 — ZS 45 Bl. de 3/4" x 5" Out of Handle
- 1 — ZS 12 Hex. Wrench 3/8" x 3"
- 1 — ZS 14 Hex. Wrench 7/16" x 3"
- 1 — ZR 77 Seven Section Leatherette Tool Roll

Also Available — 6" Extension No. ZX 56  
3/16" Hex. Wrench No. ZS 8  
1/2" Hex. Wrench No. ZS 16  
Weight packed . . . 9 oz.

## VACOMBO Screw Driver Kit No. ZB 50

Kit consists of:

- 1 — ZH 1 Ambery<sup>l</sup> Handle with Clutch, 1" x 3 5/8"
- 1 — ZB 24 Blade 1/4" x 4" Out of Handle
- 1 — ZB 34 Blade 3/16" x 4" Out of Handle
- 1 — ZB 45 Bl. de 3/4" x 5" Out of Handle
- 1 — ZP 14 Blade No. 1 Phillips x 4"
- 1 — ZP 24 Bl. de No. 2 Phillips x 4"
- 1 — ZR 77 Seven Section Leatherette Tool Roll

Also Available — 6" Extension No. ZX 56  
Specifications: Ambery<sup>l</sup> S/B (Slo-Burn) Fire Safe Handle — Oil Tempered Chrome Vanadium Blades — Bright Chromium Rust-Proof Plated Finish.  
Weight packed . . . 8 oz.

## VACO DUPLEX REVERSIBLE SCREW DRIVERS with Ambery<sup>l</sup> S/B (Slo-Burn) Plastic Handle



A Phillips bit on one end + A regular bit on other end

**TWO SIZES**  
DU2 Light Duty — Specifications: Handle Diameter and Length 1" x 3 5/8"  
DUH4 Heavy Duty — Specifications: Handle Diameter and Length 1" x 3 5/8"

Long vanadium steel blade. Strong lasting Ambery<sup>l</sup> handle of high dielectric and impact strength . . . shock and break resistant . . . impervious to most alkalis and acids.

A Flip of the Wrist Does It . . . From Phillips to Regular.



Precision engineered blade may easily be inserted or removed and reversed to provide either a regular or Phillips bit. Ideal for automobiles, radios, refrigerators, household utilities, toys, etc., where straight slot screws and cross slot screws are frequently used in combination.



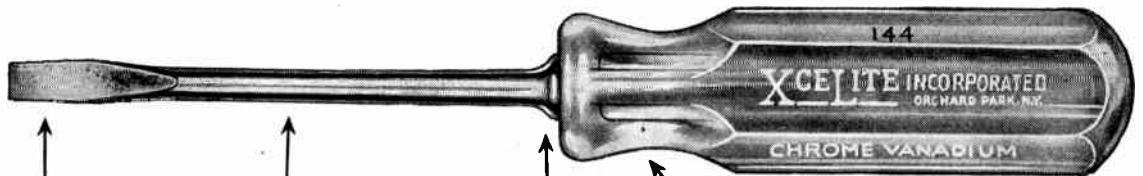
Quality

**XCELITE**

Tools

REG. TRADE MARK

Originators of  
**SHOCK-PROOF BREAK-PROOF AMBER PLASTIC HANDLE**  
**SCREWDRIVERS**



TIP ground on flat belt and gauged for perfect fit in screw slot.

BLADE forged of SAE 6150 Chrome Vanadium Electric Furnace Steel.

FLANGE on the blade at handle resists shock of pounding.

WINGED END of blade embedded in handle prevents turning in handle.

FULL SIZE HANDLE for adequate grip. Genuine Xcelite plastic.

There's an XCELITE Screwdriver "Sized" for Every Job!

Number	Size Blade	List	Weight Box of 10	
*R-3322	$\frac{3}{32}$ " x 2"	.33	$\frac{1}{2}$ lb.	4 ea. on 332 Display
*R-3323	$\frac{3}{32}$ " x 3"	.33	$\frac{1}{2}$ lb.	
*R-3324	$\frac{3}{32}$ " x 4"	.33	$\frac{1}{2}$ lb.	
**R-181	$\frac{1}{8}$ " x 1"	.33	$\frac{1}{2}$ lb.	4 ea. used on #12 Display
*R-183	$\frac{1}{8}$ " x 3"	.33	$\frac{1}{2}$ lb.	
*R184/2	$\frac{1}{8}$ " x 4"	.33	$\frac{1}{2}$ lb.	
R-182	$\frac{1}{8}$ " x 2"	.50	$\frac{1}{2}$ lb.	
††R-184	$\frac{1}{8}$ " x 4"	.55	$\frac{1}{2}$ lb.	
††R-186	$\frac{1}{8}$ " x 6"	.60	$\frac{3}{4}$ lb.	
††R-188	$\frac{1}{8}$ " x 8"	.66	1 lb.	
††R-1810	$\frac{1}{8}$ " x 10"	.75	1 lb.	
R-5323	$\frac{3}{32}$ " x 3"	.65	1 lb.	ea. on #10 Display
R-5324	$\frac{3}{32}$ " x 4"	.65	1 lb.	
R-5325	$\frac{3}{32}$ " x 5"	.65	1 lb.	
R-5328	$\frac{3}{32}$ " x 8"	.80	$1\frac{1}{4}$ lb.	
R-3163	$\frac{3}{16}$ " x 3"	.75	$1\frac{1}{2}$ lb.	
R-3164	$\frac{3}{16}$ " x 4"	.80	$1\frac{1}{2}$ lb.	
R-3166	$\frac{3}{16}$ " x 6"	.95	$1\frac{3}{4}$ lb.	
R-3168	$\frac{3}{16}$ " x 8"	1.00	$1\frac{3}{4}$ lb.	
R-31610	$\frac{3}{16}$ " x 10"	1.15	2 lb.	
R-31618	$\frac{3}{16}$ " x 18"	1.95	(pk. 1) $\frac{1}{4}$ lb. ea.	
R-142	$\frac{1}{4}$ " x 2"	.95	$1\frac{3}{4}$ lb.	
R-144	$\frac{1}{4}$ " x 4"	1.00	2 lb.	
R-146	$\frac{1}{4}$ " x 6"	1.05	$2\frac{1}{4}$ lb.	
R-148	$\frac{1}{4}$ " x 8"	1.15	$2\frac{1}{2}$ lb.	
R-1410	$\frac{1}{4}$ " x 10"	1.25	$2\frac{3}{4}$ lb.	
R-5166	$\frac{5}{16}$ " x 6"	1.25	$3\frac{1}{2}$ lb.	
R-5168	$\frac{5}{16}$ " x 8"	1.35	4 lb.	

\*\*24 of this number used on #24 display.  
 \*These numbers have  $\frac{1}{2}$ " dia. handles.  
 ††These numbers have  $\frac{3}{4}$ " dia. handles. For insulated blades any size add 35 cents to list price.  
**SQUARE BLADED SCREWDRIVERS ALSO AVAILABLE** in the sizes you want. Ask your XCELITE jobber.

**PACKED BY "DECIMAL" SYSTEM**

We have standardized our packages on the decimal system instead of in dozens, for ease in keeping inventory. All screwdrivers and nut drivers will be packed ten in a box, except where otherwise noted (exceptions are large sizes or slow moving items). Weights given above are correct to the nearest quarter-pound limit.

**EASY TO SELECT SIZES.** They are clearly marked on handles. For example, No. 144 means  $\frac{1}{4}$ " dia. blade 4" long. "R" or "S" signify round or square blades.

**Xcelite-Phillips**

No.	Point Size	Length Blade	Diameter Blade	Box of Ten Weight	List Price
X-108	1	6"	$\frac{3}{16}$ "	$1\frac{1}{2}$ lbs.	\$1.15
X-101	1	3"	$\frac{3}{16}$ "	$1\frac{1}{4}$ lbs.	1.05
X-102	2	4"	$\frac{1}{4}$ "	2 lbs.	1.35
X-103	3	6"	$\frac{5}{16}$ "	$3\frac{1}{2}$ lbs.	1.80
X-104	4	8"	$\frac{3}{8}$ "	$5\frac{1}{4}$ lbs.	2.25
X-1010	1	10"	$\frac{3}{16}$ "	2 lbs.	1.60
X-1020	2	10"	$\frac{1}{4}$ "	3 lbs.	1.80

**SHORT STUBBY TYPE**

SX-101	1		$\frac{3}{16}$ "	$\frac{7}{8}$ lbs.	1.00
SX-102	2		$\frac{1}{4}$ "	$1\frac{1}{4}$ lbs.	1.10



**XCELITE Clutch Head Screwdrivers**

Type G No.	Size	Diameter Blade	Length Blade	List Price Each
G-183	$\frac{1}{8}$ "	$\frac{3}{16}$ "	3"	\$1.20
G-5324	$\frac{3}{32}$ "	$\frac{1}{4}$ "	4"	1.32
G-3164	$\frac{3}{16}$ "	$\frac{1}{4}$ "	4"	1.32
G-146	$\frac{1}{4}$ "	$\frac{5}{16}$ "	6"	1.75
G-5166	$\frac{5}{16}$ "	$\frac{3}{8}$ "	6"	2.15

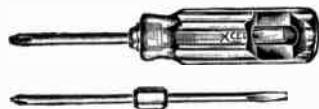
Quality

**XCELITE**

Tools

REG. TRADE MARK

# MULTI-PURPOSE SCREWDRIVERS



## "Combination-Detachable" SCREWDRIVER

ORIGINATED BY XCELITE

This original dual-purpose screwdriver has a BIG handle— $1\frac{3}{8}$ " x  $4\frac{1}{8}$ "—hollow to receive the dual-blade units. Gives you two screwdrivers for about the price of one, and every additional blade you buy means more savings.

### INDIVIDUAL Blade Combinations

(Please Order by Number)

- No. 1—No. 1 Phillips and  $\frac{3}{8}$ " Xcelite
- No. 2—No. 2 Phillips and  $\frac{1}{4}$ " Xcelite
- No. 3—No. 3 Phillips and  $\frac{3}{8}$ " Xcelite

#### COMPLETE (Regular Type)

	List Price
No. CR1.....	\$1.75
No. CR2.....	1.75
No. CR3.....	1.75

#### BLADES ONLY (Regular Type)

	List Price
No. RB1.....	\$0.95
No. RB2.....	.95
No. RB3.....	.95

#### HANDLES ONLY

	List Price
No. 25 Regular.....	\$0.80

### STUBBY TYPE

"Combination-Detachable" Screwdrivers



#### COMPLETE (Stubby Type)

No. CS1.....	\$1.50
No. CS2.....	1.50

#### BLADES ONLY (Stubby Type)

No. SB1.....	\$0.75
No. SB2.....	.75

#### HANDLES ONLY

No. 26 Stubby.....	\$0.75
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## XCELITE No. 3 De Luxe

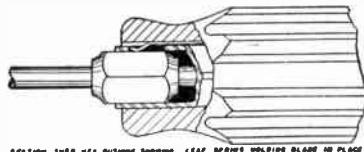
### RADIO AND ELECTRICAL PLASTIC ROLL KIT



Set includes:

- R-142, R-3163, R-5166, R-184, R-144, X-101 and R-3166.

No. 3.....	\$7.75
No. 3C Chrome Plated.....	\$8.50



SECTION THROUGH HEX DRIVING HANDLE. LEAF SPRING HOLDS BLADE IN PLACE.

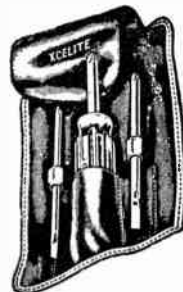
## Another XCELITE "First"! This New Spring Fastener

Unique spring-and-bushing assembly makes the simplest and most foolproof fastener yet. It fits all XCELITE ball fastener type blades. Handle is a  $\frac{7}{8}$ " hex NUT DRIVER, and the spring holds the nut from falling.

### ROLL KIT Combinations

No. CK3 . . . \$4.35 List. Contains RB-1, RB-2, RB3 and Combination Handle.

No. CK-2 . . . \$3.40 List. Contains RB-1, RB2 and Combination Handle.



## XCELITE UNIDRIVER



### A COMPLETE SCREWDRIVER KIT

Not another "gadget" but a fine tool with large genuine XCELITE hollow handle which holds assortment of bits. Chuck means quick changes of bits. No more delays in finding the right screwdriver. In the handle are contained these XCELITE bits:

- Phillips No. 1 Point (U31)
- Phillips No. 2 Point (U32)
- Slotted  $\frac{3}{8}$ " Diameter Blade (U34)
- Slotted  $\frac{1}{4}$ " Diameter Blade (U35)
- $\frac{3}{8}$ " Clutch (U39)

Unidriver, complete with above blades List Price \$3.50

Quality

**XCELITE**

Tools

REG. TRADE MARK

# NUT DRIVERS and NUT DRIVER SETS



6" Overall Length

Number	Size	List
6	3/8"	\$0.80
7	1/2"	.80
8	5/8"	.80
9	3/4"	.80
10	7/8"	.80
11	1"	.80
12	1 1/8"	.80
14	1 1/4"	1.25
16	1 1/2"	1.25

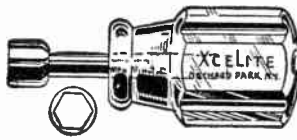
9" Overall Length

Number	Size	List
A-6	3/8"	\$1.05
A-7	1/2"	1.05
A-8	5/8"	1.05
A-9	3/4"	1.05
A-10	7/8"	1.05
A-11	1"	1.05
A-12	1 1/8"	1.05
A-14	1 1/4"	1.38
A-16	1 1/2"	1.38

## STUBBIES

3 1/4" Overall Length

Number	Nut Size	List
S-8	1/4"	\$0.77
S-10	5/8"	.77
S-12	3/8"	.77



## HOLLOW SHAFT NUT DRIVERS



No. and Length Overall	Nut Size	Depth of Hole	Weight per Box	List	Insulated List
HS-8 6"	1/4"	5"	1 1/2 lbs.	\$1.15	\$1.50
HS-10 6"	5/8"	5"	1 1/2 lbs.	1.15	1.50
HS-11 6"	1 1/8"	5"	1 1/2 lbs.	1.15	1.50
HS-12 6"	3/8"	5"	2 lbs.	1.15	1.50
HS-14 7"	1/2"	5"	2 3/4 lbs.	1.30	1.65
HS-16 7"	7/8"	5"	2 3/4 lbs.	1.35	1.70
HS-18 7"	1 1/8"	5"	3 lbs.	1.40	1.75
HS-20 7"	1 1/4"	5"	3 lbs.	1.65	2.00

## No. 99 PR MULTI-PURPOSE SET

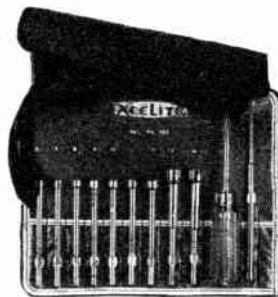
### CONTENTS

- 99-1 Multi-Purpose Handle
- 99-82 Reversible Phillips Blade
- 99-81 Screwdriver Blade
- 99-6-7-8-9-10-11-12-14-16 Nut Drivers

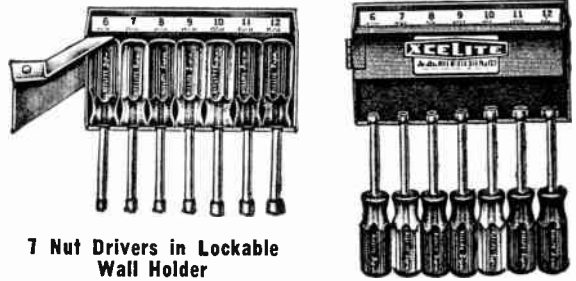
### ACCESSORIES

- 99-83 Reversible Reed and Prince Blade

Number	Description	List
99	Comb. Set in Metal Box	Temp. Disc.
99-PR	Comb. Set in Plastic Roll	10.95
99-1	Handle	.95
99-6 through 99-12	Nut Drivers	.65 ea.
99-14	Nut Driver	.90
99-16	Nut Driver	.90
99-81	Reversible Screw Driver	1.15
99-82	Reversible Phillips	1.15
99-83	Reversible Reed & Prince	1.15



## Deluxe No. 127 Set



7 Nut Drivers in Lockable Wall Holder

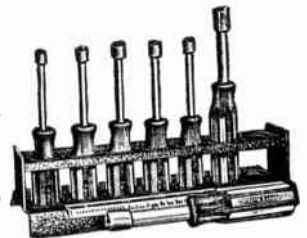
- COLORED HANDLES FLASH SIZE!
- NEW LARGER HANDLES — BRIGHTER COLORS
- Set contains Nos. 127-6, 127-7, 127-8, 127-9, 127-10, 127-11, and 127-12. Furnished in either full polished or chrome finish.
- Sturdy metal holder in red wrinkle finish.

Individual Drivers, Polished	\$0.85
Chrome	.95
No. 127—Polished Finish	7.15
No. 127C—Chrome Plated	7.95

## NO. 137 NUT DRIVER SET With Colored Handles

Consisting of:

Number	Size	Pol.	Chr.
127-6	Black 3/8"	.85	.95
127-8	Red 1/4"	.85	.95
127-10	Yellow 1/8"	.85	.95
127-11	Green 1 1/8"	.85	.95
127-12	Blue 3/8"	.85	.95
HS-16	Red 1/2"	1.40	1.50
HS-18	Brown 7/8"	1.45	1.55



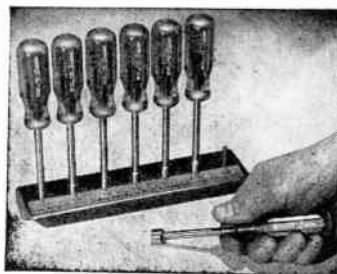
No. 137 Polished Finish	\$8.15
No. 137C Chrome Plated	8.95

## NO. 17 NUT DRIVER SET

Amber Handles — Highly Polished Blades

Consisting of:

Number	Size
6	3/8"
7	1/2"
8	5/8"
9	3/4"
10	7/8"
11	1"
12	1 1/8"



Complete with Rack ..... \$6.15

Quality

**XCELITE**

Tools

REG. TRADE MARK

# PLIERS

XCELITE Pliers are made specifically for work in the electrical and electronics fields. Each is made of the high grade alloy best suited for the job. Workmanship, materials and inspection are of the highest quality. All blades are hand honed.

**No. 51 XCELITE  
Long Needle Nose and  
Side Cutter Plier**



List Price \$3.40

**No. 52 XCELITE  
Long Needle Nose  
(Without Side Cutter)**



List Price \$2.90

**No. 55 XCELITE  
Electricians' Diagonal  
Plier, 5"**



List Price \$3.25

**No. 60 XCELITE  
Side Cutting Plier  
6"**



List Price \$3.15

**No. 58 XCELITE  
Radio and TV  
Plier**



List Price \$4.00

**No. 56 XCELITE  
Slim Needle Nose  
Plier**



List Price \$3.15

**No. 57 XCELITE  
Long Duck Bill  
Plier, 7"**



List Price \$3.25

**No. 59 XCELITE  
Chain Nose  
Electricians' Plier**



List Price \$3.55

**No. 54 XCELITE  
Electricians'  
Midget Diagonal  
Plier, 4"**



List Price \$3.25

**No. 49 XCELITE  
Electronic Midget Snip  
(Shear action type)**



List Price \$3.70

# XCELITE ADJUSTABLE WRENCHES



- **THIN PATTERN** designed by mechanics for mechanics to get into hard-to-reach places!
- **EASY TURNING KNURL** for quick adjustment.
- **AN IDEAL TOOL** for securing antenna mounts!
- **STRONG!** Drop forged from chrome alloy steel!

- **BETTER GRIP!** Movable jaws has wide bearing surface!

	No.	Size	Wgt. Box of 6	List
	44	4"	7/8 lb.	\$2.45
	46	6"	2 lbs.	2.60
	48	8"	3 3/4 lbs.	3.00



# KRAEUTER

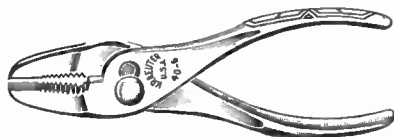
The choice of skilled mechanics



## "GRIPTITE" COMBINATION PLIERS

The finest quality combination pliers. Designed for heavy duty. Slightly tapered nose, sharp deep milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The 8" and 10" sizes have three slip joint adjustments which give a wide range of parallel grips.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
356	5½ in.	Full Nickel	3½ lbs.	\$1.75	
356	6 in.	Full Nickel	5¼ lbs.	2.00	
356	8 in.	Full Nickel	8¾ lbs.	2.50	
356	10 in.	Full Nickel	14 lbs.	3.00	



## THIN NOSE COMBINATION PLIERS

The tapered jaws and thin nose of these pliers enable the mechanic to grip objects difficult to reach in tight, narrow working spaces. Knurled handles, milled gripping teeth and wire cutters.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
40	6 in.	Nickel Plated	4¼ lbs.	\$1.50	



## MECHANICS' SIDE CUTTING PLIERS

Gripping pliers with side cutters. Tapered nose, milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The cutters are very handy for light wire work.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
1973	5½ in.	Full Nickel	3½ lbs.	\$2.75	
1973	7 in.	Full nickel	7¼ lbs.	3.00	



## LINEMEN'S SIDE CUTTING PLIERS

Designed for heavy work to meet the requirements of linemen. Drop forged from selected plier steel, skilfully hardened and tempered. Powerful wire cutters, a well balanced head and deep milled gripping jaw surface for holding and bending wire.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
1801	6 in.	Blue Temper	5¼ lbs.	\$2.75	
1801	7 in.	Blue Temper	7½ lbs.	3.20	
1801	8½ in.	Blue Temper	11¼ lbs.	4.00	



## ELECTRICIANS' SIDE CUTTING PLIERS

Used extensively in electric wiring of fixtures, appliances and other general repair work. Very popular with mechanics on production work where electric wiring is required in the finished product.

No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
1830	4 in.	Blue Temper	1½ lbs.	\$2.00	
1830	5 in.	Blue Temper	2¼ lbs.	2.25	
1830	6½ in.	Blue Temper	4¾ lbs.	2.50	
1830	7 in.	Blue Temper	6¾ lbs.	2.75	
1830	8 in.	Blue Temper	8¼ lbs.	3.00	



## IGNITION PLIERS

Very narrow head, serrated gripping teeth and well shaped handle grips. Three slip joint positions. Generally used on distributor, generator, magneto and carburetor work.

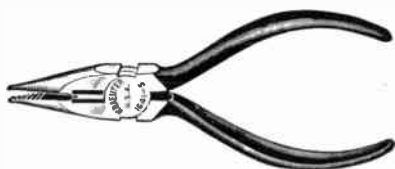
No.	Length	Finish	Wt. per doz.	Price	
				per doz.	Each
643	5 in.	Blue Temper	1 lb.	\$1.65	

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# KRAEUTER

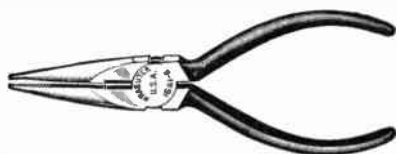
The choice of skilled mechanics



## SHORT CHAIN NEEDLE NOSE PLIERS

Short tapered jaws for bending and looping wire. The short nose gives these pliers extra leverage and gripping strength. Used for wiring switches and other open electric work.

No.	Length	Finish	Wt. per doz.	Price
				Each
1641	5 in.	Blue Temper	2¾ lbs.	\$2.25
1643	Same	without Cutter	2¾ lbs.	2.00



## LONG CHAIN NEEDLE NOSE PLIERS

Long tapered jaws and needle nose. Used extensively in all industries . . . from switchboard, electric fixture and appliance wiring . . . to motor ignition, aviation and general manufacturing work.

No.	Length	Finish	Wt. per doz.	Price
				Each
1661	6 in.	Blue Temper	3½ lbs.	\$2.75
1671	Same	without Cutter	3½ lbs.	2.25



## EXTRA LONG CHAIN NOSE PLIERS

Extra long tapered jaws with narrow pointed nose. Used extensively in automotive . . . electric . . . aviation and general production and repair work.  
Length of jaw 2¾ in.

No.	Length	Finish	Wt. per doz.	Price
				Each
1781	7 in.	Blue Temper	3¾ lbs.	\$3.10
1771	Same	without Cutter	3¾ lbs.	2.50



## DIAGONAL "OBLIQUE" CUTTING PLIERS

Made especially for close cutting. Used extensively in electrical work, radio manufacturing, telephone and automotive ignition work.

No.	Size	Finish	Wt. per doz.	Price
				Each
4501	4½ in.	Blue Temper	1½ lbs.	\$2.10
	5 in.	" "	2¾ lbs.	2.40
	6 in.	" "	3¾ lbs.	2.75



## WIRE STRIPPING DIAGONAL CUTTING PLIERS

Narrow head and notched cutters for stripping fine wire .062 diameter. The spring in the handle makes this a very fast cutting tool. Used by manufacturers of electric fixtures, appliances, radio and radio tubes.

No.	Length	Finish	Wt. per doz.	Price
				Each
2612	6½ in.	Blue Temper	3 lbs.	\$3.10



## "HIGH POWER" DIAGONAL CUTTING PLIERS

This type diagonal plier has the joint very close to the end of the cutter to give added leverage which makes cutting easy. A well balanced tool adaptable to the work in many trades.

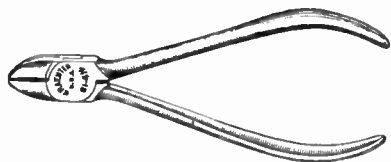
No.	Length	Finish	Wt. per doz.	Price
				Each
4610	7 in.	Blue Temper	5¾ lbs.	\$2.70

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# KRAEUTER

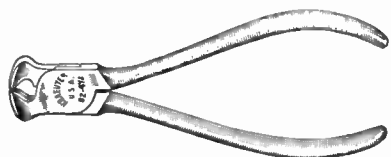
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### JEWELERS' DIAGONAL CUTTING PLIERS

Carefully edged cutting jaws. Designed for very fine close work.

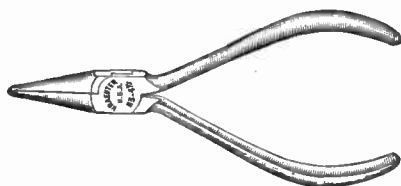
No.	Size	Finish	Wt. per doz.	Price Each
81	4½"	Full Polished	1 lb.	\$2.75



### JEWELERS' END CUTTING NIPPERS

Carefully edged cutting jaws. Designed for very fine close work.

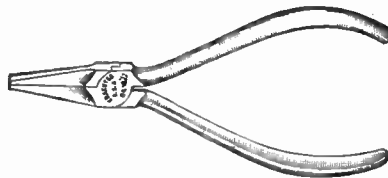
No.	Size	Finish	Wt. per doz.	Price Each
82	4½"	Full Polished	1½ lbs.	\$3.25



### JEWELERS' CHAIN NOSE PLIERS

Jaws 1/32" diameter at point of nose. No cutter. 1 1/16" smooth jaw. Supplied with milled jaws when specified.

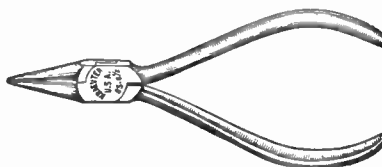
No.	Size	Finish	Wt. per doz.	Price Each
83	4½"	Full Polished	1¼ lbs.	\$2.50



### JEWELERS' FLAT NOSE PLIERS

Jaws 1/8" wide at point of nose. No cutter. 1 1/16" smooth jaw. Supplied with milled jaws when specified.

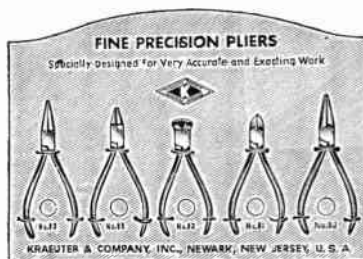
No.	Size	Finish	Wt. per doz.	Price Each
84	4½"	Full Polished	1½ lbs.	\$2.60



### JEWELERS' ROUND NOSE ROUND JAW PLIERS

Each jaw 1/32" diameter at point of nose. No cutter. 15/32" smooth jaw. Supplied with milled jaws when specified.

No.	Size	Finish	Wt. per doz.	Price Each
85	4½"	Full Polished	1¼ lbs.	\$2.60



### NO. 88 COUNTER DISPLAY

Size 12½" x 8¾" with easel back  
One each of Nos. 81. 82. 83. 84. 85. Fine precision made pliers for the hobby crafters—model builders—skilled technicians.

Price, complete \$13.70



### COMBINATION PATTERN SNIP

Drop forged from solid steel and skillfully heat treated for hard shearing blades. The bolt and nut assembly is machine finished with bearing surfaces properly hardened to resist wear.

No.	Length Cut	Finish	Wt. ea.	Price Each
K13	7" 15/8"	Polished head Black handles	5½ oz.	\$2.00

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Radio's Master -- 17th Edition

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U-24



# KRAEUTER

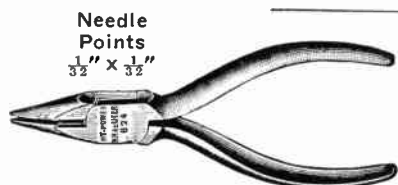
The choice of skilled mechanics

## Professional Line

### SPECIAL NEEDLE POINT PLIERS

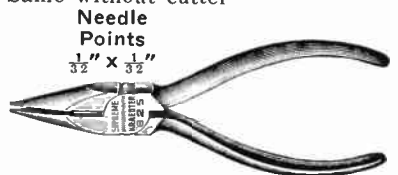
Designed for light fine professional work. The special needle points of these pliers make them invaluable where delicate adjustments have to be made.

(NOSE OF THESE PLIERS NOT GUARANTEED)



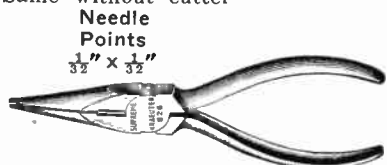
#### SHORT NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
824	4½ in.	Full Polished	1½ lbs.	\$2.60
834	Same without cutter			2.25



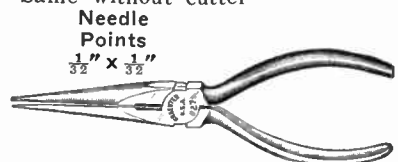
#### MEDIUM NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
825	5 in.	Full Polished	2¼ lbs.	\$2.75
835	Same without cutter			2.40



#### LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
826	6 in.	Full Polished	3 lbs.	\$3.10
836	Same without cutter			2.70



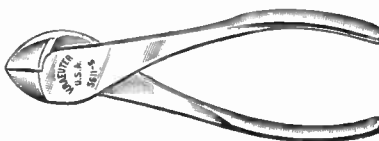
#### EXTRA LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
827	7 in.	Full Polished	3¾ lbs.	\$3.40
837	Same without cutter		3¾ lbs.	3.00



#### NEEDLE POINT DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
5612	6½ in.	Full Polished	3 lbs.	\$3.70
		(With Stripping Notch)		



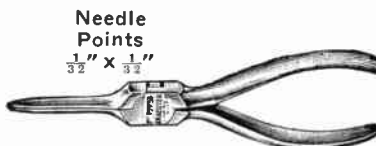
#### OVAL HEAD DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
5611	5 in.	Full Polished	2¼ lbs.	\$3.15



#### NEEDLE POINT DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
5601	4½ in.	Full Polished	2 lbs.	\$2.70
5601	5 in.	Full Polished	2¾ lbs.	2.90
5601	6 in.	Full Polished	3¾ lbs.	3.20



#### NEEDLE POINT SNIPE NOSE PLIERS

No.	Length	Finish	Wt. per doz.	Price
				Each
842	6 in.	Full Polished	2¼ lbs.	\$2.75

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS . . . . .

SEND FOR CATALOG



# Utica Tools

## ADD POWER TO YOUR HANDS

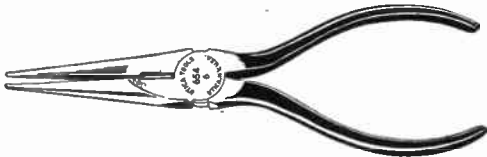


### No. 41 • Electricians' Diagonal Pliers—

Hardened and tempered in oil. Narrow nose for radio and electrical work.

Size ..... 4 in. 5 in. 6 in.  
List Price ..... \$2.20 \$2.54 \$2.80

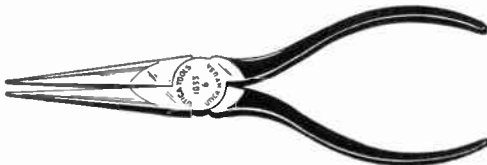
Can be furnished with insulation stripper.



### No. 654 • Utica Long Needle Nose Side Cutting Pliers

This is a long, fine, spring-tempered nose, side-cutting pliers, drop forged and with hand-honed cutting knives.

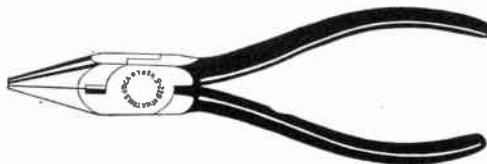
Size ..... 6 in. 7 in.  
List Price ..... \$2.80 \$3.30



### No. 1033 • Utica Long Chain Needle Nose Pliers

This is a long needle nose type of pliers without a side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.

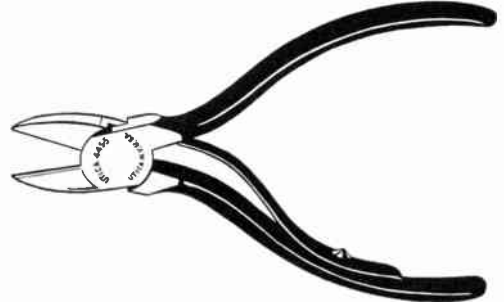
Size ..... 6 in. 7 in.  
List Price ..... \$2.20 \$2.40



### No. 622 • Utica Short Chain Nose Mechanic's Pliers

This pliers is a Short Chain Nose Side Cutting Pliers, hand-honed cutting knives. It makes an all around Electrical Mechanic's pliers.

Size ..... 5 inches  
List Price ..... \$2.40



### No. 445 • Special Diagonal Pliers with Spring

A slim nose cutting pliers designed especially for radio and electrical work. Extra fine hand honed edges permit nearly flush cuts.

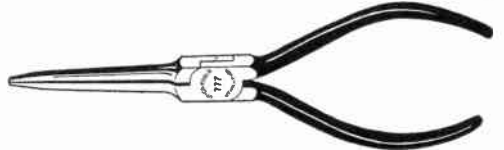
Size ..... 5 in. 6 in.  
List Price ..... \$2.86 \$3.20



### No. 50 • Utica Standard Side Cutting Pliers

An ideal tool for electrical work. Drop forged and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting pliers.

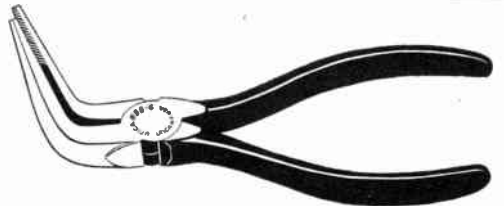
Size ..... 4 in. 5 in. 6 in. 7 in. 8 in.  
List Price ..... \$2.10 \$2.20 \$2.40 \$2.70 \$3.00



### No. 777 • Utica Long Needle Nose Pliers

This pliers has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

Size ..... 6 inches  
List Price ..... \$2.54



### No. 888 • Curved Needle Nose Pliers—

This is a long curved spring-tempered Needle Nose Pliers for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

Size ..... 6 inches  
List Price ..... \$2.90

# Utica Tools



### No. 22 • Utica Chain Nose Pliers

This is a Short Chain Nose Pliers forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

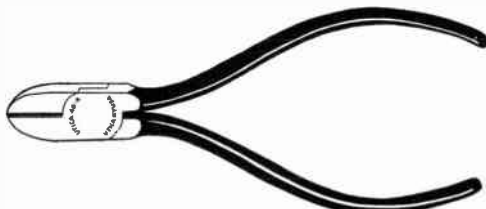
Size ..... 4 in. 4½ in. 5 in. 6 in.  
List Price ..... **\$1.80 \$1.95 \$2.04 \$2.20**



### No. 82 • Utica Chain Nose Wiring Pliers

This is a special Radio Repair Man's Pliers having a chain nose for those who prefer this type of construction.

Size ..... 8 inches  
List Price ..... **\$2.60**



### No. 46 • Midget Diagonal Pliers

A small Diagonal for radio and electrical work. Hand honed edges with a slim nose for use in cramped quarters.

Size ..... 4 inches  
List Price ..... **\$2.36**



### No. 91 • Thin Adjustable 22½° Angle Wrenches, Electronically Hardened Steel

Both the handle and jaw are drop forged from a high grade Alloy Steel, hardened and tempered in oil. Will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.

It will give better service and last longer than any other wrench.

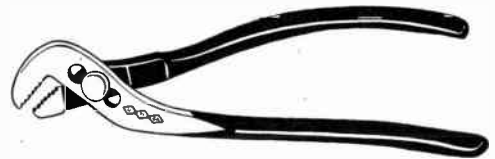
Size ..... 4 in. 6 in. 8 in. 10 in. 12 in.  
List Price ..... **\$1.80 \$1.80 \$2.10 \$2.70 \$3.96**



### No. 896 • Utica Radio Pliers

This is a General Radio Repair Man's Pliers. It has a center cutter and flat scored nose for looping and bending.

Size ..... 6 inches  
List Price ..... **\$3.30**



### No. 517 • Utica Ignition Pliers

This Ignition Pliers with its unique design will fit all ignition units, spring tempered. A great little tool for the hard to get at adjustments.

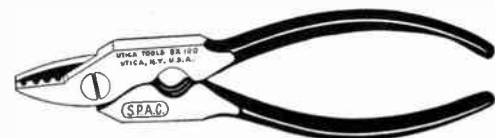
Size ..... 5 inches  
List Price ..... **\$1.25**



### No. 65 • Utica End Cutting Nippers

This Nippers is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nippers, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool.

Size ..... 4½ in. 5 in.  
List Price ..... **\$2.90 \$3.14**



### No. 100BX • Utica-Smith Pocket Armor Cutters

The easiest, quickest tool made for cutting armored cable. Fully illustrated instructions packed with each tool.

Size ..... 7 inches  
List Price ..... **\$4.40**

*Equipto* AURORA, ILLINOIS In 12" or 18" Depths

# 18 STEEL DRAWERS

WITH FRAME

OLIVE GREEN BAKED ENAMEL FINISH



No. 11 — EQUIPTO'S most popular item. Width 34 inches; height 13 $\frac{3}{4}$  inches; depth 12 inches. Each of the 18 boxes comes equipped with 2 adjustable and removable dividers (see cut) making 3 compartments per box. This makes a total of 54 adjustable compartments. Shipped set up complete, in olive green.

No. 22 — Same as above but 18" deep.  
**HEAVY DUTY**

**FEATURES**

Frames Stack on Each Other.

Frames Welded into One Strong, Solid Assembly.

Drawers Have Adjustable Dividers on 1 inch Centers.

Label Holders on Every Drawer and Divider.

# 8 STEEL DRAWERS

WITH FRAME



No. 8 — Each drawer is equipped with 2 cross dividers giving 24 adjustable compartments. Width 23 $\frac{1}{4}$  inches; height 9 $\frac{1}{2}$  inches; depth 12 inches. Drawer size 11 inches x 5 $\frac{5}{8}$  inches x 3 $\frac{1}{8}$  inches high. Over 30 lbs. of ruggedness.

OLIVE GREEN BAKED ENAMEL FINISH

The handiest unit you ever had for taking care of your small parts. Stack, use individually, or as an insert under counters and in shelving. A wonderful item for sale in stores. Fits readily under counters, work benches, mailing tables, bolted to the wall—in any spot you need it. Stores, farmers, home owners rave about its handiness in storing nuts and bolts, screws, electrical and hardware supplies, flower bulbs, thread, small containers of tooth paste, rouges, lipsticks—any thing you can think of.

11" or 17" x 5 $\frac{5}{8}$ " x 3 $\frac{1}{8}$ " high



Dividers Instantly Adjustable on 1" Centers. Drawer as Furnished in all Drawer Units on this page.

*Equipto* AURORA, ILLINOIS **40th YEAR** DIVISION OF AURORA EQUIPMENT COMPANY 775 PRAIRIE • PHONE: AURORA 9231

FREE Illustrated Catalogs

# THERE'S A THOUSAND AND MORE USES FOR

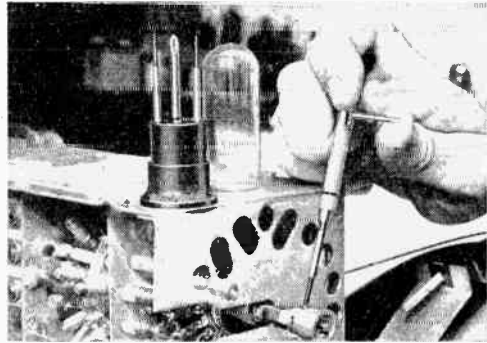
# Moody Kits

# IN ELECTRONICS

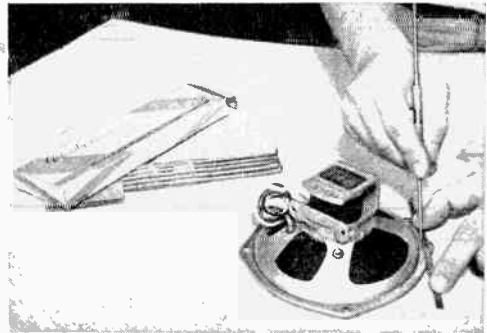
**NEW SMALL TOOL SETS  
FOR YOU**



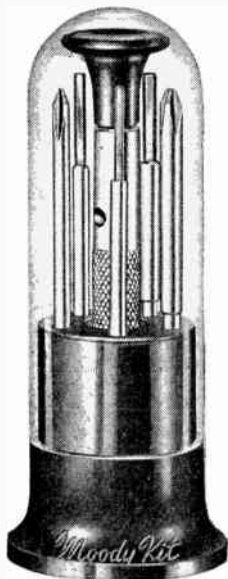
Here's the SC-5 Moody Kit precision screw driver set, just perfect to get at those recessed small screws in electrical work.



Here's the PA-5 Moody Kit, a combination Allen type wrench and Phillips screw driver set, in action, it's especially made for Radio and T.V. work.



Here's the ever handy helper of the electrical technician — the MS-2 Moody Scriber marking metal for close tolerance cutting.



PA-5 ACTUAL SIZE

If you haven't seen the Moody line of small tools, ask your jobber to get them for you. They're manufactured expressly for Radio, T.V. and electronics work. If your jobber can't supply you, give us his name and address together with your own and we'll send you our catalog from which you can order.

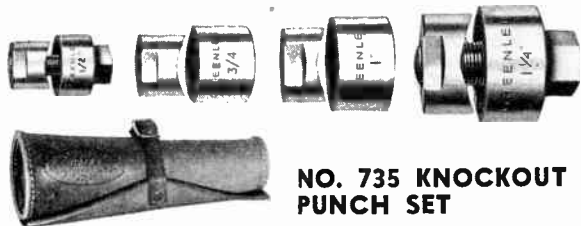
# Moody

**MACHINE PRODUCTS CO., INC.**  
52 DUDLEY STREET • PROVIDENCE 5, RHODE ISLAND



# GREENLEE KNOCKOUT PUNCHES AND CUTTERS

Greenlee Tool Co., Rockford, Illinois



## NO. 735 KNOCKOUT PUNCH SET

Designed primarily for the electrical trade to permit fast, easy enlarging of knockouts and cutting of holes for conduit in metal boxes and cabinets. Also excellent for automobile work where holes are needed for heater pipes and other accessories. Simply insert the tool in a knockout or small drilled hole and give the screw a few turns with an ordinary wrench. No. 735 set has four punches for cutting  $\frac{7}{8}$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{1}{4}$ -inch holes for  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ -inch conduit. Set is neatly packed in leather case illustrated. The  $\frac{1}{2}$ -inch punch will cut a  $\frac{7}{8}$ -inch hole for  $\frac{1}{2}$ -inch conduit where no standard knockout is provided when a  $\frac{7}{16}$  hole is drilled.

## Heavy Duty Drive for $\frac{1}{2}$ " Punch

To increase length of service of the  $\frac{1}{2}$ -inch Knockout Punch in cutting  $\frac{7}{8}$ -inch holes in heavier-gauge sheet metals, the No. 1387 AV Drive Screw with No. 1388 AV Drive Nut illustrated is recommended.



## NO. 737 KNOCKOUT PUNCH SET

Similar to the No. 735 set, but consists of only two punches for cutting holes to accommodate  $1\frac{1}{2}$ " and 2" conduit. Packed in leather case.



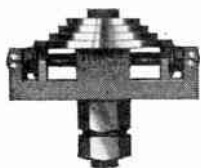
## NOS. 738 AND 739 KNOCKOUT PUNCHES

For cutting holes to accommodate  $2\frac{1}{2}$ " and 3" conduit. Design is similar to that of smaller GREENLEE Knockout Punches; insert in a knockout or drilled

hole and turn drive nut with an ordinary wrench. Packed and sold individually.

## NOS. 741 AND 742 KNOCKOUT PUNCHES

For quickly making smooth openings for  $3\frac{1}{2}$ " and 4" conduit. Hole is clean, no filing of burrs necessary. Operation is similar to that of other GREENLEE Knockout Punches. Simply insert in hole for 1" conduit and turn drive nut with an ordinary wrench.



## No. 740 Knockout Cutter

Companion tool to GREENLEE Knockout Punches. Enlarges knockouts to take  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$  and 3-inch conduit. Operation is simple since an ordinary wrench drives the tool. Cutting is done by the drive action of two wheel cutters. Special discs

can be furnished for cutting odd sizes of holes from  $1\frac{1}{8}$  to  $3\frac{1}{2}$ -inch diameter. Packed in leather case.



## NO. 7646 HYDRAULIC KNOCKOUT PUNCH DRIVER

A powerful portable hydraulic unit for driving all GREENLEE Knockout Punches. Also drives GREENLEE Radio Chassis Punches using  $\frac{3}{8}$ " or larger drive screws. Quickly, easily cuts holes in 10-gauge metal. Excellent for use in tight places. Packed in metal case. List price complete. \$86.50. Weight, 20 lbs.

## KNOCKOUT PUNCHES — LIST PRICES AND WEIGHTS (IN POUNDS)

	Hole Size	Price	Weight
No. 735 Knockout Punch Set Complete...		\$10.00	2½
AV121 $\frac{1}{2}$ " Punch .....	$\frac{7}{8}$ "	1.25	⅞
AV122 $\frac{1}{2}$ " Die .....	$\frac{7}{8}$ "	.65	⅞
AV322 $\frac{3}{8}$ " x $1\frac{3}{4}$ " Drive Screw...		.25	⅞
AV123 $\frac{3}{4}$ " Punch .....	$1\frac{1}{8}$ "	1.45	$\frac{1}{8}$
AV124 $\frac{3}{4}$ " Die .....	$1\frac{1}{8}$ "	.80	⅞
AV125 1" Punch .....	1-11/32"	1.65	⅞
AV126 1" Die .....	1-11/32"	.95	$\frac{3}{8}$
AV127 $1\frac{1}{4}$ " Punch .....	$1\frac{1}{4}$ "	1.90	⅞
AV128 $1\frac{1}{4}$ " Die .....	$1\frac{1}{4}$ "	1.05	7/16
AV249 $\frac{3}{4}$ " x $2\frac{7}{8}$ " Drive Screw....		.35	$\frac{3}{8}$
Heavy Duty Drive for $\frac{1}{2}$ " Punch Complete .....		\$1.10	$\frac{3}{4}$
AV1387 Heavy Duty Drive Screw...		.75	$\frac{3}{8}$
AV1388 Heavy Duty Drive Nut....		.35	$\frac{3}{8}$
No. 737 Knockout Punch Set Complete...		\$10.00	3½
AV439 $1\frac{1}{2}$ " Punch .....	1-15/16"	2.30	$\frac{1}{2}$
AV440 $1\frac{1}{2}$ " Die .....	1-15/16"	2.00	$\frac{5}{8}$
AV441 2" Punch .....	$2\frac{3}{8}$ "	3.20	$\frac{7}{8}$
AV442 2" Die .....	$2\frac{3}{8}$ "	2.50	1
AV304 $\frac{3}{4}$ " x $3\frac{1}{2}$ " Drive Screw....		.50	7/16
No. 738 Knockout Punch Complete....		\$14.00	4¾
AV1429 $2\frac{1}{2}$ " Punch .....	$2\frac{7}{8}$ "	5.40	$1\frac{1}{8}$
AV1430 $2\frac{1}{2}$ " Die .....	$2\frac{7}{8}$ "	5.00	$1\frac{1}{2}$
AV1433 Drive Nut .....		1.35	⅞
AV1434 $\frac{3}{4}$ " x $5\frac{7}{8}$ " Drive Screw...		2.75	$\frac{7}{8}$
No. 739 Knockout Punch Complete....		\$19.00	6½
AV1431 3" Punch .....	$3\frac{1}{2}$ "	8.00	$2\frac{1}{2}$
AV1432 3" Die .....	$3\frac{1}{2}$ "	7.50	$2\frac{1}{2}$
AV1433 Drive Nut .....		1.35	⅞
AV1434 $\frac{3}{4}$ " x $5\frac{7}{8}$ " Drive Screw ...		2.75	$\frac{7}{8}$
No. 741 Knockout Punch Complete....		\$39.00	10¾
AV2981 $3\frac{1}{2}$ " Die .....	4"	14.00	$3\frac{1}{4}$
AV2982 $3\frac{1}{2}$ " Punch .....	4"	18.00	3
AV3026 $1\frac{1}{8}$ " x $7\frac{1}{2}$ " Drive Screw...		6.00	$2\frac{1}{4}$
AV3036 Drive Nut .....		2.00	$1\frac{1}{4}$
AV3037 Bushing .....		2.25	$\frac{5}{8}$
No. 742 Knockout Punch Complete....		\$48.00	12¾
AV2983 4" Die .....	$4\frac{1}{2}$ "	18.00	$3\frac{1}{2}$
AV2984 4" Punch .....	$4\frac{1}{2}$ "	24.00	$4\frac{1}{2}$
AV3026 $1\frac{1}{8}$ " x $7\frac{1}{2}$ " Drive Screw...		6.00	$2\frac{1}{4}$
AV3036 Drive Nut .....		2.00	$1\frac{1}{4}$
AV3037 Bushing .....		2.25	$\frac{5}{8}$
No. 740 Knockout Cutter Complete....		\$15.00	4½
AV323 Lock Screw (2) .....		.30	
AV324 Wheel Cutter (2) .....		.50	
AV325 Feed Nut .....		.20	
AV326 Disc for $1\frac{1}{2}$ " Conduit .....		.70	
AV2021 Disc for 2" Conduit .....		.80	
AV2022 Disc for $2\frac{1}{2}$ " Conduit .....		1.00	
AV2023 Disc for 3" Conduit .....		1.20	
AV327 Body .....		5.00	
AV328 Center Shaft ( $\frac{3}{4}$ " diameter) .....		.80	
AV329 Drive Nut .....		.80	
AV330 Retainer Screw (2) .....		.45	
AV331 Cutter Bushing (2) .....		.25	
AV332 Cutter Support (2) .....		.65	
AV333 Key Washer .....		.25	
669GB Woodruff Key .....		.05	



# RADIO CHASSIS PUNCHES

## ROUND, SQUARE, "KEY" AND "D" TYPES

Greenlee Tool Co., Rackford, Illinois



No. 730 Round Punch

### NO. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. Thirteen sizes from 1/2" to 2 1/4" diameter.



No. 731 Square Punch

### NO. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in three sizes for making 5/8", 3/4" and 1" square holes. Drive screw fits into 1/2" hole, which can be drilled or made with 1/2" No. 730 Greenlee Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

### NO. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other Greenlee Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In four sizes to make openings of 1 1/8", 1-11/64", 1-17/64", 1-21/64". Drive screw fits into 1/2" hole. Individually packed.



No. 732 "Key" Punch

### NO. 733 "D" PUNCH

Simplifies and speeds the work of making "D" shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in 1/2" size. Operates on same principle as other Greenlee Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into 3/8" drilled hole. Individually packed.



No. 733 "D" Punch

#### NO. 730 RADIO PUNCHES — LIST PRICES AND WEIGHTS (WTS. IN OZ.)

	Price	Wt.
1/2" No. 730 Radio Punch Complete.....	\$2.15	1 3/4
AV-1760 1/2" Punch .....	1.25	3/4
AV-1759 1/2" Die .....	.65	3/4
AV-1675 1/4" Screw .....	.25	3/4
5/8" No. 730 Radio Punch Complete.....	2.15	2 3/4
AV-1742 5/8" Punch .....	1.25	1 1/2
AV-1743 5/8" Die .....	.65	1
AV-1675 3/4" Screw .....	.25	3/4
3/4" No. 730 Radio Punch Complete.....	2.15	3
AV-113 3/4" Punch .....	1.25	3/4
AV-114 3/4" Die .....	.65	1 1/4
AV-322 3/8" Screw .....	.25	1
7/8" No. 730 Radio Punch Complete.....	2.15	4 3/4
AV-121 7/8" Punch .....	1.25	1 1/2
AV-122 7/8" Die .....	.65	2 3/4
AV-322 3/8" Screw .....	.25	1
1" No. 730 Radio Punch Complete.....	2.35	6 1/2
AV-87 1" Punch .....	1.35	1 1/2
AV-88 1" Die .....	.75	3 3/4
AV-112 3/4" Screw .....	.25	1 1/4
1 1/8" No. 730 Radio Punch Complete.....	2.50	7
AV-1763 1 1/8" Punch .....	1.45	2 1/4
AV-1764 1 1/8" Die .....	.80	3 1/2
AV-112 3/8" Screw .....	.25	1 1/4
1 1/4" No. 730 Radio Punch Complete.....	2.50	7 3/4
AV-91 1 1/4" Punch .....	1.45	2 1/2
AV-92 1 1/4" Die .....	.80	3 1/2
AV-112 3/8" Screw .....	.25	1 1/4
1 1/2" No. 730 Radio Punch Complete.....	2.50	7 3/4
AV-83 1 1/2" Punch .....	1.45	2 1/2
AV-84 1 1/2" Die .....	.80	4
AV-112 3/8" Screw .....	.25	1 1/4
1 3/8" No. 730 Radio Punch Complete.....	2.50	8
AV-115 1 3/8" Punch .....	1.45	2 3/4
AV-116 1 3/8" Die .....	.80	4
AV-112 3/8" Screw .....	.25	1 1/4
1 1/2" No. 730 Radio Punch Complete.....	2.50	9 3/4
AV-117 1 1/2" Punch .....	1.45	3
AV-118 1 1/2" Die .....	.80	5 1/2
AV-112 3/8" Screw .....	.25	1 1/4
1 3/4" No. 730 Radio Punch Complete.....	2.85	10 1/2
AV-119 1 3/4" Punch .....	1.65	3 3/4
AV-120 1 3/4" Die .....	.95	5 1/2
AV-112 3/8" Screw .....	.25	1 1/4
1 1/2" No. 730 Radio Punch Complete.....	3.20	12 1/4
AV-89 1 1/2" Punch .....	1.90	4 1/4
AV-90 1 1/2" Die .....	1.05	6 3/4
AV-112 3/8" Screw .....	.25	1 1/4
2 1/4" No. 730 Radio Punch Complete.....	6.20	37
AV-437 2 1/4" Punch .....	3.20	11 1/2
AV-438 2 1/4" Die .....	2.50	18
AV-304 3/4" Screw .....	.50	7 1/2

#### NO. 731 SQUARE RADIO PUNCHES — LIST PRICES AND WEIGHTS (WT. IN OZ.)

	Price	Wt.
5/8" No. 731 Square Punch Complete.....	\$3.35	4 3/4
AV-2891 5/8" Square Punch .....	1.40	3/4
AV-2881 5/8" Square Die .....	1.15	1 1/4
AV-2886 31/64" Drive Screw .....	.60	1 3/4
AV-2929 Drive Nut .....	.20	1
3/4" No. 731 Square Punch Complete.....	3.90	6 3/4
AV-2882 3/4" Square Punch .....	1.65	1
AV-2883 3/4" Square Die .....	1.35	2 1/4
AV-2914 31/64" Drive Screw .....	.70	2 1/2
AV-2929 Drive Nut .....	.20	1
1" No. 731 Square Punch Complete.....	4.50	8 3/4
AV-2884 1" Square Punch .....	1.80	2 1/4
AV-2885 1" Square Die .....	1.50	2 1/4
AV-2887 31/64" Drive Screw .....	1.00	3 3/4
AV-2929 Drive Nut .....	.20	1

#### NO. 732 "KEY" RADIO PUNCHES — LIST PRICES AND WEIGHTS (WT. IN OZ.)

	Price	Wt.
15/16" No. 732 "Key" Punch Complete....	\$3.75	8 1/2
AV-2972 15/16" Die .....	1.00	1 3/4
AV-2973 15/16" Punch .....	1.50	2 1/2
AV-2974 31/64" Drive Screw .....	1.05	3 1/4
AV-2929 Drive Nut .....	.20	1
1-11/64" No. 732 "Key" Punch Complete...	4.00	10 3/4
AV-3256 1-11/64" Die .....	1.10	3
AV-3257 1-11/64" Punch .....	1.60	2 3/4
AV-3258 31/64" Drive Screw .....	1.10	4
AV-2929 Drive Nut .....	.20	1
1-17/64" No. 732 "Key" Punch Complete...	4.25	12 1/2
AV-2975 1-17/64" Die .....	1.15	3
AV-2976 1-17/64" Punch .....	1.70	4
AV-2977 31/64" Drive Screw .....	1.20	4 1/2
AV-2929 Drive Nut .....	.20	1
1-21/64" No. 732 "Key" Punch Complete....	4.50	12 1/2
AV-3262 1-21/64" Die .....	1.25	4
AV-3263 1-21/64" Punch .....	1.80	2 1/2
AV-3264 31/64" Drive Screw .....	1.25	4 3/4
AV-2929 Drive Nut .....	.20	1

#### NO. 733 "D" RADIO PUNCHES — LIST PRICES AND WEIGHTS (WT. IN OZ.)

	Price	Wt.
1/2" No. 733 "D" Punch Complete .....	\$3.50	2
AV-3032 1/2" Die .....	1.00	1 1/2
AV-3033 1/2" Punch .....	1.50	3/4
AV-3034 3/8" Drive Screw .....	.75	1
AV-3035 Drive Nut .....	.25	3/4

# KNOBS FROM STOCK MOLDS

For All Types of Instruments and Apparatus . . . Low Cost . . . Immediate Delivery

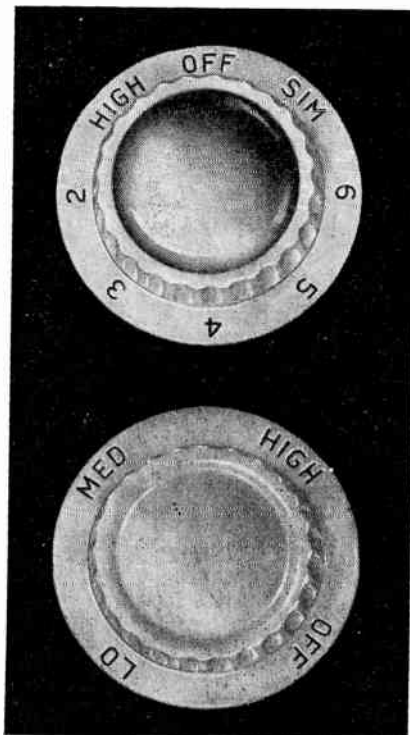
ROGAN BROTHERS

• Compression Molders and Branders of Plastics •

8023 N. Monticello, Skokie, Ill.



TYPE RB-51



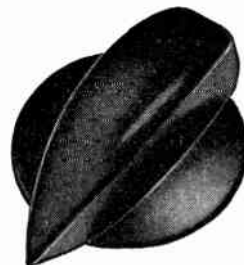
TYPES RB-85 and 80



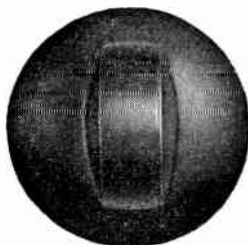
TYPE RB-211



TYPE RB-141



TYPE RB-131



TYPE RB-171



TYPE RB-41



TYPE RB-301



TYPE RB-31

## WIDE SELECTION OF SHAPES AND SIZES

Shown above, are but a few of the many Rogan plastic knobs available to you from our regular stock molds. These are supplied without tool charge, resulting in considerable savings in cost, faster delivery. Choice of a wide selection of sizes, shapes and colors. Molded of phenolic or urea thermosetting materials, which will not soften, warp, or scratch easily. Heat resisting materials can be used so knobs can withstand 350-400° F. continuous heat. Most knobs supplied with 1/4" shaft hole and set screws. Special shaft hole sizes and means of fastening can be supplied to specifications at nominal cost.

## KNOBS CAN BE BRANDED, AS REQUIRED

Rogan's famous "deep relief" branding process, applied after molding, provides sharp perfect marking at low cost. Any type marking, graduations or numerals can be branded on blank knobs to fit your requirements. Rogan knobs are available in black, brown or walnut, when molded of phenolic materials; and in all light pastel colors when molded of urea materials. Whatever your knob requirements may be, Rogan is equipped to supply you faster, better, more economically. The complete line of Rogan knobs with specifications is shown in the new Rogan catalog. Write for your copy now.

# KNOBS FROM STOCK MOLDS

No Tool Charge . . . No Tooling Wait . . . Wide Range of Styles, Sizes and Colors

ROGAN BROTHERS

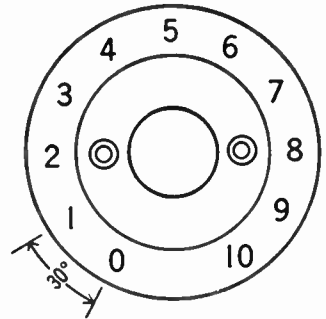
• Compression Molders and Bronders of Plastics •

8023 N. Monticello, Skokie, Ill.

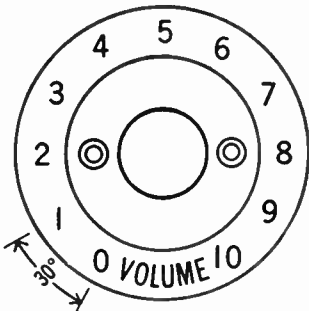


## Combination Knobs Save Time, Money

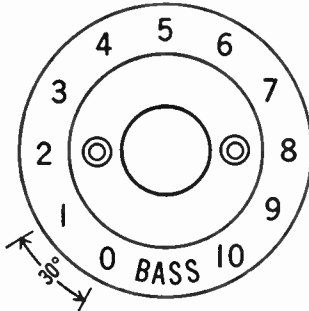
Illustration at left shows RB-1000 escutcheon combined with RB-31 pointer knob, which rotates inside the RB-1000. Available from stock molds, in matching or contrasting colors. Illustrations below, show a few of the stock markings available. These marking dies are already made up, no tool charge, no tooling wait. By using Rogan combination knobs and branding them with these ready-made dies you save time and money. Special markings can also be supplied. Write for complete catalog.



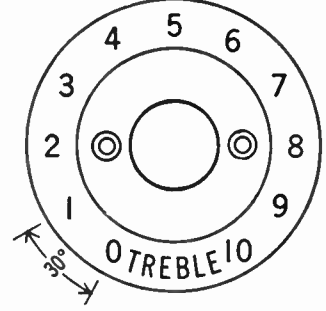
RB-1000-1



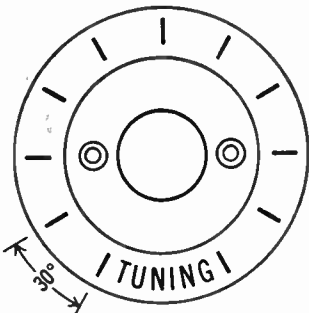
RB-1000-2



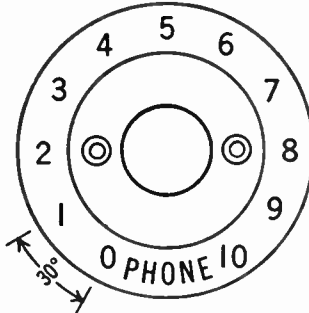
RB-1000-3



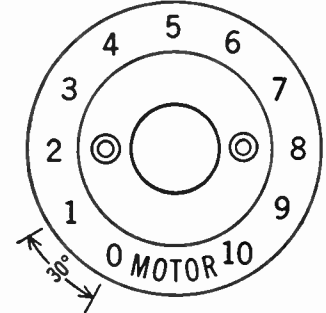
RB-1000-4



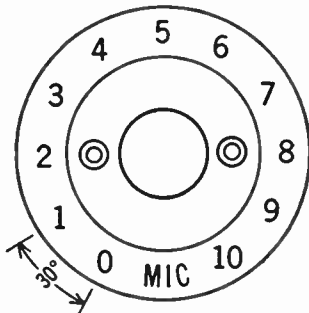
RB-1000-5



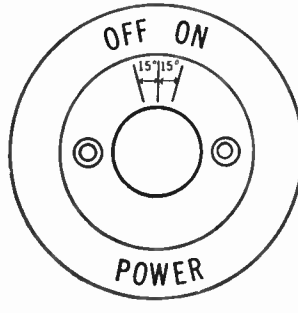
RB-1000-6



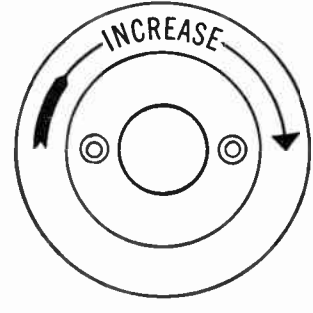
RB-1000-7



RB-1000-B



RB-1000-9



RB-1000-10



# Harry Davies Molding Co.

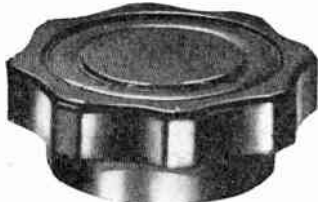
Molders of Plastics

1428 NORTH WELLS STREET • CHICAGO 10, ILL.

## BRANDING OF KNOBS AT MODERATE COST

STANDARD COLORS FOR DAVIES KNOBS: Black, Walnut, Red or Ivory. Others to order. Quality radio knobs for standard 1/4" shaft. Set screw, spring, or knurled hole mounting, or 1/4" brass bushing.

## ELECTRONIC INSTRUMENT KNOBS



Type No.  
4100  
4101  
4102  
4103

Diameter  
1 1/8"  
1 3/8"  
1 5/8"  
2 3/8"

Height  
5/8"  
1 1/16"  
3/4"  
7/8"



Type No.  
4100  
4101  
4102  
4103

Pointer lengths available  
(Lengths from shaft center)  
Dia. 1 1/8" 5/8" 3/4" 1 1/8" 1 1/8" 1 1/4"  
1 3/8" 3/4" 7/8" 1 1/8" 1 1/8" 1 1/4"  
1 5/8" 7/8" 1 1/8" 1 1/8" 1 1/4" 1 1/8"  
2 3/8" 1 1/8" 1 1/8" 1 1/4" 1 1/8"

Please specify pointer lengths when ordering.



Type No.  
4104  
4106  
4108  
4109

Diameter  
1 1/8"  
1 3/8"  
1 5/8"  
2 3/8"

Skirt diameter  
1 1/2"  
1 1/2"  
2 1/16"  
3"

Skirt available with or without indicator line filled.



No. 1400. (With pointer).  
Height 13/32". Diameter 1 1/16".

No. 1450. (No pointer).  
Height 13/32". Diameter 1 1/16".

Set screw, spring, or knurled hole mounting.



No. 1475. (No Pointer).  
Height 1/2". Diameter 1".  
Set screw, spring, or knurled mounting.



No. 1700.  
Height 1 9/32". Diameter 3/4".  
Set screw, spring, or knurled hole mounting.



No. 2500.  
Height 3/4". Diameter 3/4".

No. 2600.  
Height 7/8". Diameter 7/8".

Set screw, spring, or knurled hole mounting.



No. 2965.  
Short Shank. Dia. 7/8"; Hgt. from 1/2" to 1 1/2".

Medium Shank. Dia. 7/8"; Hgt. from 9/16" to 1 1/2".

Long Shank. Dia. 7/8"; Hgt. from 9/16" to 1 1/2".

This type knob can be supplied with arrow; Off-On; Tuning; Volume; Tone; Batt-Elec.; Band Switch; Radio-Phono, or Dot markings. Set screw, spring, or knurled hole mounting.



No. 3008.  
Dia. 1 1/4"; Hgt. 3/4".

No. 3009.  
Dia. 1 1/2"; Hgt. 3/4".

No. 3000  
Long Shank Dia. 1 3/4";  
Hgt. 3/4", 1", 1 1/4" & 1 1/2".

Short Shank. Dia. 1 3/4". Hgt. 3/4", 1", 1 1/4" & 1 1/2".  
1/4" molded hole or brass insert. Plain or threaded hole. Set screw or knurled hole mounting.

WRITE FOR COMPLETE CATALOG.



	Length overall	Hgt.	Dia.
No. 2110	1 5/8"	1 9/32"	3/4"
No. 2100	2 1/2"	3/8"	3/4"
Molded hole or brass insert, set screw mounting.			
No. 2110-P	1 5/16"	1 9/32"	3/4"
No. 2100-P	2 13/16"	5/8"	3/4"
Metal insert and pointer, set screw mounting.			

No. 2300—Zephyr bar knob.  
Length 1 1/4".

No. 2350—Zephyr bar knob.  
Length 2".

Molded hole, set screw mounting.

No. 2300-A—Zephyr bar knob.  
Length 1 1/4".

No. 2350-A—Zephyr bar knob.  
Length 2".

1/4" brass insert and set screw.

### No. 1800 Series



These can be furnished in either plain or recessed tops. Dia. 7/16"; Heights range from 1" to 1 3/8". Also supplied with studs of various lengths.



No. 5149 —  
Rectangular touch tuning knob. Push on, self-locating.

No. 5149-A—Oval touch tuning knob. Push on, self-locating.  
Hgt. 13/16" - 1 1/32".

No. 1750—Touch Tuning. Push on, self-locating.



No. 1760—Touch Tuning. Recessed top, push on, self-locating. Dia. 3 1/64". Hgt. 9/16", 1 1/16", 1 3/16", 1 5/16".

No. 1770—Binding Post and Switch knob. No. 6-32 and No. 8-32 brass inserts. Dia. 3 1/64". Hgt. 1/2", 5/8", 3/4", 7/8".



No. 2710  
Height 1/2". Dia. 3/4".  
Metal-faced insert or plain insert.  
Female thread available 8-32, 10-32 and 10-24.



No. 2150  
Streamlined bar knob.  
Length 1 1/4".



No. 1780  
Push button knob.  
Dia. 1/2". Hgt. 1", 1 1/8", 1 1/32", 1 3/8".  
No. 1790  
Recessed top. Dimensions same as No. 1780.

Factory & General Offices: 1428 N. WELLS ST., CHICAGO 10, ILL.  
Branch Offices: Baltimore, Cincinnati, Grand Rapids, New York, Los Angeles, Milwaukee, Boston and Philadelphia  
Foreign Office: Toronto, Canada

# SNAP-ON DRAWER CO. MORROW, OHIO

*Build Your Own Cabinets*

## WITH SNAP-ON DRAWERS

The sturdy, steel shells of the SNAP-ON DRAWER snap together on sides, top and bottom, with duplicate shells, to form a strong metal cabinet. No tools are required. Just place the metal buttons of one shell, directly over the holes, in the

adjacent shell, and snap the buttons into place, one at a time.

If you wish to change the position of a drawer, the shells can be readily pried apart with a knife blade, and rearranged.

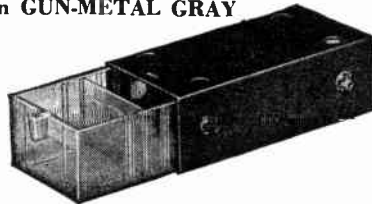
Finished in GUN-METAL GRAY

### No. 1 SMALL

6-1/16" x 3 1/8" x 1 7/8"

*Plastic & Steel*

	Net Price
No. 1 "Small" Snap-On Drawer	\$0.53
No. 1-BP "Small" Base Plate.....	.30
No. 1-D "Small" Divider.....	.03

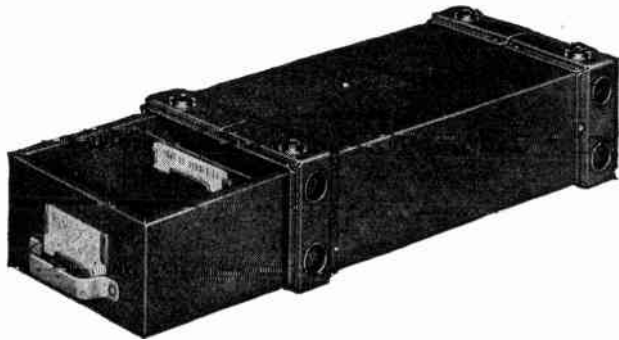


### No. 2 JUNIOR

11 3/4" x 5 1/8" x 2 1/2"

*All Steel*

	Net Price
No. 2 "Junior" Snap-On Drawer	\$2.35
No. 2-D "Junior" Divider.....	.11 1/2

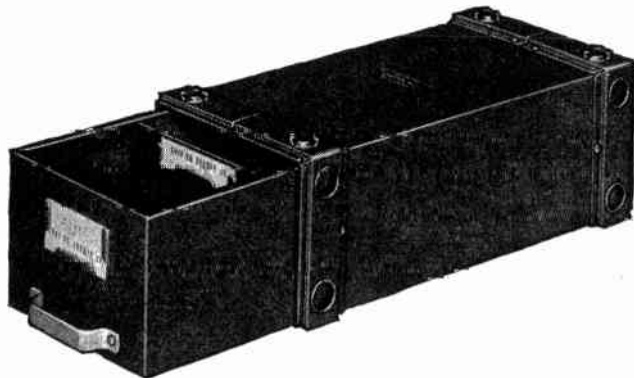


### No. 3 SENIOR

11 3/4" x 5 1/8" x 3 1/2"

*All Steel*

	Net Price
No. 3 "Senior" Snap-On Drawer	\$2.65
No. 3-D "Senior" Divider.....	.12

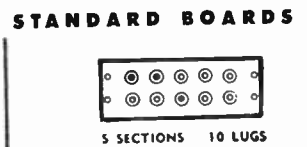
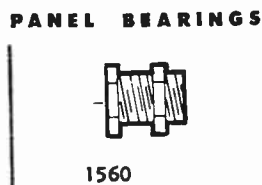
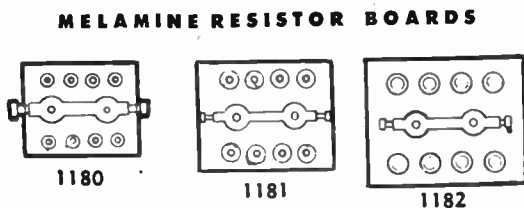
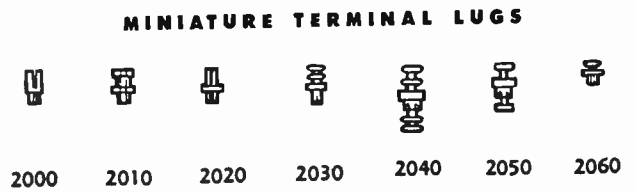
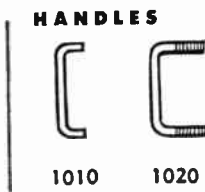
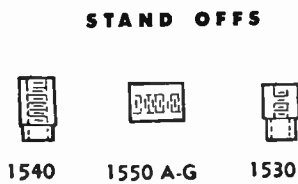
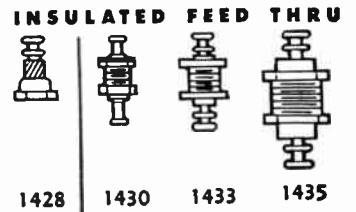
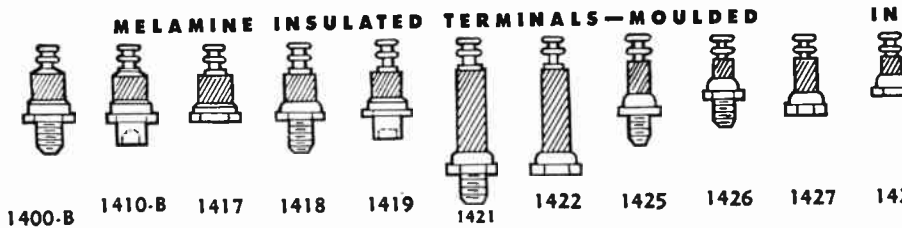
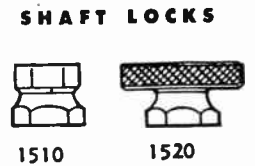
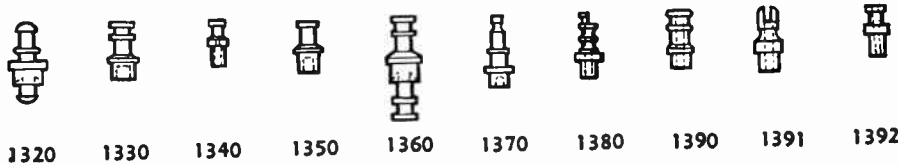
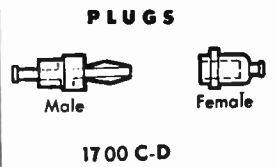
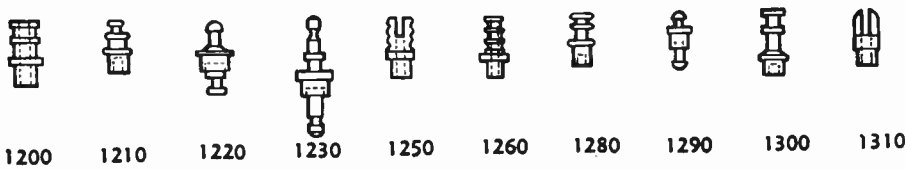
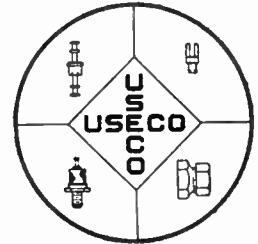


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**TURRET  
TERMINALS**



No. 1503



No. 1507



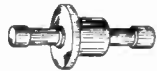
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No. 1504



No. 1505



No. 1501



No. 1538

ALSO AVAILABLE IN  
MINIATURE SIZE

**MALE CHASSIS  
CONNECTOR**



PART No. K 507

**SWITCH LATCH  
FOR 1E37 AND 1E17  
WALKIE TALKIE  
SIGNAL CORPS  
No. 3Z9903 K-3  
PART No. K 151**



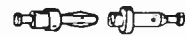
**CIRCUIT BREAKER  
JACK**

NAVY No. 49820  
PART No. 50



**BANANA  
PLUG - JACK AND  
BOARD ASSEMBLIES**

**MINIATURE**



No. 475 No. 425

**MEDIUM**



No. 552 No. 575

**MINI PLUG - AND  
JACK ASSEMBLY**

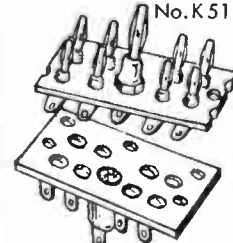
No. K 511



No. K 512

**MEDIUM PLUG - AND  
JACK ASSEMBLY**

No. K 513



No. K 514

**TERMINALS AND BRACKETS**



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No. 1241



No. 1202



No. 1209



No. 1276



No. 1268

**INSULATED FLEXIBLE COUPLINGS  
1/4" SHAFT**

**INTERNAL BUSHING**



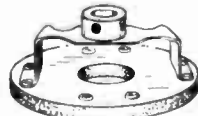
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**EXTERNAL BUSHING**



No. K 509

**EXTERNAL BUSHING**



No. K 510 1 1/8" O.D.

AVAILABLE WITH ANY  
TYPE OF INSULATION ON  
SPECIAL ORDER

**Send FOR OUR  
CATALOG  
SHOWING OUR  
COMPLETE LINE  
OF STOCK ITEMS!**

**KEYSTONE**

**ELECTRONICS CORP.**

423 BROOME ST., NEW YORK 13, N. Y.

Worth 2-2789



**Type A**

**PRICE**  
**\$1.95**

KLIPZON Type A Test Prods are designed for maximum time saving, convenience and safety. Self-holding jaws slip onto wires, lugs, terminals, and grip test points until pulled off. Streamlined, modern design adds minimum capacity to circuit; makes contact with inaccessible wires and terminals easy. Points fit into pin-jacks, sockets, binding posts; grip wires from finest to #12 B&S gauge. Points are needle sharp stainless steel in Duralumin holders. Handles, red and black, 4 3/4" long, of glossy Tenite. 4 ft., super-flexible rubber covered leads. With Type B Mini-prod Connectors as terminals. Solderless connection in handles.

Complete circuit diagram and instructions for use on reverse side of wrapper.



**Type V (MAROON) for VTVM**

**Type C (BLACK) for VOM**

**PRICE**  
**\$6.95**

KLIPZON Type V&C High Frequency Crystal Probes bring added versatility to laboratory and service test equipment. Both types include Self Holding KLIPZON Test Points and Type B Mini-prod Connectors as terminals. Type V provides accurate means of measuring V.H.F. voltages with a vacuum tube voltmeter. Germanium crystal in low capacity, high impedance circuit, supplies rectified voltage to DC input. Complete shielding reduces hand capacity and antenna effect to minimum. Completely insulated. Reads to 200 Mc with 10% accuracy. Input capacity 3.5 Mmf, 400 V DC rating. Input resistance (approx.) .25 Meg-ohms @ 500 Kc, 150,000 Ohms @ 10 Mc, 25,000 Ohms @ 100 Mc. Reads .707 X positive peak of sinusoidal voltage. Type C adapts volt-ohm-milliammeters for indication and comparison of V.H.F. voltages. Has Germanium crystal and suitable network of resistance and capacity for connection to DC circuit of VOM, with at least 200 Micro-amp. sensitivity.

Actual Size



**Type B  
KLIPZON  
MINI-PROD  
CONNECTOR**

**PRICE**  
**\$.25 each**

In boxes of 20  
10 red, 10 black

KLIPZON Type B Mini-prod Connectors, with self-holding points are designed for laboratory or service use where quick, easy to make, temporary test connections are needed. Equipped with various lead lengths they make handy test connectors that can be easily changed without shutting off power. Insures maximum safety in testing. Wiring made easy by solderless connection inside Tenite handle. Needle sharp points for piercing insulation and protective coatings.

Actual Size



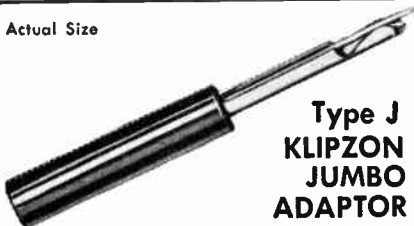
**Type M  
KLIPZON  
MINI-PROD  
ADAPTOR**

**PRICE**  
**\$.25 each**

In boxes of 20  
10 red, 10 black

KLIPZON Type M Mini-prod Adaptors are designed to fit over old style test points and thereby convert them to New Style Self Holding Prods. Fits over usual R.M.A. standard test point directly, or over phonograph needle type with special insert supplied. Size is same as that of KLIPZON Mini-prod Connector.

Actual Size



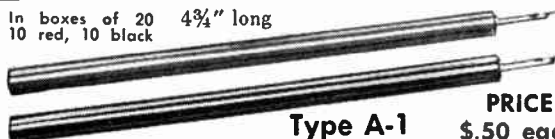
**Type J  
KLIPZON  
JUMBO  
ADAPTOR**

**PRICE**  
**\$.25 each**

In boxes of 20  
10 red, 10 black

KLIPZON Type J Jumbo Adaptors are designed to make the self-holding feature available for use on larger wires and terminals. Fits over regular KLIPZON Self Holding Point of Types A, V, or C. Will also fit over standard R.M.A. test points or phonograph needle type with special insert supplied. Suitable for wires up to #4 B&S ga., #12 machine screws and equivalent sized lugs and terminals.

In boxes of 20 4 3/4" long  
10 red, 10 black



**Type A-1  
KLIPZON TEST PROD HANDLES**

**PRICE**  
**\$.50 each**

KLIPZON Type A1 Test Prod Handles of glossy Tenite with self-holding points and solderless connection in handles, same as supplied with Type A Test Prods. Hole in handle accommodates up to .140" Dia. wire, 4 3/4" long. Designed for those who wish to wire up their own test prods.

INSTRUCTIONS  
ON REVERSE SIDE  
OF WRAPPER



PRICE  
\$2.95

TYPE S

KLIPZON Type S Shielded Leads provide a reliable means of piping audio or radio frequencies in laboratory or service work. Di-electric of air and poly-ethylene is proportioned to provide unusually low capacity and loss even at U.H.F. while retaining strength, durability and flexibility of the lead. Complete shielding of leads eliminates stray pickups, feed back and other undesirable coupling effects. Lead length is 3 ft., O.D. approximately 9/32", total capacity only 25 mmf. Provided with black Mini-Prod Connectors at each end of lead for complete grounding of shield and red Mini-Pros for connecting to circuit or instrument.

PRICE  
\$2.50



TYPE H

KLIPZON Type H Jumbo Heavy Duty Test Prods and Leads are designed to make the self-holding feature available for large sized wires, lugs and terminals. The oversized self-holding points clip onto conductors up to #4 B&S Ga. and grip test point until pulled off. Points are needle sharp to pierce insulation, fungus and wrappings, and protected with insulating sleeves to prevent shorting to adjacent wires. Handles unscrew for easy renewal of leads by soldering to internal lug. Spade type terminals are provided for ease of connection to meters or other equipment. Provided with 4 ft. lacquered poly-ethylene rayon leads, equivalent to #18 B&S Ga. (16 strands #30 B&S Ga. copper wire)

**KLIPZON LONGIE ADAPTOR**

ACTUAL  
SIZE



TYPE L

PRICE  
35c

In boxes of 20  
10 red, 10 black

The Longie Type L Adaptor is especially designed for test work in miniaturized or deep, close packed chassis. The extra long, slender point has the unique self-holding jaw and a needle sharp point for piercing insulation. The Longie fits over R.T.M.A. standard test points directly, and over phonograph needle type with special insert supplied.

**JUMBO HEAVY DUTY  
TEST PROD HANDLES**

ACTUAL  
SIZE



TYPE H-1

PRICE  
40c  
ea.

In boxes of 10  
5 red, 5 black

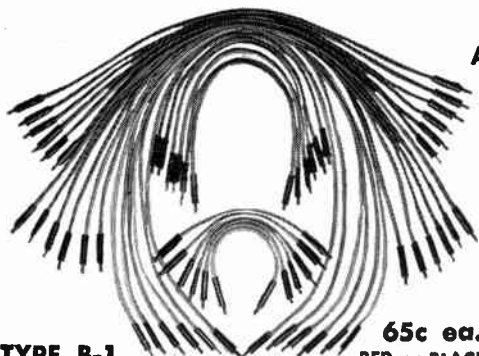
KLIPZON Type H-1 Test Prod Handles of wear resistant plastic with heavy duty self-holding points, the same as provided with Type H Jumbo Test Leads. Point unscrews from handle, for attachment of leads to internal soldering lug. Hole in handle accommodates up to .220" dia. wire. Designed for those who wish to wire up their own test prods.

**TEST LEAD  
ASSORTMENT**

MINI-PROD  
CONNECTORS  
AS  
TERMINALS.

LENGTHS

- 6"
- 12"
- 18"
- 24"
- 30"

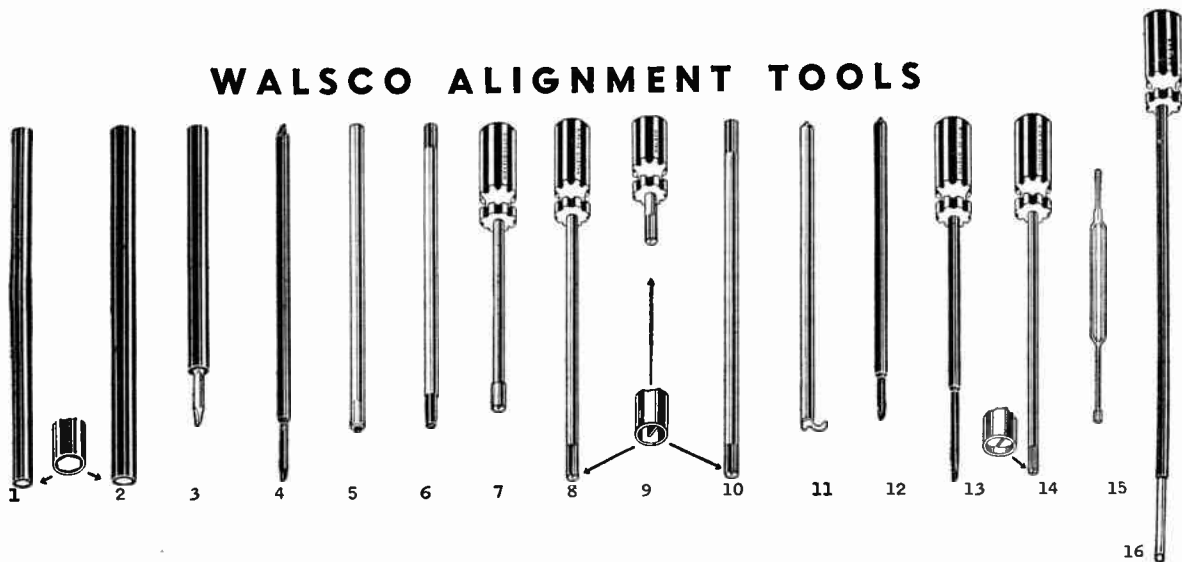


TYPE B-1

65c ea.  
RED or BLACK

Every electronics laboratory, service shop and production line needs a supply of these handy KLIPZON Type B-1 leads. Each lead is equipped with two Type B Mini-Prod Connectors, which may be used as a miniature prod or clip. Points are protected by insulating sleeves to prevent shorting to adjacent wires. Sleeves are easily removable so that point may be inserted into pin jacks, binding posts and tube sockets. Needle sharp points readily make contact with inner conductors by piercing insulation. Lead wire is super-flexible, rubber covered (41 strands, #34 B&S Ga. copper) in red or black 6, 12, 18, 24 and 30 inch lengths. Solderless connector in handle makes renewal of leads easy.

### WALSCO ALIGNMENT TOOLS



#### WALSCO 1/4" HEX I. D. NEUTRALIZING WRENCH.

Very durable. Can be cut if corners become rounded from wear. Over-all length—7 1/2", O.D.—3/8" round.  
 Cat. No. Picture No. List Price  
 \$2503—Lo-loss Plastic Wrench 1 \$0.45

#### WALSCO 5/16" HEX. I. D. NEUTRALIZING WRENCH.

Same construction as 1/4" wrench listed above. Over-all length—7 1/2", O.D.—1/4".  
 Cat. No. Picture No. List Price  
 \$2508—Lo-loss Plastic Wrench 2 \$0.45

#### WALSCO FIBRE HEX-WRENCH-AND-SCREW-DRIVER.

Standard 1/4" hex wrench combined with a tough nylon screwdriver tip.  
 Cat. No. Picture No. List Price  
 \$2510—Combination Tool 3 \$0.65

#### WALSCO DUPLEX ALIGNMENT SCREWDRIVER.

Precision made. Ground or molded to fit large or small screws. Width of blade on large end—3/32"; on small end—5/32". Thickness to conform to standard slot dimensions. Over-all length—7".  
 Cat. No. Picture No. List Price  
 \$2520—Fibre Screwdriver 4 \$0.55

#### WALSCO METAL TIP ALIGNMENT SCREWDRIVER.

Butyrate handle. This tool combines the low capacity effect of an alignment tool with the mechanical strength of a metal screwdriver. Diameter—3/32"; over-all length—6".  
 Cat. No. Picture No. List Price  
 \$2525—Alignment Screwdriver 5 \$0.50

#### WALSCO TUNING WAND.

Made from Butyrate rod with inductance-increasing powdered iron core on one end and inductance-reducing brass piece on opposite end. Over-all length—6".  
 Cat. No. Picture No. List Price  
 \$2540—Tuning Wand 6 \$0.55

#### WALSCO TV OSCILLATOR ALIGNMENT TOOLS.

Cat. No.	Picture No.	List Price
\$2518—For Philco Receivers	7	\$1.75
\$2522—For Receivers with "Standard Coil" Front Ends	13	1.10
\$2523—Extra long (12"); with replaceable super-tough molded nylon tip, for general front-end alignment without removing from cabinet. Picture No. 16		1.80
\$2523-1—Replacement Tip for tool No. 2523 (Standard Paek: 20 Tips)		0.30

#### WALSCO TV I.F. ALIGNMENT SCREWDRIVERS.

Standard Tools for all TV and FM sets. Made of new flexible low-loss plastic with thin precision screwdriver tips.

Cat. No.	Picture No.	List Price
\$2516—8 1/2" long, for No. 6 Studs	8	\$1.10
\$2517—2" long, for No. 6 Studs	9	0.70
\$2519—7" long—1 end for No. 6 Studs; other end for No. 4 Studs	10	1.05
\$2524—8 1/2" long, Slotted Type, for No. 6 Studs	14	1.10
\$2526—5" long, Molded-Nylon Tool, hex stud one end, very small screwdriver other end. For Zenith, Hoffman, Raytheon, and other sets. Picture No. 15	15	0.55

#### WALSCO WIRE DRESSING AND ALIGNMENT TOOL.

Made with thin (3/32") Butyrate handle, 7" long. Special tool on one end for dressing wires and finding loose connections or shorts. Other end has low capacity metal screwdriver tip.  
 Cat. No. Picture No. List Price  
 \$2512—Wire Dressing and Alignment Tool 11 \$0.60

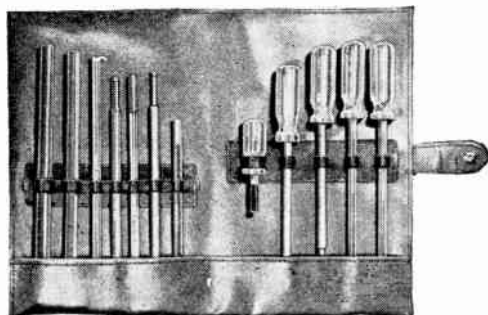
#### WALSCO "K-TRAN" ALIGNMENT TOOL.

For adjustment of all miniature (K-Tran) I.F. transformers. Made of tough bone fibr. One end is machined to fit "K-tran" slots; other end is equipped with low-capacity metal screwdriver tip.  
 Cat. No. Picture No. List Price  
 \$2515—"K-Tran" Alignment Tool 12 \$0.80

### WALSCO TV-FM ALIGNMENT TOOL KITS

Handy TV-FM alignment tool kit or wall rack. Durable leatherette kit gives servicemen every tool necessary to align TV and FM sets. Handy wall rack for use above bench in shop. Provides proper place for each tool, and always handy.

Cat. No.	List Price
580—12 Tools in leatherette case.....	\$12.65
581—12 Tools on wall rack.....	12.65



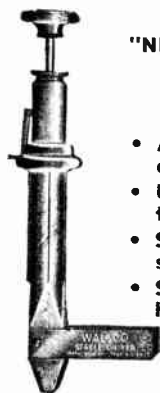
For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

# WALSCO products

Help The Radio Man

WALTER L. SCHOTT COMPANY, LOS ANGELES 18, CALIF.

## SPECIAL TOOLS WIRE STRIPPERS



### WALSCO STAPLE DRIVER "NEW IMPROVED GUARANTEED MODEL"

Patent No. 2,285,384

Pays for itself on the first job!

- A sensational tool for installing wires and cables, that saves time and money.
- Used by Radio, Public Address and Intercom Technicians.
- Staples into corners and other inaccessible places.
- Staples on hard surfaces such as plaster, hardwood, etc.
  - Can be loaded in 10 seconds.

Cat. No.	List Price	Dealer's Net
500—Staple Driver Complete, including box of staples	\$9.05	\$5.43
507—Rubber Cap for Head of Staple Driver	0.40	0.24
550—Box of 250 Carbon Steel Staples	0.65	0.39
552—Box of 1000 Carbon Steel Staples	2.50	1.50

### WALSCO SERVICE TWEEZERS

These handy holding tools are made of fine spring steel and are polished nickel-plated. They have numerous uses in the shop and laboratory, such as starting screws and nuts in difficult places, holding wires and small parts together when soldering, clamping cemented items, installing dial cord and record-changer springs, looping and untying knots on drive cord, etc.

Cat. No.	List Price
570—Self-Closing Tweezer with cross-over action, 6 1/2" long, serrated, blunt points	\$1.05

(Standard Package: Display card with 10 tweezers... Cat. No. 570D)

571—Heavy-Duty Tweezer with slide-lock feature. Length 6 1/2", serrated, blunt points... \$1.30  
(Standard Package: Display card with 10 tweezers... Cat. No. 571D)

572—Precision Tweezer with narrow, pointed ends especially suitable for delicate work. Over-all length 4 1/2"... \$0.60  
(Standard Package: Display card with 20 tweezers... Cat. No. 572-D)

575—TWEezer KIT, made of durable leatherette, containing one each of the above listed tweezers. Provides servicemen with necessary tweezers for every need. Neat, compact, handy... \$3.55  
(Standard Package: Display of 12 kits... Cat. No. 575-D)



### WALSCO WHIZ-SAW

Handy, lightweight (3 1/2 oz.) hacksaw for cutting volume control shafts, TV antenna tubing, etc. Ideal for general shop use.



Cat. No.	List Price
556—Whiz Saw	\$ 1.45
556D—Display of 12 No. 556	17.40
577—Replacement Blades	0.20



### WALSCO INSPECTION MIRROR

An extremely useful tool for inspecting those hidden spots without removing the record changer, TV or radio set. The long, insulated handle can reach into any blind area. Bright reflection mirror makes all parts easily visible. Sturdily constructed. 12 units per display card.

Cat. No. 554-D.....List Price \$0.55 each

### WALSCO QUIK-CLIP



A quick method of attaching lead-in wires to TV sets. Can't short-out. Works in any position. Free display with order of 50 units.

Cat. No.	Units Per Display	List Price
1525-D	50	\$25.00

### WALSCO KEY WRENCHES



#### FOR HEX AND SPLINE SOCKET SCREWS

WALSCO features three sets of socket wrenches made of special alloy steel to fit all standard socket screws used in radio and electronic equipment.

Cat. No.	Description	List Price
†780	Assortment of 4 small HEX wrenches..... Fits set screws No. 4 to No. 10 and cap screws No. 2 to 6.	\$0.55
†781	Assortment of 3 medium HEX wrenches.. Fits set screws 1/4" to 3/8" and cap screws No. 8 to 1/4"	0.55
†784	Assortment of 4 small SPLINE wrenches.. Fits all set screws up to 1/4" and cap screws up to No. 8.	0.55



### WALSCO HEX & SPLINE WRENCH KIT



A handy kit containing a complete range of wrench sizes as used in the electronic trade. The case is made of durable leatherette with double snap button closure and contains both hex (Allen) and spline (Bristol) wrench keys for No. 2 to 3/8" screws.

Cat. No.	List Price	Dealer's Net
560—Wrench Kit	\$1.80	\$1.08
Standard Package	— 25	

### WALSCO PROTECTO TUBE

A new synthetic tubing designed for insulating handles of pliers, screw-driver blades, etc. Highly abrasion-resistant. Will not crack or shatter. Expanding Solution "swells" tubing to permit easy application. Upon drying, tubing shrinks on tight.

Protecto-Tube Kit, containing approx. 12 ft. assorted sizes and colors of WALSCO Protecto-Tube, jar of Expanding Solution, and instructions.

Cat. No. K-18.....List Price \$1.80





### WALSCO DIAL CABLES AND CORDS

WALSCO Dial Cables and Cords are manufactured to meet the most rigid standards of the Government, Radio Industry and Engineering Laboratories. The finest raw materials are used and production is controlled to supply a uniform product with an absolute minimum stretch factor. All standard Cords are made with NYLON braid, known to have the highest abrasion resistance. These selected materials, plus special chemical treatment after fabrication, make WALSCO Cords the finest on the market. WALSCO Dial Cords are used by leading manufacturers as a standard component.



25-ft. and 100-ft. spools are packaged in clear plastic, re-usable storage boxes with sliding lids.

**HEAVY CORD**—Diameter .062"—Same as used on many Philco and Majestic sets. Very durable, and treated to prevent slipping.

No. 33 ..... 25 ft. .... List Price \$1.90  
No. 33-1C ..... 100 ft. .... List Price 5.05

**BRONZE CABLE**—16-Strand Braided—Diameter .039"—Breaking Strength 50 lbs.—A braided cable with good flexibility and abrasion resistance. "Fiber-glass" is used as core material and the braid is constructed of special hard Cadmium bronze. Does not unravel.

No. 31 ..... 25 ft. .... List Price \$1.30  
No. 31-1C ..... 100 ft. .... List Price 3.80  
No. 31-5C ..... 500 ft. .... List Price 15.40

**PHOSPHOR BRONZE CABLE**—42-Strand—Diameter .032"—Breaking Strength 60 lbs.—A very flexible metal cable constructed of 42 strands of hard Phosphor bronze over a "Fiber-glass" core. Extremely durable. Used for replacement of dial cables and many special applications where a strong, stranded cable is required.

No. 30 ..... 25 ft. .... List Price \$1.65  
No. 30-1C ..... 100 ft. .... List Price 5.50  
No. 30-5C ..... 500 ft. .... List Price 22.00

**SPECIAL THIN BRONZE CABLE**—Diameter .022"—An extra-thin cable for dial drives, flexible connections, pigtails, and many other applications—wherever a thin, but strong cable is required.

No. 32 ..... 25 ft. .... List Price \$1.40  
No. 32-1C ..... 100 ft. .... List Price 4.95  
No. 32-5C ..... 500 ft. .... List Price 14.30

The following cords cover over 80% of the replacement demand. With one spool of each kind on hand, the serviceman has the proper size for practically any set manufactured since 1934. Constructed with "Fiber-glass" or linen core and "pre-stretched," these are the most efficient cords available. The braided sleeves are made of Nylon.

Cat. No.	Diam.	Breaking Strength	LIST PRICES		
			Feet Per Spool		
			25	100	500
<b>"SPECIAL THIN"</b>					
35	.025"	15 lbs.	\$1.40		
35-1C	.025"	15 lbs.		\$4.95	
35-5C	.025"	15 lbs.			\$14.30
<b>STANDARD</b>					
39	.032"	20 lbs.	\$1.40		
39-1C	.032"	20 lbs.		\$4.95	
39-5C	.032"	20 lbs.			\$14.30
<b>MEDIUM</b>					
34	.040"	35 lbs.	\$1.40		
34-1C	.040"	35 lbs.		\$4.95	
34-5C	.040"	35 lbs.			\$17.60

STANDARD PACKAGE—12

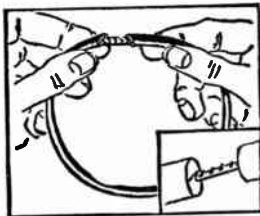
### POPULAR DIAL CORD IN SMALL PACKAGES

Cat. No.	List Price
3070—Approximately 10 ft. Special Thin Cord (Type 35)	\$0.45
3080—Approximately 8 ft. Medium Cord (Type 34)	0.45
3090—Approximately 8 ft. Standard Cord (Type 39)	0.45

(Standard Package . . . 20; available on display card or box)

### WALSCO UNIBELT

A NEW UNIVERSAL DIAL-DRIVE BELT ADJUSTABLE TO FIT ANY DIAL DRIVE



Covered by Patent No. 2,300,706

- Eliminates need for stocking 96 different sizes of belts.
- Unibelt gives the Radio Man the correct size belt for every make and model set.
- Easily installed in a few minutes. No need for taking dial mechanism apart.
- Put up on spools in continuous lengths which will make five or more average belt replacements.
- New patented construction incorporates special stainless steel core and pure latex covering.
- Belts cannot stretch, and when properly installed will not slip, fray or break.
- Unconditionally guaranteed.

The ingenious construction of the New WALSCO Unibelt makes it possible to assemble any size belt by merely cutting the desired length and joining the ends with a simple "zipper-like" connector. The over connected belt cannot stretch and has a breaking strength of over 60 lbs. ONLY ONE SIZE NEEDED for any belt replacement job.

Cat. No.	List Price	Dealer's Price	Net
303—5-ft. spool Unibelt (with 10 connectors and instructions)	\$3.00	\$3.00	\$1.80

### WALSCO DIAL DRIVE BELTS

- Precision Made.
- No Stretch — No Slip.
- Smooth and Uniform.
- Exceptionally Strong.



Available for any type of radio set. Specially constructed to give long lasting, trouble-free service. Treated for maximum friction and to provide accurate tuning. WALSCO Dial Belts are uniformly thick throughout the entire length and are precision made and guaranteed to fit perfectly.



All Sizes. . . . . List Price Each, \$0.30  
Also put up in Kits of 25, 50, 100 and 150 Belts

### WALSCO DIAL CORD CLIPS

For fastening the end of dial drive cord. The assortment contains the proper sizes for all standard thicknesses of cord.



Cat. No.	List Price per pkg.
*2770—Approximately 35 Clips	\$0.45

### WALSCO PLASTIC DIAL CRYSTALS



Can be cut with scissors. Easily press-fitted or cemented in place. Solves the replacement problem on radio dials, instruments, etc.

Cat. No.	Size	List Price
990—6"	Maximum Diameter	\$1.20
992—9"	Maximum Diameter	2.00
994—8" x 10"	Flat Sheet	1.80

### WALSCO SPEAKER ADJUSTMENT SHIMS



- Made of Non-magnetic Metal
- Strong and Flexible, Spring Temper
- Corrosion-Resistant

4 Shims of each of 4 sizes supplied in handy plastic case with screw top and pencil clip. As easy to carry as a fountain pen. Marked for easy identification. Sizes supplied—.004", .006", .008" and .010". Indispensable to the serviceman in adjusting voice coils.

Cat. No.	List Price
2550—16 Assorted Shims—4 of each size	\$0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

## PHONO ACCESSORIES

### WALSCO PHONO-MOTOR DRIVES

Precision made to assure constant uniform speed and made of abrasion-resistant synthetic rubber to assure long wear. For attaching, use WALSCO Rubber Cement.



Cat. No.	I.D.	O.D.	Thick	No. of Drives per pkg.	Used on	List Price per pkg.
2560-14	5/8"	2 3/8"	3/8"	3	G-I, V-M, Philco, Garod and others.	0.45
†2560-16	2"	2 3/8"	3/8"	2	Gen. Indust. Mod. LX & RX	\$0.45
†2560-17	1 1/2"	1 3/4"	1/8"	2	Alliance, Seeburg, G.E. V. M. 400	0.45
†2560-18	7/8"	1 1/4"	3/8"	3	Seeburg, R.C.A., G.E.	0.45
†2560-19	1 1/8"	1 3/8"	3/8"	4	Philco, R.C.A., etc.	0.45
†2560-20	5/8"	1 1/8"	3/8"	1	Detrola	0.45
*2560-22	1 3/8"	1 1/2"	1/8"	3	G.I. Recorder/Changer	0.45
*760-23	1 1/8"	1 1/8"	1/4"	2	R.C.A., RP-176, 177 and most pre-war R.C.A. Changers. Also on G.E. 809-J, etc.	0.45
761-23	4 1/2"	5 1/2"	1/8"	1	Same as #760-23	1.10
760-24	2 7/8"	3 3/8"	1/4"	1	R.C.A. 960015, 960260, 960276. Also most Admiral and Crescent postwar changers	0.55
†760-25	Spring-Drive			1	Detrola - Utah	0.55

### WALSCO STANDARD TEST RECORDS FOR TESTING AND ADJUSTING RECORD PLAYERS, CHANGERS, PICK-UPS, AND AMPLIFIERS



These records are designed to provide the electronic engineer and serviceman with a quick, inexpensive, and accurate means of checking the mechanical performance of record changers. They will also indicate any defects in pick-up, amplifier, or speaker, and may be used for accurate measurements of performance of these components. All records are made of long-wearing, plastic material, and are unbreakable in normal use.

Cat. No. 720-6—Set of six 10" records consisting of one each of the following: Record No. 720, 721, 725, 726, 727, 728. With this set, all mechanical and electrical performance characteristics of a phonograph system can be quickly and accurately checked. No laboratory or well-equipped service shop should be without this set. List Price \$10.90

Cat. No. 720—10" record with accelerated pitch. Playing time approximately 45 sec. Lead-in grooves modulated with 3 tones to indicate set-down position of pick-up. Proper tripping action indicated by tone signals at end of record. Both sides of record identical. List Price \$1.80

Cat. No. 721—10" record. One side with accelerated pitch and without starting spiral for checking "feed-in" of pick-up. Other side same as No. 720. List Price \$1.80

Cat. No. 725—10" record. One side: Sweep Frequency Record at N.A.B. standard level. Range 10,000 to 50 c.p.s. Cross-over to constant amplitude at 500 c.p.s. Other side same as No. 720. List Price \$2.10

Cat. No. 726—10" record. One side: Test Frequency Record at N.A.B. standard level. Range 10,000 to 50 c.p.s. in 16 steps. Other side same as No. 720. List Price \$2.10

Cat. No. 727—10" record. One side contains 1000 and 400-cycle tone for 1 min. each. Especially designed for testing irregular turntable speed ("WOW"). Other side same as No. 720. List Price \$2.10

Cat. No. 728—10" record. One side contains silent (unmodulated) groove for checking turn-table rumble. Other side same as No. 720. List Price \$1.80

Cat. No. 730-4—Set of four 12" records of same design as No. 720. Designed for use in connection with set No. 720-6 in checking performance of intermix changers. List Price \$10.90

### WALSCO STROBOSCOPE DISK

For checking proper speed of turntables. Lines on disk appear to be stationary on correct speed when observed under 60-cycle AC lighting (preferably fluorescent). For checking 78, 45, and 33 1/3 rpm. speeds.

Cat. No. 949—Stroboscope Disk ..... \$0.17  
Standard Packing: 25



### WALSCO PHONOGRAPH PICKUP SET SCREWS

Precision knurled head steel screws, antique bronze finished for all popular pickups and recording heads. The assortment contains several each of the popular numbers and one each of the other sizes.



Cat. No.	Approx. No. Units per pkg.	Used On	Size	List Price per pkg.
†2570	10	Assorted	Assorted sizes	\$0.45
*2571	10	Shure and others	2-56 x 5/8"	0.45
*2572	10	Most Astatic & Webster	2-64 x 3/4"	0.45
*2576	4	Most RCA, etc.	1-72 x 1"	0.45

### WALSCO PICKUP CARTRIDGE MOUNTING SCREWS

An assortment containing small machine and self-tapping screws of various lengths, sizes and styles as required in fastening cartridge to pick-up arm. Especially useful when threads are stripped or replacement of different cartridge requires longer screws.



Cat. No. 3365—Approx. 30 Screws & Spacers \$0.45

### WALSCO PHONO PANEL MOUNTING SPRINGS

An assortment of various sizes of conical springs as used in mounting record changer units.



Cat. No. 3385—8 Assorted Springs ..... \$0.45

### WALSCO PHONO PLUGS AND JACKS



Standard plugs and jacks as used for connecting record players or pick-ups; also used on auto radio antennas. Used for all single conductor, shielded cable connections.

Cat. No. 2580—Package of 4 Plugs ..... \$0.45  
†2585—Package of 2 Jacks ..... 0.45

### WALSCO PHONE TIPS



Fit all standard tip jacks. Easy to solder. Made of brass, nickel-plated. These are the conventional tips so often needed by both experimenters and service men.

THE 40 LINE		THE 99 LINE	
Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
†2725	12	2725-99	60

### WALSCO PHONO TURNTABLE FELTS

Made of high-quality brown felt, accurately die-cut with concentric center hole. Use WALSCO Radio Cement or WALSCO Fabric Cement for attaching.



Cat. No.	Size	List Price
350-8	7 7/8" diameter	\$0.50
350-9	8 7/8" diameter	0.65
350-10	9 7/8" diameter	0.70
350-12	11 7/8" diameter	0.85

### WALSCO SPEAKER DUST FELTS

Special, thin felt disks to keep metal particles and dust out of voice coils. Use WalSCO Radio Cement to attach to cone.

Cat. No. 2775—Approx. 25 assorted sizes ..... \$0.45

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

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\*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1 #3330-B consists of standard box containing 20 packages #3330.  
†Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.



# WALSCO ELECTRONIC HARDWARE

The 99 Line

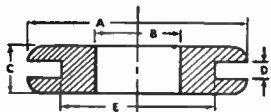
The 40 Line

IN PERMANENT TRANSPARENT PLASTIC PACKED IN HANDY STORAGE BOXES WITH SLIDING TOPS ECONOMICAL PLASTIC BAGS



## WALSCO RUBBER GROMMETS

For protecting cables from abrasion when passing through chassis holes. Also used for vibrationless mounting of parts.



Dimensions					THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
A	B	C	D	E	Cat. No.	Approx. Quan. per pkg.	Cat. No.	Approx. Quan. per pkg.
1 1/2"	1/2"	1/8"	1/8"	1/4"	†3341	15	3341-99	85
1 1/4"	1/2"	3/32"	1/8"	1/4"	†3342	12	3342-99	85
1 1/8"	1/4"	1/4"	1/8"	3/8"	†3343	10	3343-99	65
1 1/8"	3/8"	3/8"	1/8"	1/2"	†3344	10	3344-99	55
1 1/8"	1/2"	3/8"	1/8"	5/8"	†3345	6	3345-99	35
Assorted					†3340	12		

## WALSCO ANGLE BRACKET ASSORTMENT

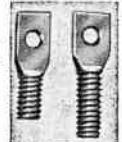


Handy brackets of various lengths and shapes as needed by every repairman, experimenter, "ham", etc. Precision made, of steel, or brass and plated.

Cat. No. List Price, per pkg.  
\*2610—Approximately 14 Assorted Brackets ..... \$0.45

## WALSCO SPADE BOLTS

Indispensable for attaching condensers, coils, cans, and similar items. For Experimenters, Servicemen and Manufacturers of electronic equipment. Stud size 6-32. Hole size for No. 6 screw.



Approx. Length	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
	Cat. No.	Quan. per pkg.	Cat. No.	Quan. per pkg.
5/8"			3271-99	100
3/4"			3272-99	100
Assorted	†3270	18		

## WALSCO RUBBER WASHER AND BUMPER ASSORTMENT

An assortment of the various kinds of rubber washers, bumpers, and spacers used in the electronic and radio industry for shockless, vibrationless mounting, for eliminating rattles and microphonics, etc.

Cat. No. List Price  
†3440—20 Assorted Washers and Bumpers ..... \$0.45

## WALSCO CORD STRAINRELIEFS FOR POSJ WIRE



Provides a grommet and strain relief in one piece. For use on appliance cord sets. Use WALSCO Rubber Cement (Cat. No. 112) for attaching to cord. Prevents insulation of wire from being damaged by sharp-edged holes in metal chassis or cabinets.

Cat. No. List Price  
\*3348—4 Strainreliefs ..... \$0.45

## WALSCO RIVET ASSORTMENT

Various sizes of hollow, solid and split rivets in brass, copper and aluminum as used in everyday repair and experimental work. Sizes range approximately from 1/16" to 3/8" in diam. and up to 3/4" in length.



Cat. No. List Price per pkg.  
†2620—Approx. 60 asstd. Rivets ..... \$0.45

## WALSCO CHASSIS MOUNTS



Made of resilient synthetic rubber to give chassis or other components a floating effect and to reduce "microphonics." Essential wherever vibration will affect operation.

Dimensions				THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
A	B	C	D	Cat. No.	Quan. per pkg.	Cat. No.	Quan. per pkg.
3/4"	1/2"	1/4"	3/8"	*2742	5	2742-99	25
1"	1/2"	1/4"	1/2"	*2744	4	2744-99	20
Assorted				†2740	10		

## WALSCO EYELET ASSORTMENT

Brass eyelets of various diameters and lengths. A handy item for every repair shop.

Cat. No. List Price per pkg.  
†2630—Approx. 55 Eyelets ..... \$0.45

## WALSCO CABINET FEET

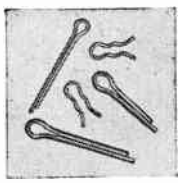


Made of oil resistant synthetic rubber. Wood screws are supplied with screw-type feet but machine or selftapping screws may be used. The rubber tack feet have steel tacks securely molded in.

PKGS. OF SCREW-TYPE FEET, INDIVIDUAL SIZES			
Diam.	Height	THE 40 LINE \$0.45 List Ea. Pkg.	THE 99 LINE \$1.80 List Ea. Pkg.
		Cat. No.	Quan.
3/8"	1/2"	*3351	8
1/2"	3/8"	*3352	8
3/4"	3/8"	*3353	6
Assorted		†3350	8

## WALSCO SMALL COTTER & HAIR PINS

Package contains an assortment of most popular sizes of cotter and hair pins. A valuable aid in the repair of radios and phonograph mechanisms.

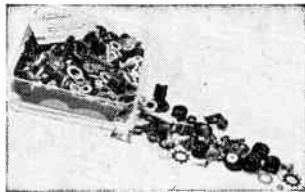


Cat. No. List Price per pkg.  
\*2650—Approx. 50 Assorted Cotter and Hair Pins \$0.45

## PKGS. OF RUBBER TACK FEET

PKGS. OF RUBBER TACK FEET			
Diam.	Height	THE 40 LINE \$0.45 List Ea. Pkg.	THE 99 LINE \$1.80 List Ea. Pkg.
		Cat. No.	Quan.
1/2"	3/8"	3355-99	55
3/8"	3/8"	3356-99	50
Assorted		†3355	10

## WALSCO HARDWARE ASSORTMENT



A wonderful assortment of screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, etc. Only regular hardware included. Just the thing for the experimenter, ham and technician. In plastic box.

Cat. No. List Price Dealer's Net  
K3003—"1000 Piece" Hardware Assortment \$1.80 \$1.08

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

\*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1 #3330-B consists of standard box containing 20 packages #3330.  
†Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.



# WALSCO ELECTRONIC HARDWARE

The 99 Line

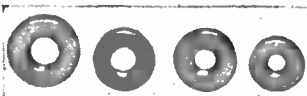
The 40 Line

IN PERMANENT TRANSPARENT PLASTIC PACKED IN HANDY STORAGE BOXES WITH SLIDING TOPS ECONOMICAL PLASTIC BAGS



## WALSCO METAL WASHERS

Precision steel washers, Cadmium plated, in standard small sizes for innumerable uses.



For Screw Size	Dimensions			THE 40 LINE		THE 99 LINE	
	I.D.	O.D.	Thick.	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#4	.125"	$\frac{3}{16}$ "	$\frac{3}{32}$ "	*3511	80		
#6	.149"	$\frac{3}{8}$ "	$\frac{3}{32}$ "	*3512	80	3512-99	500
#8	.175"	$\frac{7}{16}$ "	$\frac{3}{32}$ "	*3513	80	3513-99	500
#10	.203"	$\frac{1}{2}$ "	$\frac{3}{32}$ "	*3514	75	3514-99	300
$\frac{1}{4}$ "	.265"	$\frac{1}{2}$ "	$\frac{3}{32}$ "	*3515	60	3515-99	300
Assorted				†3510	80		

## WALSCO LOCK WASHERS

Made of special steel and rust-proofed. Sizes listed below are the most popular ones in the radio and electrical appliance field.



For Screw Size	THE 40 LINE		THE 99 LINE	
	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#6	*3592	50	3592-99	300
#8	*3593	45	3593-99	275
#10	*3594	45	3594-99	275
$\frac{1}{4}$ "			3595-99	200
$\frac{3}{8}$ "			3596-99	125
Assorted	†3590	45		

## WALSCO KNOB FELT WASHERS

Keep cabinets from being scratched and make knobs turn smoothly. Made of tough brown felt with  $\frac{1}{4}$ " hole to fit standard control and condenser shafts. O.D. is approx.  $\frac{3}{8}$ " and thickness  $\frac{1}{32}$ ".



THE 40 LINE		THE 99 LINE	
Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
†3490	45	3490-99	250

## WALSCO RETAINING RINGS AND "C" WASHERS

A necessity in the servicing of volume controls, record changers, etc. The rings are tempered spring steel. The washers are annealed.



Cat. No.	Description	Approx. No. of units per pkg.	List Price per pkg.
†3420	Assorted Rings & Washers	25	\$0.45
*3422	"C" Washers for $\frac{1}{4}$ " Shaft	15	0.45
*3423	"C" Washers for $\frac{3}{8}$ " Shaft	18	0.45

## WALSCO INSULATING WASHERS

Precision made of high-grade vulcanized fibre or phenolic material. Used on electronic and electrical equipment to insulate parts from chassis, etc.

In the "99 LINE," WALSCO Insulating Washers come in packages of either flat or extruded washers. In the "40 LINE" the packages contain both flat and extruded washers.

Dimensions	Fits Screw Size	THE 40 LINE		THE 99 LINE	
		Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
A B C D	#6	*3431	15 and 15	3431-F-99	250
$\frac{1}{8}$ $\frac{7}{8}$ .136 $\frac{1}{16}$	#8	*3432	15 and 15	3432-F-99	250
$\frac{3}{16}$ $\frac{1}{4}$ .165 $\frac{1}{16}$	#10	*3433	12 and 12	3433-F-99	250
$\frac{1}{2}$ $\frac{3}{8}$ .195 $\frac{1}{16}$	$\frac{1}{4}$ "	*3434	12 and 12	3434-F-99	225
$\frac{3}{4}$ $\frac{1}{2}$ .255 $\frac{1}{16}$	$\frac{3}{8}$ "	*3435	10 and 10	3435-F-99	175
$\frac{1}{2}$ $\frac{1}{2}$ .380 $\frac{3}{32}$			15 and 15		
Assorted		†3430			

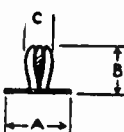
## WALSCO SPRING (FRICTION) WASHERS



Used in record changers, automatic tuning assemblies, etc. Assortment contains many popular sizes of phosphor bronze and spring steel washers.

Cat. No.	Approx. 15 Assorted Spring Washers	List Price per pkg.
†3425		\$0.45

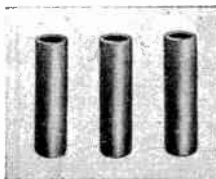
## WALSCO SNAP-IN TRIMOUNTS



Faster than screws. Use them on modern radio sets, back covers, dial scales, chassis, built-in antennae, etc., to speed assembly and repairs.

Dimensions	For Hole	THE 40 LINE		THE 99 LINE	
		Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
$\frac{1}{8}$ " A B C	$\frac{1}{8}$ "	*3462	20	3462-99	125
$\frac{3}{16}$ "	$\frac{3}{16}$ "	*3464	18	3464-99	100
$\frac{1}{4}$ "	$\frac{1}{4}$ "	*3465	15	3465-99	85
Assorted		†3460	approx. 20		

## WALSCO FUSE INSULATORS



Standard fibre insulators for use on automobile radios. Two lengths included fit all standard  $\frac{1}{4}$ " diameter fuses.

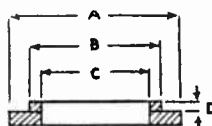
Cat. No.	Approx. 16 Assorted Insulators	List Price per pkg.
†2690		\$0.45

## WALSCO METAL AND INSULATING SPACERS

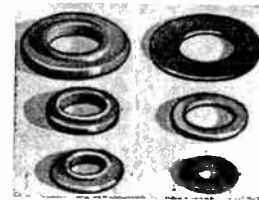


A popular assortment of spacers of various lengths, with hole size to accommodate #6 and #8 screws. Often used for mounting sockets, switches, and for raising panels, chassis, and condensers.

Cat. No.	Approx. 12 Assorted Insulating Spacers	List Price per pkg.
*2670		\$0.45
*2680	Approx. 12 Assorted Metal Spacers	0.45



Overall thickness of extruded washers is approximately  $\frac{1}{32}$ " and of the flat washers  $\frac{1}{16}$ ".



For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.



# WALSCO ELECTRONIC HARDWARE

The **99** Line

The **40** Line

IN PERMANENT *Transparent* PLASTIC PACKED IN HANDY STORAGE BOXES with SLIDING TOPS ECONOMICAL PLASTIC BAGS



## WALSCO TERMINAL LUGS



Figure No.	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
1	*3281	20	3281-99	125
2	*3282	20	3282-99	140
3	*3283	20	3283-99	115
4	*3284	20	3284-99	100
5	*3285	20	3285-99	100
6	*3286	40	3286-99	250
7	*3287-X	20	3287-X-99	140
8	*3287-Y	20	3287-Y-99	115
9			3287-Z-99	35
Assorted	†3280	30		

## WALSCO TERMINAL STRIPS



For mounting parts which are to be insulated from chassis, and for wire distribution. Made with high-grade phenolic insulation. Solder-coated terminals.

Cat. No.	List Price per pkg.
*2660—Assortment of various size Strips	\$0.45

## WALSCO GRID CAP ASSORTMENT

An assortment of Grid Caps for all standard metal and glass tubes. Includes clip for hi-voltage TV rectifier tubes.



Cat. No.	List Price, per pkg.
†2600—Approximately 10 Assorted Caps	\$0.45

## WALSCO SPRING CONNECTOR CLIPS (FAHNESTOCK TYPE)



For fast connection and good electrical contact. No tools required for connecting or disconnecting. Made of spring brass or phosphor bronze.

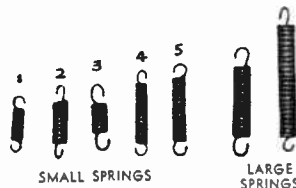
For Wires	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#16 gauge and smaller	*2731	18	2731-99	100
#12 to #18 gauge	*2732	12	2732-99	75
Assorted	*2730	12		

## WALSCO MINIATURE PLUG AND JACK

Meets Army, Navy and J.A.N. Specifications

Ideal for hearing aids, speaker extensions, microphone connections and wherever a very small precision plug and jack is required. Housing of Nos. 790 and 791 cement together. Nos. 792 and 793 use small screws. Illustration shown approx. half size.

Cat. No.	List Price
†790—Plug (Type PL291)	\$0.60
†791—Jack (Type JK48)	0.80
*792—Plug (Type PL291A)	0.80
*793—Jack (Type JK55)	1.20



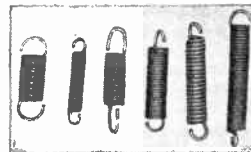
## WALSCO DIAL DRIVE SPRINGS

Made of fine music wire for greater flexibility. Available in all standard sizes. Carefully looped at each end, rust-proofed and cadmium plated.

Illustration Approximately two-thirds actual size

Cat. No.	Overall Length	Diam.	Wire Thickness	Picture Number	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.		List Price
					Assorted (Large and Small)	Assorted Small Springs	Cat. No.	Qun. per pkg.	
*3411	1/2"	1/8"	.016"	1	10	3400	10	3400-99	\$0.45
*3412	3/8"	3/8"	.018"	2	10	3400	10	3400-99	0.45
*3413	5/8"	5/8"	.020"	3	10	3400	10	3400-99	0.45
*3414	7/8"	7/8"	.016"	4	8	3410	10	3400-99	0.45
*3415	1"	3/2"	.020"	5	8	3410	10	3400-99	0.45

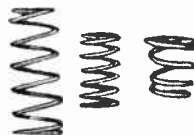
## WALSCO EXPANSION SPRINGS



Very handy for radio and electrical shops, laboratories, etc. The assortments contain various sizes of springs for many applications: record changers—to name one of a thousand.

Cat. No.	List Price per pkg.
†3290—10 Assorted Large Springs	\$0.45
†3390—10 Assorted Small Springs	0.45

## WALSCO COMPRESSION SPRINGS



A hard-to-get item. The WalSCO assortments contain all of the springs often needed for repair work on radio and electronic equipment, motors, appliances, etc. Available in two assortments.

Cat. No.	List Price per pkg.
†3370—20 Assorted Small Springs	\$0.45
†3380—15 Assorted Large Springs	0.45

## WALSCO RADIO KNOB SPRINGS



The modern method of fastening knobs to shafts. Available in all regular sizes and shapes. The assortment is complete and most useful to radio shops. Finest grade of selected steel is used.

Cat. No.	Picture No.	Approx. No. of Springs per pkg.	List Price per pkg.
†3450	Assorted	16	\$0.45
*3451	1	8	0.45
*3452	2	10	0.45
*3455	5	10	0.45
*3456	6	18	0.45
*3457	7	20	0.45
*3458	8	25	0.45
*3459	9	25	0.45

## WALSCO FUSE CLIPS

Made of spring brass, nickel plated for single hole mounting.



Cat. No.	List Price, per pkg.
*2720—10 Assorted Clips	\$0.45

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

\*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1 †3330-B consists of standard box containing 20 packages †3330. †Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.



# WALSCO ELECTRONIC HARDWARE

The 99 Line

The 40 Line

IN PERMANENT TRANSPARENT PLASTIC STORAGE BOXES with SLIDING TOPS • PACKED IN HANDY ECONOMICAL PLASTIC BAGS



## WALSCO STEEL MACHINE SCREWS

Round head, cadmium-plated, steel machine screws. Available in assortments or individual sizes, conveniently packaged for experimenters, servicemen and amateurs.



### WALSCO Standard Machine Screw Ass'tm't

All the standard sizes used in electronic and similar work are combined in this handy, inexpensive assortment. It contains Nos. 6, 8, 10 screws—1/4" to 1" long.

	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. Quan.	Approx. Quan.
Assorted Screws.....	†3560	3560-99 200

### WALSCO Small Machine Screw & Nut Ass'tm't

A special assortment of extra small screws (Nos. 2 and 4), and nuts so often needed in electronic and experimental work for fastening small parts, to replace rivets, etc.

Cat. No.	List Price, per pkg.
†3360—Approximately 50 Assorted Screws and Nuts	.....\$0.45

### PACKAGES OF SCREWS — INDIVIDUAL SIZES

Size	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. Quan.	Approx. Quan.
# 2-56 x 1/8".....	3093	3091-99 225
# 2-56 x 1/4".....	3094	3093-99 200
# 2-56 x 3/8".....	3094	3094-99 200
# 4-40 x 1/4".....	3096	3096-99 225
# 4-40 x 3/8".....	3097	3097-99 200
# 4-40 x 1/2".....	3098	3098-99 200
# 6-32 x 1/4".....	†3100	3100-99 225
# 6-32 x 3/8".....	†3110	3110-99 225
# 6-32 x 1/2".....	†3120	3120-99 200
# 6-32 x 3/4".....	*3130	3130-99 175
# 6-32 x 1".....	*3135	3132-99 150
# 8-32 x 1/4".....	†3140	3135-99 200
# 8-32 x 3/8".....	†3150	3140-99 175
# 8-32 x 1/2".....	†3160	3150-99 160
# 8-32 x 3/4".....	†3169	3160-99 140
# 8-32 x 1".....	*3165	3162-99 125
# 10-32 x 1/2".....	*3167	3165-99 140
# 10-32 x 3/4".....	*3169	3167-99 115
# 10-32 x 1".....	*3169	3169-99 100

## WALSCO THREADED STEEL RODS

These rods have many uses in service and repair work and are made from the finest cold rolled steel to give maximum strength. Each package contains one each of 6-32 and 8-32 threaded rod. Both 8 inches long.

Cat. No.	List Price
†2640—1 each 6-32 and 8-32 Threaded Rod	.....\$0.45

## WALSCO STEEL SET SCREWS

Precision, hardened steel set screws in all popular sizes for radio knobs, record changers, home and automobile radios, or wherever set screws are needed.



Size	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. Quan.	Approx. Quan.
# 6-32 x 3/8".....	†3210	3210-99 15
# 8-32 x 3/8".....	†3220	3220-99 55
# 8-32 x 1/2".....	†3230	3230-99 15
# 10-32 x 1/4".....	*3237	3237-99 15
Assorted.....	†3480	3480-99 55

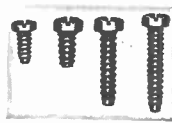
## WALSCO ESCUTCHEON PIN ASSORTMENT

Brass finished pins in various sizes and lengths from 1/4" to 5/8".

Cat. No.	List Price per pkg.
†3555—Approx. 100 Asstd. Pins	.....\$0.45

## WALSCO SHEET METAL AND SELF-TAPPING SCREWS

These screws cut their own threads in either metal or plastic. Just drill a hole and drive in the screw—no nut or tapping required. Ideal for mounting parts to chassis, replacing rivets and eyelets, etc.



Size	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. Quan.	Approx. Quan.
Assorted.....	†3470	3470-99 125
# 6 x 1/4".....	†2910	2910-99 150
# 6 x 3/8".....	*2911	2911-99 150
# 6 x 1/2".....	*2912	2912-99 150
# 6 x 3/4".....	*2914	2914-99 125
# 6 x 1".....	*2916	2916-99 125
# 8 x 1/4".....	*2919	2919-99 125
# 8 x 3/8".....	*2920	2920-99 125
# 8 x 1/2".....	*2922	2922-99 125
# 8 x 3/4".....	*2924	2924-99 100
# 8 x 1".....	*2926	2926-99 100
# 10 x 3/8".....	*2930	2930-99 100
# 10 x 1/2".....	*2932	2932-99 100
# 10 x 3/4".....	*2934	2934-99 100

## WALSCO RACK SCREWS & CUP WASHERS



Oval head screws and cup washers for mounting panels in racks and cabinets, fastening record-players and recording chassis, etc. Enhances appearance of any assembly. Nickel plated.

Size	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. Quan.	Approx. Quan.
# 6-32 x 5/8" Screws....	*3543	3543-99 175
# 8-32 x 5/8" Screws....	*3541	3541-99 150
# 10-32 x 5/8" Screws....	*3542	3542-99 100
# 6 Washers (1/2" O.D.)	*3544	3544-99 275
# 8 Washers (3/8" O.D.)	*3545	3545-99 250
# 10 Washers (1/2" O.D.)	*3546	3546-99 200
Asstd. Screws & Washers	†3540	12

## WALSCO ORNAMENTAL HEAD SCREWS



Antique bronze finished; rosette head. For mounting of speakers, etc.

Size	THE 40 LINE	THE 99 LINE
	\$0.45 List Ea. Pkg.	\$1.80 List Ea. Pkg.
	Approx. per pkg.	Approx. Quan.
# 6-32 x 3/4".....	*2951	2951-99 125
# 6-32 x 1".....	*2952	2952-99 125
# 8-32 x 1 1/4".....	*2953	2953-99 80
Assorted.....	†2950	15

## WALSCO Standard Wood Screw Assortment

Handy assortment for workshop or home. Contains round and flathead screws of popular sizes in brass and steel.



Cat. No.	List Price
†3553—Approx. 30 Screws, per pkg.	.....\$0.45

## WALSCO SMALL ESCUTCHEON AND WOOD SCREW ASSORTMENT



This assortment contains the extra small sizes of hard-to-get wood screws as needed by radio men, model builders, etc., for fastening name plates, escutcheons and numerous other devices.

Cat. No.	List Price
†3550—Approx. 30 Assorted Screws, per pkg.	.....\$0.45

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

\*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1 = 3330-B consists of standard box containing 20 packages #3330.  
 †Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages.  
 When ordering add suffix "B" for box or suffix "D" for display card. See example above.



# WALSCO ELECTRONIC HARDWARE

The 99 Line

The 40 Line

IN PERMANENT *Transparent* PLASTIC PACKED IN HANDY STORAGE BOXES with SLIDING TOPS ECONOMICAL PLASTIC BAGS



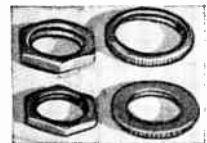
## WALSCO MACHINE SCREW NUTS



Walsco nuts are "Small Pattern" as preferred in the electronic and electric trade. Precision made and plated.

THE 40 LINE			THE 99 LINE			
Size	Cat. No.	Quan.	Steel, Cadm. Pl.	Brass, Nickel Pl.	Steel, Cadm. Pl.	Apprx. Quan.
# 2-56	3173	30			3173-99	200
# 4-40	3175	30			3175-99	200
# 6-32	†3180	30	3180-B-99	150	3180-99	200
# 8-32	†3190	30	3190-B-99	125	3190-99	200
# 10-32	*3195	25	3195-B-99	100	3195-99	175
Assorted	†3520	35			3520-99	175

## WALSCO SPECIAL MOUNTING NUTS



Various kinds of nuts used on volume controls, switches, jacks, potentiometers, etc. A "must" for every radioman and electrician. All nuts are cadmium or nickel plated.

Description	Cat. No.	Apprx. Quan.	THE 40 LINE \$0.45 List Ea. Pkg.	THE 99 LINE \$1.80 List Ea. Pkg.
3/8" x 32 Vol. Control Hex Nut...	*3531	15	3531-99	85
1/8" x 32 Toggle Switch Hex Nut.	*3532	8	3532-99	50
1/8" x 32 Toggle Switch Ring Nut.	*3533	8	3533-99	50
Assorted	†3530	12		

## WALSCO ACORN NUTS



Greatly improves the appearance on panel assemblies, test instruments, cabinets, etc. These PAL type steel nuts are self-locking and bright cadmium plated.

Cat. No.	List per pkg.
*2960—12 Assorted Nuts	\$0.45

## WALSCO KNURLED THUMB NUTS



Precision-made, Brass Nuts.	List Price per pkg.
*2971—Approx. 8 Nuts, 6-32	\$0.45
*2972—Approx. 8 Nuts, 8-32	0.45
*2973—Approx. 4 Nuts, 10-32	0.45

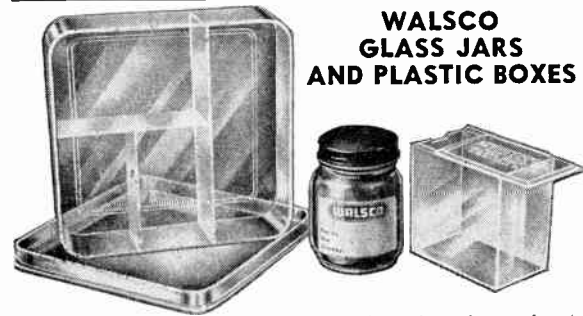
## WALSCO WING NUTS



Handy for experimental work and hobby craft.

	List per Pkg.
*2975—12 Nuts, 6-32	\$0.45
*2976—8 Nuts, 8-32	0.45
*2977—6 Nuts, 10-32	0.45

## WALSCO GLASS JARS AND PLASTIC BOXES



Handy for storing small hardware items to keep them clean and rust-free.

Cat. No.	List Price
997—Plastic Box with 4 compartments and telescoping lid, 4 1/2" square, 1 3/8" high. (Standard pack: 24)	\$0.70
998—Plastic Box with Sliding Lid. (Standard pack: 24)	0.28
999—Glass Jar, 2 oz. size. (Standard pack: 36)	0.13

## WALSCO SNAP-HOLE PLUGS

A round, polished nickel-plated flat head, metal button with spring flanges that snap right into the hole. Used to seal adjustments, cover unused holes, etc.



Description	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
	Cat. No.	Quan. per pkg.	Cat. No.	Quan. per pkg.
For 1/4" hole	*3501	8	3501-99	50
For 3/8" hole	*3502	8	3502-99	50
For 1/2" hole	*3503	6	3503-99	40
For 5/8" hole	*3504	6	3504-99	30
For 3/4" hole	*3505	5	3505-99	25
For 1" hole	*3506	4	3506-99	20
Assorted	†3500	8		

For additional sizes see Industrial and Bulk Price List

## WALSCO VENTILATING HOLE PLUGS

For amplifiers, transmitters, portable radios, amateur equipment, etc., wherever ventilation is required.



Cat. No.	List Price, per pkg.
†3320	\$0.45

## WALSCO CABLE CLAMPS



Heavy gauge steel, Cadmium plated, 3/8" wide. Perfectly punched and formed with No. 6 or No. 8 mounting holes. Available in 3 sizes for cables from 1/8" to 5/16" in diameter.

For Cables	THE 40 LINE \$0.45 List Ea. Pkg.		THE 99 LINE \$1.80 List Ea. Pkg.	
	Cat. No.	Quan. Per pkg.	Cat. No.	Quan. per pkg.
1/8" to 3/16" Diam.	*3331	20	3331-99	125
3/16" to 1/4" Diam.	*3332	18	3332-99	100
1/4" to 5/16" Diam.	*3333	15	3333-99	75
Assorted	†3330	20		

## WALSCO SPEED NUTS

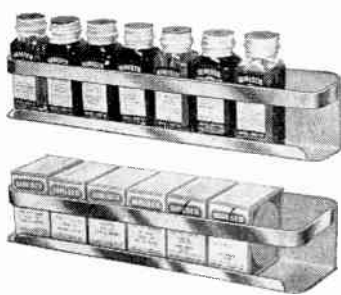


Self-locking and easy to install. Often required for replacement on many record changers, tuning units, etc.

Cat. No.	List Price per pkg.
*2980—Approx. 30 Assorted Speed Nuts	\$0.45

## WALSCO WALL RACKS

Keeps loose hardware and chemicals in one place. Makes it easy to find and select the item you need. Helps to keep your workbench orderly. Can be fastened firmly to wall or cabinet door. Made of satin finished aluminum with polished edges.



Cat. No.	List Price
995—Wall Racks for eight 2-oz. bottles	\$1.40
996—Wall Racks holding 7 Walsco 99 Line hardware, Walsco dial cord, or Cat. No. 998 plastic storage boxes	1.40

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

\*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1-3330-B consists of standard box containing 20 packages. †Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.

# WALSCO products

Help The Radio Man

WALTER L. SCHOTT COMPANY, LOS ANGELES 18, CALIF.

## CEMENTS — SOLVENTS SPECIAL RADIO CHEMICALS

### WALSCO RADIO CEMENT

Vibration-Proof Heat Resisting  
Unsurpassed Adhesive Power

An elastic cement especially made for the manufacture and repairing of speakers and for general radio work. Unaffected by vibration, dries fast and will not become brittle with age.

Walsco Radio Cement can also be used for repairing cabinets, loose tube bases, grid caps, etc. It will provide a strong bond between almost any materials and is not affected by high temperature, moisture or oil.

All bottles come with built-in brush and have an evaporation-proof cap liner.



Cat. No.	List Price
51—1 3/4 oz. tube.....	\$0.60
52—2 oz. bottle.....	0.65
54—4 oz. bottle.....	1.10
58—8 oz. bottle.....	1.90
59—1 pt. bottle.....	3.65
50-GL—1 gal. can.....	11.35

Also available in 5 and 50 gal. containers.

### WALSCO CEMENT SOLVENT AND THINNER

This Cement-Solvent is used for loosening cement on speaker cones, voice coils, and other parts where cement has been applied previously. Recommended also for thinning Walsco Radio Cement, Plastic Cement, and Fabric Cement.



Cat. No.	List Price
62—2 oz. bottle.....	\$0.55
64—4 oz. bottle.....	0.95
68—8 oz. bottle.....	1.25
69—1 pt. bottle.....	1.80

### WALSCO POLYSTYRENE CEMENT AND COIL DOPE

For Bonding Polystyrene Parts and Coil Coating in Radio and High Frequency Work  
A Polystyrene solution with a high solid content. Can be brushed on or parts can be dipped. Renders coils or other parts moisture-proof. Holds windings firmly in place due to a certain amount of shrinkage upon drying. Electrical losses due to coating with this cement are negligible—even if used for high or ultra-high frequency work.



Cat. No.	List Price	Larger Sizes on Request.
152—2 oz. bottle.....	\$0.65	
154—4 oz. bottle.....	1.10	

### WALSCO Polystyrene Solvent and Thinner

This thinner is especially designed for use with Walsco Polystyrene Cement where regular thinner cannot be used.

Cat. No.	List Price	Cat. No.	List Price
162—2 oz. bottle.....	\$0.55	164—4 oz. bottle.....	\$0.95

### WALSCO IMPRECON

An impregnating fluid which will render speaker cones moisture-repellent and impervious to fungus and mildew. Also prevents the drying out of cones under heat or adverse climatic conditions. Restores brittle cones to original texture.

Cat. No.	List Price
98 — 8 oz. bottle.....	\$ 1.75
98-GL—1 gal. can.....	19.25

### WALSCO FABRIC CEMENT

Does Not Penetrate the Fabric

Especially made for attaching grille cloth, turntable felt, covering of portable radios, etc. Dries very fast; is unaffected by moisture, sunlight, and high temperature and does not become brittle. Indispensable to Radio Dealers and Servicemen—eliminates the danger of spoiling the outside of a grille cloth, turntable felt, or other fabrics, since it does not penetrate the material.



Cat. No.	List Price
21-A—2 oz. bottle.....	\$0.65

### WALSCO WOOD GLUE

An "extra strength" adhesive incorporating the latest chemical developments and resins. A "must" item for every repair shop. Bottle caps have non-sticking rubber gaskets.



Cat. No.	List Price
222—2 oz. bottle.....	\$0.65
224—4 oz. bottle.....	1.10

### WALSCO ALL-PURPOSE RUBBER CEMENT

For cementing rubber parts to metal or wood, rubber mounts to chassis, rubber cushions to lids, etc.—gives an especially strong bond. A Radio Serviceman should always have a bottle on his work bench.



Cat. No.	List Price
112—2 oz. bottle.....	\$0.65
114—4 oz. bottle.....	1.20

### WALSCO PLASTIC CEMENT

Especially made to repair broken plastic cabinets, knobs, etc. Waterproof, heat-resisting, and heavier in substance than Walsco Radio Cement. Unexcelled as "Household Cement," "Model Airplane Cement," etc. Cements Plastics, Metal, Wood, Glass, etc. Dries fast and forms an exceedingly strong bond.



Cat. No.	List Price
41—1 3/4 oz. tube.....	\$0.60
42—2 oz. bottle.....	0.65
44—4 oz. bottle.....	1.20
48—8 oz. bottle.....	1.90

### WALSCO VINYLITE CEMENT

This adhesive uses the new Vinylite plastic resin as a base and has remarkable properties such as high tackiness, extreme flexibility when dry and excellent adhesion to metals, plastics, leather, cardboard and paper. Fast drying. Also an excellent thermoplastic cement for joining nonporous materials (e.g. metals).



Cat. No.	List Price
25—2 oz. bottle.....	\$0.75

### WALSCO "NO-SLIP"

Greatly increases the friction of pulleys, cords or belts. Contracts, "sets" and shrinks the fibres. Stops instantly any slippage of Dial Belts, Dial Cords, etc. Easily applied with brush.



Cat. No.	List Price
401 — 1/2 oz. bottle.....	\$0.50
402 — 2 oz. bottle.....	0.80
401D—Display of 12 #401.....	6.00

### WALSCOFLUX

A non-corrosive soldering flux. Quick acting, easy to apply. May be safely used for all electrical, radio and telephone work. Helps to keep the iron tip clean.

Cat. No.	List Price
220—2 oz. bottle with applicator.....	\$0.65

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.



# WALSCO products

Help The Radio Man

WALTER L. SCHOTT COMPANY, LOS ANGELES 18, CALIF.

## CLEANING AND LUBRICATING COMPOUNDS — APPLICATORS

### WALSCO "CONTACTENE" New Improved "Contact Cleaning Fluid"

- Cleans contacts and controls.
- Keeps controls and contacts noise-free.
- Lubricates and reduces friction.

A fast-evaporating combination of special solvents affording greatest cleaning power without affecting insulating materials. Contains "No-Ox," which after evaporation of the solvents, forms a thin film that protects the contacts. Contactene is recommended for treating volume controls, band switches, tuning condensers, springs, etc., to eliminate noisy operation. Bottles come with built-in brushes.



Cat. No.	List Price
82—2 oz. bottle.....	\$0.55
84—4 oz. bottle.....	0.95
88—8 oz. bottle.....	1.25
89—1 pt. bottle.....	2.00

### WALSCOLUB - B

Counteracts oxidation, prevents corrosion of metals and eliminates noise on band switches, push buttons, tuners, volume and other controls, as well as air-exposed electrical contacts, attenuators, etc. Will not change electrical properties. It is superior to any graphite compound for this purpose. Ideal on metal surfaces to prevent rust. Large, handy applicator tube.



Cat. No.	List Price
22—1 1/4 oz. tube.....	\$0.65

Available also in 1 lb., 5-lb. and 25-lb. containers for industrial users. Prices on request.

### WALSCO "LUBRIPLATE"

The latest development in chemicals for lubricating purposes. Much superior to ordinary greases because of its higher lubricating and lasting qualities. Its viscosity does not appreciably change with temperature. Used on phonograph motors, record changers, switches, and all appliances that require a grease-type lubricant. In large handy "applicator" tube.



Cat. No.	List Price
23-A—2 oz. tube.....	\$0.65

### WALSCO "TUNERLUB"

A special lubricant for use on TV tuners and other high frequency switch contacts. Contains no zinc or other harmful metal oxides. Prevents oxidation and noisy operation.



Cat. No.	List Price
26—1 1/4 oz. tube.....	\$0.75

### WALSCO RADIO DIAL OIL

A light-bodied lubricating oil for all electronic and electrical appliances.

Cat. No.	List Price
72—2 oz. bottle.....	\$0.50



### WALSCO "NO-OX"\*

#### "The Miracle Electronic Contact Fluid"

Fast-acting liquid chemical formulated with a neutral, non-gumming special lubricating base. The answer to the radio-man's need for an outstanding contact and control cleaner. Contains no solvents; its corrosion-dissolving action is entirely chemical. Cleans, lubricates and preserves. Proved in tens of thousands of applications by radio laboratories, service shops, broadcasting companies, motion picture, sound and recording studios, etc. "NO-OX" is highly recommended for treatment of volume and tone controls, attenuators, mixers, relay contacts and similar equipment.



Cat. No.	List Price
101—1 oz. bottle.....	\$ 0.85
102—2 oz. bottle.....	1.60
100-16—1 pt. bottle.....	12.50

\* Mfd. under exclusive licensing agreement with NO-OX Laboratories. Trade mark registered.

### WALSCO "LUBRICATOR"

Very useful for applying light greases and oils, such as Walscolub B, Lubriplate, Tunerlub, etc. Designed to reach the many cramped and inaccessible points in radios, TV sets and record changers. Syringe-type plunger releases desired amount of lubricant.



Cat. No.	List Price
988—Lubricator.....	\$0.80
988D—Display of 12 No. 988.....	9.60

### WALSCO "CONTACTENE INJECTOR"

For applying WALSCO Contactene, NO-OX, Dial Oil, etc., to spots which are not accessible with ordinary applicators. "Injector Needle" will permit application of contact chemicals to most volume controls without unsoldering connections or taking control apart.

This tool is made with the highest quality surgical-grade needle, and an oil-resistant rubber bulb.

Comes complete with small glass vial. A handy, useful item for every radio and TV service kit.



Full  
Size

Cat. No.	List Price
989 —Contactene Injector.....	\$0.75
989D—Display of 12 No. 989.....	9.00

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

## WALSCO SCRATCH REMOVING POLISH

"Makes Scratches Disappear"

A blend of polishing and staining ingredients. Removes scratches from cabinets and polishes at the same time. Will not change shade of finish. Use "Dark" for walnut, mahogany, etc. "Light" for light maple, light oak, etc.



Cat. No.	Dark	Light	List Price
414	434	4 oz. bottle	\$0.55
416	438	8 oz. bottle	0.80

Std. Pkg.—4 oz. bts....1 doz.; 8 oz. bts....2 doz.

## WALSCO SUPER POLISH

"A Concentrated White Cream Wax Polish"

Forms a hard, dry and durable film that will protect the object for a long time, giving it a "brand new" appearance.

Cat. No.	List Price	Standard Package:
412—4 oz. bottle	\$0.55	4 oz. bottles.....1 doz.
418—8 oz. bottle	0.80	8 oz. bottles.....2 doz.

## WALSCOCLEAR (Formula 91)

A scientific preparation for cleaning plastics such as television filters, lenses, optical systems, vinyl, LP records, etc. WALSCOCLEAR counteracts the dust-attracting electrostatic effect which usually interferes with proper polishing of plastic articles. Absolutely harmless to all plastics.



Cat. No.	List Price
91—4 oz. bottle	\$0.55

Standard Package: 12

## WALSCO CARBON TETRACHLORIDE

For general cleaning and spot removing. Dissolves dirt and grease instantly. May be used on most delicate parts. Chemically pure, rapid drying, non-explosive and non-inflammable. A safe cleaning fluid.



Cat. No.	List Price
214 — 4 oz. bottle	\$0.80
219 — 16 oz. bottle	1.90
214-GL—1 gal. can	7.60

## WALSCO INSULATING VARNISH

A fast "air" drying varnish for radio coils, transformers, solenoids, motors, and all electrical appliances. Withstands heat and is extremely resistant to acid, oil, and grease. It is non-corrosive and moisture-proof. An all-around clear insulating varnish.



Cat. No.	List Price
192—2 oz. bottle	\$ 0.65
193—1 pt. can	2.75
194—1 gal. can	15.00

## ANTI-CORONA LACQUER

A special, fast-drying coating of very high dielectric strength (over 15,000 V. for a film thickness of 0.010"). Prevents corona discharge and arcing in high-voltage supply of TV sets, when applied to wiring, solder lugs, sharp corners and points on chassis, inside high-voltage cage, etc.



Cat. No.	List Price
195—2 oz. bottle	\$1.20
196—1 pt. can	7.50

## WALSCO AIR-DRY WRINKLE VARNISH

Easy to apply in one coat. WALSCO Air-Dry Wrinkle Varnish provides a film that is hard, tough, and very resistant to wear. Repairs and replaces original wrinkle finish of manufactured equipment. No baking required. WALSCO Wrinkle Varnish will air-dry at room temperature.



Standard colors: grey and black. Other colors upon request.

Cat. No.	List Price
145—Gray 2 oz. jar	\$0.65
145—Black 2 oz. jar	0.65
147—Gray 16 oz. jar	3.30
147—Black 16 oz. jar	3.30

## WALSCO CRYSTALLIZING LACQUER

Easily applied to metal, wood, cardboard, etc. Brushed on, will dry in about thirty minutes. Identical to finish found on commercial chassis, panels, speakers and transformers. Use WalSCO Lacquer Sealer, Cat. No. 142, as undercoat for porous materials or over other finishes.

Cat. No.	List Price	Available colors:
122—2 oz. jar	\$0.65	Black,
129—16 oz. can	4.10	Green, Grey, Brown, Clear.
142—Sealer, 2 oz. jar	0.55	Specify color when ordering.

## WALSCO LIGHT BULB COLORING

A transparent, heat and moisture-resisting dipping lacquer especially made for coloring bulbs such as used in radio dials, signal systems, auto dash lights, and fancy illumination. Big jars permit dipping of even larger bulbs.



Cat. No.	List Price
116 Red—2 oz. jar	\$0.65
117 Blue—2 oz. jar	0.65
118 Green—2 oz. jar	0.65
119 Assorted—Kit of 3	1.75

## WALSCO SATIN FINISH LACQUER (TELEPHONE)



Made for commercial and amateur use on cabinets, chassis, panels, meters, racks, etc. This "satin finish" lacquer dries very fast and produces the "original finish" of most standard telephone and communication equipment. It air dries. May be brushed or sprayed.

Cat. No.	List Price
Black Grey 172 182 2 oz. jar	\$0.65
179 189 1 pt. can	3.30

## WALSCO FUNGUS LACQUER

Meets government specifications for moisture and fungus treating of electronic equipment. Applied by brush, dip or spray. Air-dries quickly.



Cat. No.	List Price
135—2 oz. bottle	\$ 0.65
136—1 pint can	2.75
137—1 gal. can	16.50

**THINNER FOR FUNGUS LACQUER**

138 — 8 oz. can	\$1.25
138-GL—1 gal. can	7.50

## WALSCO "STRIPVAR"

Rapidly removes enamel, Formvar, Formex and similar insulation from magnet wires. Just dip wire in "Stripvar" and wipe off.



Cat. No.	List Price
130 — 2 oz. bottle	\$ 0.75
131 — 1 pt. can	4.50
130-GL—1 gal. can	25.00

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-54 to U-61.

### WALSCO RADIO CABINET PATCHING OUTFIT

"The Most Popular Kit on the Market"



A complete kit especially designed for radio men who have little experience in cabinet work. Over 95% of all cabinet-finish damages can be repaired with this kit. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer, Super Polish, Alcohol, Brushes, Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet.

Cat. No.	List	Dealer's Net
K-10—In sturdy box with hinged lid.....	\$7.15	\$4.29
K-10-W—In California redwood case.....	8.25	4.95

### WALSCO RADIO CABINET REPAIR KIT

A very handy compact and inexpensive kit that fills the requirements of many shops and stores. Especially useful for the Dealer or Serviceman who has only occasional cabinet repairs. The kit contains one bottle each of the following: Ivory Spirit Enamel—light and dark; Lacquer Enamel—Dark Brown; Spirit Stain; Super Polish; French Varnish; Finishing Paper; Steel Wool; Polishing Cloth; Instruction Booklet.



Cat. No.	List	Dealer's Net
K-9.....	\$3.30	\$1.98

### WALSCO STICK SHELLAC KIT



An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet Patching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The WalSCO shellac rubbing fluid makes it possible to smooth the patch without any

effort or skill. Kit includes: six colors Stick Shellac, Alcohol Lamp, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions.

Cat. No.	List	Dealer's Net
K-11.....	\$3.85	\$2.31

### REFILLS OF POPULAR REFINISHING MATERIALS AS CONTAINED IN ABOVE KITS

Cat. No.	Stains	List Price
287—Spirit Stain, 1 oz. (Walnut, Mahogany, Maple, Black)		\$0.33
288—Spirit Stain, 8 oz.		1.55
289—Blending Stain (Lt. Brown, Med. Brown)		0.80
Patching Lacquer (Improved French Varnishing Materials)		
290—4 oz. bottle		1.30
291—16 oz. bottle		3.85
Stick Shellac Rubbing Fluid		
295—4 oz. bottle		0.80
296—16 oz. bottle		1.90
Stick Shellac		
299—Set of 8 assorted colors		1.95

### WALSCO "SUPER-CHIEF" REFINISHING KIT

A "Must" Item



This is the most complete kit of its kind on the market. Designed by WalSCO for radio dealers. It contains everything which is needed to make an old radio look like new—all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

Spirit Stain Dark Walnut	Scratch Removing Polish (Dark)
Spirit Stain Black	Scratch Removing Polish (Light)
Spirit Stain Mahogany	Patching Lacquer
Spirit Stain Maple	Alcohol Lamp
Super Polish	Alcohol
Spirit Stain Light Walnut	Spatula
Blending Stain Light Brown	Felt
Blending Stain Medium Brown	Polishing Cloth
Lacquer Enamel Light Ivory	Polishing Pad
Lacquer Enamel Dark Brown	Garnet Paper (8 sheets)
Lacquer Enamel Dark Ivory	Instruction Book
Shellac Rubbing Fluid	Brushes (3 different sizes)
Stick Shellac (8 assorted shades)	

Cat. No.	List	Dealer's Net
K-26.....	\$20.35	\$12.21

### WALSCO FURNITURE REFINISHING KIT

Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly. Contains: Super Polish, Patching



Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, Brushes, Garnet Finishing Paper, Complete Instruction Book. Kit furnished in California Redwood case with hinged lid.

Cat. No.	List	Dealer's Net
K-15.....	\$8.80	\$5.28

### WALSCO TIRE STATIC NEUTRALIZING KIT

- Reduces or Eliminates Automobile Radio Tire Static.
- Dissipates Body Contact Shock (Door-handle Sparks).

This kit contains a special injector gun and 5 packages of WALSCO Static Neutralizing Powder (one for each tire, including spare). The powder is blown into each tire in a very simple operation, which takes just a few minutes and lasts for the life of the tire.



Cat. No.	List Price
980—Tire Static Neutralizing Kit, complete with injector, powder and instructions.....	\$2.95
982—Injector gun only.....	1.80
985—Powder only (enough for 5 passenger-car tires).....	1.10

## CABINET HARDWARE SPEAKER ACCESSORIES

### WALSCO KNOBS & PULLS

The most distinctive cabinet hardware available. Attractively finished. Rigid construction. Will not rattle. Mounting screws included.

Cat. No. 330-1    Cat. No. 330-2

Cat. No. 330-3    Cat. No. 330-6

Cat. No. 330-4    Cat. No. 330-5

Cat. No.	Size	Finish	List Price Each
330-1	1 7/8" diam.	Brass	\$0.45
330-2	2 3/8" diam.	Brass	0.75
330-3	3" diam.	Brass	0.90
330-4	3 3/4" long	Brass	1.90
330-5	4 1/4" long	Bronze	1.00
330-6	6 1/8" long	Bronze	1.45
330-7	4" long	Bronze	1.05

### WALSCO DRAWER SLIDES

Made of durable, heavy-gauge steel, with a corrosion-resistant finish. Will make drawers slide smoothly and easily—no sticking or drag. Furnished with screws.

Cat. No. 331-1    Size 14" long    List Price, Per Pair \$2.75  
(Standard pack: 6 pairs)

### TV RECEIVER DECALS

Complete sets of markings in gold-colored, easy-to-read type, for custom-built sets or for replacement purposes. Over 40 markings per set, including: Tuning, Contrast, Focus, Sync., Brightness, etc.

Cat. No. †2551—2 complete sets of Decals ..... \$0.45  
(Standard Pack: 20 packages No. 2551)

### GRILLE CLOTH



Acoustically perfect cloth available to match walnut, mahogany or light wood finishes. For custom cabinets or renewing older sets.

Cat. No.	Size	List Price
360	12" x 12"	\$0.70
361	18" x 24"	1.80
362	1 yard x 50" (packaged)	6.90

### GRILLE SCREENING (Flocked)

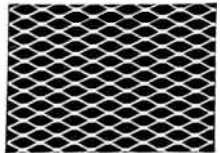


Galvanized, rayon-flock covered screening. Attractive, weather-proof and modern. For auto radios, P.A. and Intercom. speakers, etc.

Cat. No.	Size	List Price
374-1	374-3 8" x 11"	\$0.95
376-1	376-3 18" x 24"	3.20
378-1	378-3 36" x 36"	9.90

### ORNAMENTAL METAL GRILLE

Heavy perforated grille, beautifully "brushed brass" plated and lacquered with gold finish effect. For use over cloth or screening in custom-built radios, high quality P.A. speakers, juke boxes, etc.



Cat. No.	Size	List Price
382	12" x 18"	\$ 3.00
384	18" x 24"	5.50
386	24" x 36"	10.45

### WALSCO FLOCK FINISH SPRAY KIT

For flock finishing of radio cabinets, speaker grilles, interior of record and other cabinets, turntables, jewelry and gift boxes, toys, novelties and many automotive and hobby uses. This original WALSCO Flock Kit is very easy to use and requires no skill — anyone can obtain expert results. Contains everything to produce a colorful, velvet-like and durable flock finish. The kit includes patented felt flock spray gun, ivory and brown felt flock, undercoats to match, thinner, brushes and complete instructions.

Cat. No. K-50—Complete Flocking Kit ..... List Price, \$13.10

### WALSCO FELT FLOCK MATERIALS

#### Felt Flock

Made of precision cut, lustrous rayon. Packed in 3 1/4 oz. containers (covers 7 to 10 square feet). List Price ..... \$1.80

Cat. No.	Color	Cat. No.	Color
470	Brown	475	Green
471	Ivory	476	Silver
472	Blue	477	White
473	Taupe	478	Black
474	Red	479	Canary
474-1	Maroon		

List Price  
Flock per pound (specify color)..... \$6.05

#### Flock Undercoat

Provides proper adhesive and color base for felt flock. Packaged in half-pint cans (covers 10-15 square feet of non-porous surface). List Price ..... \$1.80

Cat. No.	Color	Cat. No.	Color
480	Brown	484-1	Maroon
481	Ivory	485	Green
482	Blue	486	Silver-White
483	Taupe	488	Black
484	Red	489	Canary

List Price  
Undercoat per gal (specify color)..... \$15.85



#### Undercoat Thinner

For thinning of Undercoat, if necessary, and washing out brushes.

Cat. No. 468—Half-pint can ..... List Price \$0.60

#### Felt Flock Spray Gun

Same as contained in WALSCO Flock Finish Spray Kit.

Cat. No. 455 ..... List Price \$4.80

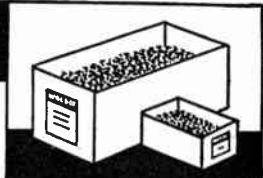


# WALSCO ELECTRONIC HARDWARE

The '99 Line

BULK PACK

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS • PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



## HOLE PLUGS

THE "99 LINE"

Description

\$1.08 Net, Ea. Pkg.  
Part No.      Quantity per Package

BULK PACK

Bulk Part No.      Net Prices, per Thousand

### SNAP-HOLE PLUGS, Steel, Bright Nickel-Plated

Fits 1/4" hole.....		
Fits 5/16" hole.....		
Fits 3/8" hole.....	3501-99.....	50
Fits 1/2" hole.....	3502-99.....	50
Fits 5/8" hole.....	3503-99.....	40
Fits 3/4" hole.....	3504-99.....	30
Fits 7/8" hole.....	3505-99.....	25
Fits 1" hole.....		
Fits 1 1/8" hole.....	3506-99.....	20
Fits 1 1/4" hole.....		

250 to 4999 5M and up		
3501-1.....	\$16.45.....	\$12.65
3501-1A.....	16.45.....	12.65
3501-2.....	16.45.....	12.65
3501-3.....	16.45.....	12.65
3501-4.....	18.11.....	13.92
3501-5.....	23.00.....	17.71
3501-6.....	23.00.....	17.71
3501-7.....	27.95.....	21.51
3501-8.....	32.89.....	25.30
3501-9.....	36.17.....	27.83
3501-10.....	39.45.....	30.36

### VENTILATING HOLE PLUGS

Snap-fit for 1" hole, screen type.....		
Snap-fit for 1" hole, perforated type.....		
Eyelet-type for 1/2" hole.....		
Eyelet-type for 3/4" hole.....		

100 to 999 1M and up		
3320-1.....	\$97.75.....	\$75.90
3320-7.....	76.00.....	59.00
3320-2.....	28.12.....	21.62
3320-3.....	32.95.....	25.36

## SNAP-IN TRIMOUNTS

Dimensions			For Hole	
A	B	C		
5/8"	1 1/8"	1 1/4"	1/2"	3462-99.....125
3/4"	1 1/4"	1 3/8"	5/8"	3464-99.....100
7/8"	1 3/8"	1 5/8"	3/4"	3465-99.....85

1000 to 9999 10M and up		
3460-2.....	\$5.29.....	\$4.03
3460-4.....	6.27.....	4.83
3460-5.....	8.22.....	6.33

## GROMMETS, CABINET FEET AND CHASSIS MOUNTS

### RUBBER GROMMETS

Dimensions, inches					
A	B	C	D	E	
3/4"	1/2"	1 1/8"	1 1/8"	1/4"	3341-99.....85
7/8"	1 1/8"	1 3/8"	1 3/8"	1/4"	3342-99.....85
1"	1 1/4"	1 5/8"	1 5/8"	3/8"	3343-99.....65
1 1/8"	1 3/8"	1 7/8"	1 7/8"	1/2"	3344-99.....55
1 1/4"	1 5/8"	2"	2"	5/8"	3345-99.....35

500 to 9999 10M and up		
3340-1.....	\$ 7.53.....	\$ 5.81
3340-2.....	8.28.....	6.38
3340-3.....	10.35.....	7.99
3340-4.....	11.73.....	9.03
3340-5.....	18.86.....	14.49

### CORD STRAIN RELIEFS

For POSJ Wire.....		
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3340-9.....	30.13.....	23.17
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### RUBBER FEET

SCREW-TYPE:		Height	
Diameter			
3/8"		3/8"	3351-99.....55*
1/2"		3/8"	3352-99.....50*
3/4"		3/8"	3353-99.....30*
			(*Wood screws included.)

3350-1*.....	7.36.....	5.69
3350-2*.....	8.11.....	6.27
3350-3*.....	16.04.....	12.36
(*No screws included.)		

TACK FEET:		
diameter		
3/8" diameter.....	3355-99.....	55
1/2" diameter.....	3356-99.....	50

3350-5.....	12.82.....	9.89
3350-15.....	13.23.....	10.18

### CHASSIS MOUNTS

Dimensions, inches				
A	B	C	D	
3/4"	1 1/2"	1 1/4"	3/8"	2742-99.....25
1"	1 1/2"	1 1/4"	1/2"	2744-99.....20

2740-2.....	24.09.....	18.52
2740-4.....	30.13.....	23.17

## CABLE CLAMPS

Steel, cadmium plated

For Cables		Mounting Hole Size	
diameter			
1/8" to 1/4" diameter.....	# 6.....	3331-99.....	125
1/4" to 3/8" diameter.....	# 8.....	3332-99.....	100
3/8" to 1/2" diameter.....	# 8.....	3333-99.....	75

1000 to 9999 10M and up		
3330-1.....	\$5.06.....	\$3.91
3330-2.....	5.69.....	4.37
3330-3.....	6.79.....	5.23



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## THE '99 LINE'

## BULK PACK

Description		\$1.08 Net, Ea. Pkg.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>DIAL DRIVE SPRINGS, Steel, Cadmium-Plated</b>					
O/L	Diameter	Wire Size			
1/2"	1/8"	.016"		3410-1	\$13.51 \$10.29
5/8"	3/8"	.018"		3410-2	13.51 10.29
3/4"	7/8"	.020"		3410-3	13.80 10.58
1"	1 1/8"	.016"		3410-4	13.80 10.58
3/4"	1 1/4"	.020"		3410-5	14.09 10.75
1 1/8"	1 3/4"	.022"		3400-1	15.81 12.13
1 1/4"	2"	.022"		3400-2	17.42 13.40
Assorted				3400-99	50

Description		Wire Thickness	Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>PHONO PANEL MOUNTING SPRINGS, Spring Steel, Cadmium-Plated</b>					
A	Dimensions B C				
1"	3/8" 7/8"	.075"		3385-1	12.82 9.78
1 1/8"	3/4" 1" 1 1/8"	.062"		3385-2	13.51 10.35
3/4"	3/4" 3/4"	.047"		3385-3	12.65 9.55

Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>KNOB SPRINGS</b>				
Style				
1			3450-1	12.25 9.43
2			3450-2	11.50 8.86
5			3450-5	12.65 9.72
6			3450-6	6.10 4.72
7			3450-7	4.95 3.80
8			3450-8	4.26 3.28
9			3450-9	4.49 3.45



Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>SOLDER TYPE</b>				
Style	Available for Screw Numbers (Specify)			
1	#6, #8, #10	125	3280-1	\$5.69 \$4.37
2	#6, #8, #10	140	3280-2	4.77 3.68
3	#6, #8, #10	115	3280-3	5.87 4.49
4	#6, #8, #10	100	3280-4	6.21 4.77
5	#6, #8, #10	100	3280-5	8.17 6.27
6	#6, #8, #10	250	3280-6	2.59 2.01
7	#10	140	3280-7X	4.83 3.74
8	#10	115	3280-7Y	5.87 4.49

Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>SCREW TYPE</b>				
10	with #8-32 x 3/8" Screw		3288-3-1	100 to 999 1M and up \$46.06 \$35.42

Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>SOLDERLESS TYPE</b>				
Style	Fits Screw # Wire Gauge #			
9	fits both #8 and #10	85	3287Z-99	250 to 999 5M and up \$18.57 \$14.26
11	6 16 to 20		3288-1-6	21.39 16.45
11	8 16 to 20		3288-1-8	21.39 16.45
11	10 16 to 20		3288-1-10	21.39 16.45

Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>EYELET TYPE</b>				
Style				
12			3288-2-1	1000 to 9999 10M and up \$3.28 \$2.53
13			3288-2-2	4.60 3.57
14			3288-2-3	3.62 2.76
15			3288-2-4	4.60 3.57
16			3288-2-5	8.57 6.56



Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>MINIATURE PLUGS AND JACKS, Not Assembled</b>				
2-Conductor Plug (type PL-291)			2590 BU	100 to 999 1M and up \$292.50 \$225.00
2-Conductor Jack (type JK-48)			2591 BU	439.47 338.04
2-Conductor Plug (PL-291-A)			2592 BU	Prices on request
2-Conductor Jack (JK-55)			2593 BU	Prices on request

Description		Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>PHONO PLUGS AND JACKS</b>				
Shielded, Single-Conductor Plug			2580-1	45.43 34.21
Shielded, Single-Conductor Jack			2580-6	71.30 54.63



# WALSCO ELECTRONIC HARDWARE

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## MACHINE SCREWS

### THE "99 LINE"

### BULK PACK

Description	\$1.08 Net, Ea. Pkg.		Bulk Part No.	Net Prices, per Thousand	
	Part No.	Quantity per Package		1000 to 9999	10M and up
<b>ROUND HEAD, Steel, Cadmium-Plated</b>					
Sizes Assorted .....	3560-99	200			
# 2-56 x 7/8" .....			3561-2-1A	\$2.36	\$1.84
# 2-56 x 3/8" .....			3561-2-3	2.47	1.90
# 2-56 x 1/2" .....			3561-2-4	2.59	1.96
# 4-40 x 1/4" .....			3561-4-2	2.59	2.01
# 4-40 x 3/8" .....			3561-4-3	2.70	2.13
# 4-40 x 1/2" .....			3561-4-4	2.88	2.24
# 4-40 x 1" .....			3561-4-8	3.74	2.88
# 6-32 x 1/4" .....	3100-99	225	3561-6-2	2.88	2.24
# 6-32 x 3/8" .....	3110-99	225	3561-6-3	3.16	2.42
# 6-32 x 1/2" .....	3120-99	200	3561-6-4	3.34	2.59
# 6-32 x 3/4" .....	3130-99	175	3561-6-6	3.91	2.99
# 6-32 x 1" .....	3132-99	150	3561-6-8	4.43	3.39
# 8-32 x 1/4" .....	3135-99	200	3561-8-2	3.74	2.88
# 8-32 x 3/8" .....	3140-99	175	3561-8-3	3.97	3.05
# 8-32 x 1/2" .....	3150-99	160	3561-8-4	4.31	3.28
# 8-32 x 3/4" .....	3160-99	140	3561-8-6	4.89	3.80
# 8-32 x 1" .....	3162-99	125	3561-8-8	5.64	4.37
# 10-32 x 1/2" .....	3165-99	140	3561-10-4	5.00	3.85
# 10-32 x 3/4" .....	3167-99	115	3561-10-6	5.92	4.54
# 10-32 x 1" .....	3169-99	100	3561-10-8	6.73	5.18
<b>BINDING HEAD, Brass</b>					
# 6-32 x 1/4" .....			3565-6-2	4.89	3.74
# 6-32 x 3/8" .....			3565-6-3	5.58	4.31
# 6-32 x 1/2" .....			3565-6-4	6.33	4.89
# 8-32 x 1/4" .....			3565-8-2	7.02	5.41
# 8-32 x 3/8" .....			3565-8-3	7.94	6.15

## SHEET METAL SCREWS

### HEX HEAD, Slotted, Type "B" — Blunt Point

Description			1000 to 9999		10M and up	
	Part No.	Quantity per Package				
Sizes Assorted .....	3470-99	125				
# 6 x 1/4" .....	2910-99	150	3471-6-2	\$3.97	\$3.05	
# 6 x 3/8" .....	2911-99	150	3471-6-3	4.20	3.22	
# 6 x 1/2" .....	2912-99	150	3471-6-4	4.37	3.39	
# 6 x 3/4" .....	2914-99	125	3471-6-6	4.95	3.80	
# 6 x 1" .....	2916-99	125	3471-6-8	5.41	4.14	
# 8 x 1/4" .....	2919-99	125	3471-8-2	4.95	3.80	
# 8 x 3/8" .....	2920-99	125	3471-8-3	4.89	3.80	
# 8 x 1/2" .....	2922-99	125	3471-8-4	5.23	4.03	
# 8 x 3/4" .....	2924-99	100	3471-8-6	6.04	4.66	
# 8 x 1" .....	2926-99	100	3471-8-8	6.90	5.29	
# 10 x 3/8" .....	2930-99	100	3471-10-3	6.04	4.66	
# 10 x 1/2" .....	2932-99	100	3471-10-4	6.33	4.89	
# 10 x 3/4" .....	2934-99	100	3471-10-6	7.13	5.46	

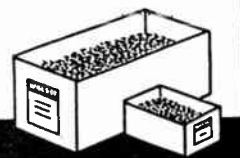


# WALSCO ELECTRONIC HARDWARE

The **99** Line

**BULK PACK**

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS • PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



## SET SCREWS

Steel, hardened

### THE "99 LINE"

Description	\$1.08 Net, Ea. Pkg.		BULK PACK	
	Part No.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>HEADLESS TYPE, Slotted, Cadmium-Plated</b>				
Assorted	3480-99	55		500 to 999 10M and up
# 6-32 x 1/8"			3481-6-1	\$13.28 \$10.18
# 6-32 x 1/16"			3481-6-1A	11.44 8.80
# 6-32 x 1/4"			3481-6-2	11.50 8.86
# 8-32 x 1/8"			3481-8-1	13.28 10.18
# 8-32 x 1/16"	3220-99	55	3481-8-1A	11.44 8.80
# 8-32 x 1/4"			3481-8-2	11.50 8.86
# 10-32 x 1/8"			3481-10-1A	11.50 8.86
# 10-32 x 1/4"			3481-10-2	11.73 9.03
<b>HEX — ALLEN-HEAD</b>				
				100 to 999 1M and up
# 4-40 x 1/8"			3482-4-1	\$62.04 \$47.73
# 5-40 x 1/8"			3482-5-1	62.79 48.30
# 6-32 x 1/8"			3482-6-1	63.54 48.88
# 6-32 x 1/16"			3482-6-1A	64.29 49.45
# 6-32 x 1/4"			3482-6-2	64.29 49.45
# 8-32 x 1/8"			3482-8-1	64.29 49.45
# 8-32 x 1/16"			3482-8-1A	65.03 50.03
# 8-32 x 1/4"			3482-8-2	65.78 50.60
# 10-32 x 1/8"			3482-10-1A	65.78 50.60
# 10-32 x 1/4"			3482-10-2	66.53 51.18
1/4-20 x 1/4"			3482-1/4-2	68.02 52.33

## MISC. SCREWS

### WOOD SCREWS

Size	Head	Finish		1000 to 9999 10M and up
# 2 x 1/4"	Oval Hd.	Statuary Bronze	3550-2-2	\$4.49 \$3.45
# 2 x 3/8"	Oval Hd.	Statuary Bronze	3550-2-3	4.72 3.62
# 2 x 1/2"	Round Hd.	Statuary Bronze	3550-2-4	4.89 3.74
# 3 x 1/2"	Round Hd.	Blued	3550-3-3	4.72 3.62
# 6 x 3/8"	Round Hd.	Blued	3550-6-4	5.29 4.08
# 6 x 1/2"	Flat Hd.	Cadmium-Plated	3550-6-7	5.75 4.43
# 8 x 3/8"	Round Hd.	Blued	3550-8-5	6.15 4.77

### ORNAMENTAL HEAD SCREWS, Steel, Statuary Bronze Finish

# 6-32 x 3/4"	2951-99	125	2951-6-6	4.37	3.34
# 6-32 x 1"	2952-99	125	2951-6-8	5.12	3.97
# 8-32 x 1 1/4"	2953-99	80	2951-8-10	7.65	5.87

### RACK SCREWS, Oval Head, Steel, Nickel-Plated

# 6-32 x 5/8"	3543-99	175	3541-6-5	3.68	2.82
# 8-32 x 5/8"	3541-99	150	3541-8-5	4.60	3.51
# 10-32 x 3/8"	3542-99	100	3541-10-6	5.92	4.54
# 12-24 x 5/8"			3541-12-5	7.13	5.46

## MISC. FASTENERS

### SPADE BOLTS, Steel, Cadmium-Plated

# 6-32 x 5/8" O/L	3271-99	100	3270-1	\$6.96	\$5.35
# 6-32 x 3/4" O/L	3272-99	100	3270-2	7.02	5.41

### HAIR PIN and COTTER PINS, Straight

Dimensions				1000 to 9999 10M and up
A	B	C		
3/8"	1/8"	.026"	2650-1	3.34 2.53
3/8"	3/16"	.026"	2650-2	3.34 2.53
1/2"	3/16"	.032"	2650-3	3.34 2.53
5/8"	1/8"	.047"	2650-4	3.12 2.40
1/2"		1/8" straight type	2650-7	1.48 1.14
3/4"		1/8" straight type	2650-8	1.87 1.44

### THREADED ROD, Steel

# 6-32; 8" long	2640-1	\$52.04	2640-1	\$52.04	\$40.02
# 8-32; 8" long	2640-2	54.74	2640-2	54.74	42.09



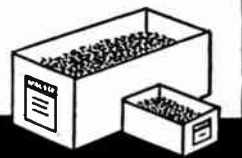


# WALSCO ELECTRONIC HARDWARE

The 99 Line

BULK PACK

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS • PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



## HEX NUTS

Description			THE "99 LINE"		BULK PACK	
Thread Size	Width Across Flats	Thickness	Part No.	\$1.08 Net, Ea. Pkg. Quantity per Package	Bulk Part No.	Net Prices, per Thousand
1000 to 9999 10M and up						
<b>SMALL PATTERN, Steel, Cadmium-Plated</b>						
Assorted			3520-99	175		
2-56	3/16"	1/16"			3521-2	\$4.26 \$2.88
4-40	3/16"	1/16"	3175-99	200	3521-4	4.26 2.88
6-32	1/8"	3/16"	3180-99	200	3521-6	3.62 2.70
8-32	1/8"	3/16"	3190-99	200	3521-8	4.03 2.99
10-32	1/8"	3/16"	3195-99	175	3521-10	4.31 3.34
<b>STANDARD PATTERN, Steel, Cadmium-Plated</b>						
6-32	5/16"	7/16"			3522-6	3.85 2.99
8-32	5/16"	7/16"			3522-8	4.31 3.34
10-32	5/16"	7/16"			3522-10	4.72 3.62
<b>BRASS NUTS, Nickel-Plated</b>						
4-36	1/4"	3/8"			3523-4X*	4.31 3.22
4-40	1/4"	3/8"			3523-4*	4.31 3.22
6-32	1/4"	3/8"	3180-B-99	150	3523-6*	4.31 3.22
8-32	3/8"	7/8"	3190-B-99	125	3523-8*	7.19 5.46
10-32	3/8"	7/8"	3195-B-99	100	3523-10*	7.94 6.04

(\*Brass, Add 10% for Nickel Plating)

## MOUNTING NUTS

Thread Size	Width Across Flats	Thickness	1000 to 9999 10M and up			
<b>VOLUME CONTROL HEX NUTS, Steel, Cadmium-Plated</b>						
3/8-32	1/2"	3/8"	3531-99	85	3530-1	\$ 7.65 \$ 5.87
<b>VOLUME CONTROL HEX NUTS, Brass</b>						
3/8-32	1/2"	3/8"			3530-1B	16.91 13.00
<b>TOGGLE SWITCH HEX NUTS, Steel, Cadmium-Plated</b>						
3/8-32	1/8"	3/8"	3532-99	50	3530-2	14.26 10.98
<b>TOGGLE SWITCH RING NUTS, Brass, Nickel-Plated</b>						
3/8-32	3/8"	3/4"	3533-99	50	3530-3	13.92 10.70

## SPECIAL NUTS

<b>KNURLED THUMB NUTS, Brass</b>						
# 6-32					2971-6	1000 to 9999 10M and up \$12.31 \$ 9.43
# 8-32					2971-8	12.31 9.43
# 10-32					2971-10	25.82 19.90
<b>WING NUTS, Zamack Metal, Nickel-Plated</b>						
# 6-32					2976-6	9.09 7.02
# 8-32					2976-8	14.32 11.04
# 10-32					2976-10	18.46 14.20
<b>ACORN NUTS, PAL TYPE, Steel, Nickel-Plated</b>						
# 6-32					2961-6	12.25 9.43
# 8-32					2961-8	14.09 10.81
# 10-32					2961-10	17.54 13.46
<b>SPEED NUTS, Tempered Steel, Parkerized</b>						
# 6-32					2981-6	4.08 3.11
# 8-32					2981-8	5.69 4.37
# 10-24					2981-10	7.36 5.64
1/4-20					2981-3/4	10.41 8.05



# WALSCO ELECTRONIC HARDWARE

The '99 Line

BULK PACK

IN PERMANENT TRANSPARENT PLASTIC STORAGE BOXES WITH SLIDING TOPS • PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



## INSULATING WASHERS

Phenolic Fibre



### THE '99 LINE'

### BULK PACK

Fits Screw No.	Description				Part No.	\$1.08 Net, Ea. Pkg. Quantity per Package	Bulk Part No.	Net Prices, per Thousand	
	A	B	C	D				1000 to 9999	10M and up
<b>EXTRUDED TYPE</b>									
6	5/8"	3/8"	.136"	3/32"	3431-E-99	125	3432-6	\$5.41	\$4.14
8	3/4"	1/2"	.165"	3/32"	3432-E-99	125	3432-8	5.41	4.14
10	7/8"	3/4"	.195"	3/32"	3433-E-99	100	3432-10	5.98	4.60
1/4"	1/2"	1/4"	.255"	3/32"	3434-E-99	100	3432-1/4	6.38	4.89
3/8"	5/8"	1/2"	.380"	3/32"	3435-E-99	85	3432-3/8	7.36	5.69
<b>FLAT TYPE</b>									
6	O.D. 1/8"	I.D. .136"	Thickness 3/32"		3431-F-99	250	3431-6	2.65	2.07
8	3/16"	.165"	3/32"		3432-F-99	250	3431-8	2.82	2.19
10	1/4"	.195"	3/32"		3433-F-99	250	3431-10	2.88	2.24
1/4"	5/16"	.255"	3/32"		3434-F-99	225	3431-1/4	3.05	2.36
3/8"	3/8"	.380"	3/32"		3435-F-99	175	3431-3/8	3.97	3.05



## MISC. WASHERS



### FLAT METAL WASHERS, Steel, Cadmium-Plated

Fits Screw No.	O.D.	Thickness		1000 to 9999	10M and up
4	3/8"	3/32"	3511-4	\$1.04	\$.81
6	1/2"	3/32"	3511-6	1.09	.86
8	5/8"	3/32"	3511-8	1.09	.86
10	3/4"	3/32"	3511-10	1.61	1.21
1/4"	1/2"	3/32"	3511-1/4	1.90	1.44

### LOCK WASHERS, Int. Teeth, Steel, Cadmium-Plated

Fits Screw No.				1000 to 9999	10M and up
4			3591-4	2.36	1.84
6			3591-6	2.36	1.84
8			3591-8	2.53	1.96
10			3591-10	2.53	1.96
1/4"			3591-1/4	3.28	2.53
3/8"			3591-3/8	5.69	4.37

### SPRING (FRICTION) WASHERS

I.D.	O.D.	Thickness		1000 to 9999	10M and up
1/8"	1/8"	.010"	3425-1	8.05	6.33
3/16"	3/16"	.008"	3425-2	8.91	6.90
1/4"	1/4"	.012"	3425-3	10.06	7.76

### CUP WASHERS, Steel, Nickel-Plated

Fits Screw No.				1000 to 9999	10M and up
6			3544-99	2.75	2.24
8			3545-99	2.50	2.13
10			3546-99	2.00	2.65
12				4.95	3.80

### "C" WASHERS, Soft Steel, Cadmium-Plated

Fits Shaft	A	B	C	Thickness		1000 to 9999	10M and up
1/4"	.260	1/8"	3/32"	3/32"	3420-2	7.19	5.52
3/8"	3/8"	3/16"	1/8"	3/32"	3420-3	6.21	4.77

### KNOB FELT WASHERS, Brown

O.D.	I.D.	Thickness		1000 to 9999	10M and up		
3/4"	1/4"	3/32"	3490-99	250	3490-1	2.01	1.27



## PHONE TIPS



1/8" O/L	2725-99	60	2725-1	\$10.41	\$7.99
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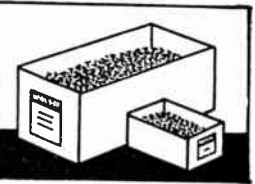


# WALSCO ELECTRONIC HARDWARE

The '99 Line

BULK PACK

IN PERMANENT TRANSPARENT PLASTIC STORAGE BOXES WITH SLIDING TOPS • PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



## MISC. CLIPS

Description			THE "99 LINE" \$1.08 Net, Ea. Pkg.		BULK PACK	
Length	Width	Mtg. Hole Size	Part No.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand
<b>SPRING CLIPS, Spring Brass, Nickel-Plated</b>						
1 1/8"	3/8"	4 and 5	2731-99	100	2730-1	\$ 6.50
1 1/8"	1/2"	6	2732-99	75	2730-2	8.80
<b>GRID CAPS</b>						
For Glass Tubes			2600-1	250 to 4999	5M and up	\$17.25
For Metal and "GT" Tubes			2600-4			7.25
For High Voltage TV Rectifier Tube			2600-6			34.39
<b>FUSE CLIPS</b>						
For 1/4" Fuses			2720-1			9.20
For 3/8" Fuses			2720-2			16.10

## FUSE INSULATORS

1 1/8" long, 1/4" I.D.	2690-1	1000 to 9999	10M and up	\$ 3.85	\$2.93
5/8" long, 1/4" I.D.	2690-2			3.39	2.65

## ANGLE BRACKETS

Material	Dimensions				
	A	B	C		
Brass, cadmium-plated	1 1/2"	1/4"	1/4"	2610-1	500 to 9999 10M and up
Steel, cadmium-plated	1 1/4"	5/8"	3/8"	2610-2	\$ 7.88 \$6.04
Brass (one hole tapped 6-32)	3/2"	3/8"	1/8"	2610-5	8.28 6.38
					11.44 8.80

## INSULATING TUBING

### FLEXITUBE

Extruded vinyl tubing; dielectric strength: 15,000 v. Clear will be supplied unless order specifies color. Black, Green or Red available subject to stock on hand.

Part No.	Size, B & S Gauge No.	Approx. I.D.			Price per thousand ft.	
		Inches	MM.		100 to 1999* ft.	2M* ft. and up
R 600	18	.042	1	R 600	\$ 17.25	\$ 10.14
R 601	16	.053	1.4	R 601	17.25	10.14
R 602	14	.066	1.6	R 602	17.94	11.93
R 603	12	.085	2	R 603	18.40	13.70
R 604	10	.106	2.7	R 604	20.70	14.03
R 605	8	.133	3.5	R 605	25.53	15.30
R 606	6	.166	4	R 606	29.90	18.40
R 607	4	.208	5	R 607	36.80	26.45
R 608	2	.263	6.5	R 608	51.75	34.50
R 609	....	.330		R 609	54.63	43.59

### RAYOFLEX

Lacquered-rayon tubing, radio grade. Meets A.S.T.M. Specifications B-2. Available in Black, Blue, Red, and Yellow. Please specify color.

Part No.	Size, B & S Gauge No.	Approx. I.D.			100 to 1999* ft.		2M* ft. and up
		Inches	MM.				
(Following sizes supplied in continuous lengths.)							
R 630	18	.042	1	R 630	\$ 45.43	\$ 34.96	
R 631	15	.059	1.5	R 631	50.26	38.63	
R 632	12	.085	2	R 632	59.69	45.89	
R 633	9	.118	3	R 633	69.00	53.13	
R 634	6	.166	4	R 634	77.97	60.03	
(Following sizes supplied in 30-inch lengths.)							
R 635	2	1/4"	6.5	R 635	122.82	94.53	
R 636	0	1/8"	8.5	R 636	164.68	126.73	
R 637	00	3/8"	9.5	R 637	197.57	152.03	
R 638	0000	1/2"	13	R 638	272.32	209.53	

\*Various sizes and colors, but not less than 100 ft. of any one size or color, may be combined in one order to take advantage of quantity discounts. Sizes other than listed above can be supplied. Prices quoted on request.

## BULK PRICE LIST DIAL CABLE & CORDS — GRILLE CLOTH & SCREENING — CHEMICALS & FINISHES



### DIAL CABLE AND CORDS



Part No.	Description	3000 to 14,999 ft.	15M ft. and up
<b>METAL CABLES</b>			
R 30	Phosphor bronze cable, twisted, 42-strand, .032" diameter.....	\$23.00/M ft.	\$17.71/M ft.
R 31	Bronze cable, braided, 16-strand, .038" diameter.....	11.50/M ft.	9.20/M ft.
R 32	Bronze cable, braided, 8-strand, .026" diameter.....	12.65/M ft.	9.78/M ft.
<b>NYLON CORDS</b>			
Constructed with impregnated fiberglass core, and black nylon braid. Construction combines minimum stretch, high coefficient of friction, and maximum resistance to abrasion.			
R 35	"Special-Thin" Cord, approximately .026" diameter.....	\$10.35/M ft.	\$ 6.96/M ft.
R 39	Standard Cord, approximately .032" diameter.....	10.81/M ft.	7.13/M ft.
R 34	Medium Cord, approximately .040" diameter.....	12.42/M ft.	9.20/M ft.
R 33	Heavy-Duty Cord, approximately .060" diameter.....	20.13/M ft.	15.53/M ft.



### GRILLE CLOTH, SCREENING AND METAL GRILLE



Part No.	Description	5 to 49 yd.	50 yd. and up
<b>GRILLE CLOTH</b>			
R 362 BU	Standard Grille Cloth, 48-54" wide. (Available in Light, Walnut, and Mahogany).....	\$3.50/yd.	\$2.80/yd.
R 365 BU	Wrinkle- and Stain-Resistant, Highest Quality Material. Approx. 44" wide. (Available in 6 Standard Patterns).....	7.94/yd.	6.10/yd.
<b>FLOCKED GRILLE SCREENING</b>			
	Color	Width, inches	
R 374-1 BU	Brown	11	\$ .52/lin. ft.
R 374-3 BU	Light Ivory	11	.40/lin. ft.
R 376-1 BU	Brown	18	.75/lin. ft.
R 376-3 BU	Light Ivory	18	.75/lin. ft.
R 378-1 BU	Brown	36	1.50/lin. ft.
R 378-3 BU	Light Ivory	36	1.50/lin. ft.
Note: Grille Cloth and Flocked Grille Screening also available in "cut-to-order" sizes.....Prices Quoted on Request			

### ORNAMENTAL METAL GRILLE

R 380	Available in a variety of finishes and in any size up to 48" width.....	Prices Quoted on Request	
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### CHEMICALS AND FINISHES



Part No.	Description	1-gal. Cans	5-gal. Cans
<b>INDUSTRIAL ADHESIVES</b>			
R 21	WALSCO Fabric Cement.....	\$8.63/gal.	\$6.67/gal.
R 40	WALSCO Plastic Cement.....	8.63/gal.	6.67/gal.
R 50	WALSCO Radio Cement.....	6.33/gal.	4.95/gal.
R 110	WALSCO Rubber Cement.....	8.63/gal.	6.67/gal.
R 150	WALSCO Polystyrene Cement.....	6.79/gal.	5.18/gal.
<b>SOLVENTS &amp; THINNERS</b>			
R 1	For Lacquer No. 120.....	4.60/gal.	3.57/gal.
R 2	For Cement No. R 110 and Wrinkle Varnish No. R 145.....	1.44/gal.	1.09/gal.
R 60	For Cements Nos. R 20, R 40, and R 50.....	4.03/gal.	3.11/gal.
R 160	For Cement No. R 150.....	2.88/gal.	2.24/gal.
R 214	Carbon-Tetrachloride.....	4.31/gal.	3.45/gal.
<b>SPECIAL CHEMICALS</b>			
R 22	WALSCOLUB-B.....	1-lb. Cans \$1.73/lb.	5-lb. Cans \$1.38/lb.
R 23A	Lubriplate.....	1.38/lb.	.92/lb.
R 80	Contactene.....	1-gal. Cans \$ 5.75/gal.	5-gal. Cans \$ 4.49/gal.
R 100	No-Ox.....	29.90/gal.	23.00/gal.
R 190	Insulating Varnish.....	7.48/gal.	5.87/gal.
<b>POLISHES</b>			
R 410	WALSCO Super Polish.....	4.03/gal.	3.11/gal.
R 414	Scratch-Removing Polish, Dark.....	2.88/gal.	2.24/gal.
R 430	Scratch-Removing Polish, Light.....	2.88/gal.	2.24/gal.
<b>LACQUERS AND FINISHES</b>			
R 120	Crystallizing Lacquer: Black, Green, Grey, Clear, Brown.....	11.50/gal.	9.37/gal.
R 145	Wrinkle Varnish — Air-Dry: Grey or Black.....	11.39/gal.	9.26/gal.

# WALDOM ELECTRONICS, Inc.

## CRONAME PRODUCTS

### CRONAME CROFLEX TUNERS

Available in five sizes these dials fit any normal chassis. Locate tuning knobs at either end or along lower edge of dial. Place variable condenser at al-

most any point behind the dial. Hub with adapter fits either  $\frac{3}{8}$ " or  $\frac{1}{4}$ " shaft. Pilot socket supplied. Bronze escutcheon and edgelit glass scale, calibrated 55 to 170 AM and 6 to 18 MC.



Cat. No.	Ratio	Pointer Travel	Escutcheon		List Each
			Outside	Inside	
231	13 to 1	4"	2 1/4" x 4 3/4"	1 3/4" x 4 1/4"	\$ 7.70
232	16 to 1	4 1/8"	2 3/8" x 6 1/4"	1 7/8" x 5 1/4"	8.00
233	18 to 1	5 1/8"	3 3/8" x 6 3/4"	2" x 5 3/4"	8.30
234	23 to 1	6 3/4"	3 1/2" x 8 1/4"	1 7/8" x 7 1/4"	8.70
236	31 to 1	9"	4" x 11 1/4"	2 7/8" x 9 3/4"	13.55

### DIRECT DRIVE DIALS



Standard type, deluxe direct drive dials. Knobs are black bakelite with brass inserts. Dial plates are heavy brass, with chromium finish. Indicators for accurate reading. All dials fit  $\frac{1}{4}$ " diameter, instrument shafts.

Cat. No.	Calibration	Dial Diam.	List Price
292	0-100 in 180°	4"	\$4.50
293	0-100 in 270°	4"	4.50
294	0-100 in 180°	2 3/4"	3.50
295	0-100 in 270°	2 3/4"	3.50
302	0-100 in 360°	4"	4.50
303	0-100 in 360°	2 3/4"	3.50
27068	0-100 in 180°	1 3/4"	2.00
27069	0-100 in 270°	1 3/4"	2.00

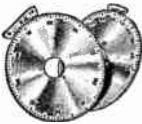
### AZIMUTH DIAL Precision Test Dial



No. 27010. Calibrated in degrees through full 360°. Outer numerals read 0 to 360 in clockwise direction; inner numerals 0 to 360 in counter-clockwise direction.

Etched on heavy brass with black graduations and figures on hand-spun chromium background. Hub has two set screws and fits  $\frac{3}{8}$ " shaft. Diameter of dial is 6"; diameter of indicator is  $\frac{1}{2}$ ". List Price .....\$9.95

### ACCESSORY DIALS



These dials are for attachment to the knobs illustrated. Of heavy etched brass with chromium finish. Calibration lines and numerals are filled with black enamel.

are furnished with KD-1 and KD-2 single-line indicators; all the others have spring-mounted vernier indicators. Packed in individual envelope complete with indicator and all necessary screws for attaching dial to knob and indicator to panel.

Cat. No.	Cal.	Dia.	Use Knob	List Price
KD-1	180°	1 3/4"	6537	\$1.65
KD-2	270°	1 3/4"	6537	1.65
KD-3	180°	2 3/4"	6549	2.75
KD-4	270°	2 3/4"	6549	2.75
KD-5	360°	2 3/4"	6549	2.75
KD-6	180°	4"	6550	3.50
KD-7	270°	4"	6550	3.50
KD-8	360°	4"	6550	3.50

### PLANETARY DRIVES



The ball-type planetary drive units on this page are useful whenever a compact device is needed for reduced-speed operation. Ratio approximately 5 to 1. May be used as auxiliaries or incorporated in new construction. All units have hubs to fit  $\frac{1}{4}$ " instrument shafts.

No. 599 is a precision device used for both military and civilian production. Can be used as a single-speed drive by omitting knob on the high-speed sleeve. List Price .....\$8.00

No. 27067 same as No. 599 described above except for threaded sleeve. List Price .....\$12.65

No. 6665 Knob fits either of the units above. Larger knob is anodized aluminum. Smaller knob is black butyrate with brass insert. List Price .....\$1.25

### TV MASK ASSEMBLIES



Commercial television mask and escutcheon assemblies for the most popular sized TV tubes. Each complete kit consists of a mask, tempered glass and decorative glass and decorative escutcheon. Suitable for use in either conversion work or custom-built installations. Mask is heavy gauge aluminum, green-sprayed finish. Front glass is  $\frac{1}{4}$ " thick, specially tempered. All escutcheons are of durable construction finished in attractive gold finish. For rectangular tubes only.

Cat. No.	Description	List Price
CK-14	14" Kit	\$13.50
CK-16	16" Kit	16.50
CK-17	17" Kit	16.50
CK-20	20" Kit	24.85
CK-21	21" Kit	29.50

List prices shown are subject to usual trade discounts, and are subject to change without notice. For detailed and complete information see our general catalog.

### FLUTED KNOBS



Black full-fluted knobs of compression-molded Bakelite. With  $\frac{1}{4}$ " brass inserts and slotted head set screws.

### PLAIN KNOBS

Cat. No.	Dia.	List Price
6537	1 1/4"	\$ .40
6538	1 3/8"	.45
6539	1 5/8"	.50
6540	2 3/8"	.70

### KNOB AND POINTER

Cat. No.	Knob Dia.	Ptr. Length	List Price
6566P	1-1/8"	25/32"	\$ .75
6571P	1-3/8"	1-1/32"	1.00
6570P	1-5/8"	1-5/16"	.90
6559P	2-3/8"	1-11/16"	1.25

### KNOB AND SKIRT

Cat. No.	Knob Dia.	Skt. Dia.	List Price
6545S	1 1/4"	1 1/2"	\$ .70
6548S	1 3/8"	1 3/4"	.75
6549S	1 5/8"	2 1/8"	.80
6550S	2 3/8"	3"	1.05

### BAR AND LEVER KNOBS



Made of Butyrate with brass insert and slotted head set screws.

Cat. No.	Color	Length	Fig.	List Ea.
BK-1B	Black	11/16"	A	\$ .55
BK-1W	Walnut	11/16"	A	.55
BK-2B	Black	1-1/4"	B	.30
BK-2W	Walnut	1-1/4"	B	.30
BK-3B	Black	2-1/4"	B	.40
BK-3W	Walnut	2-1/4"	B	.40
BK-4B	Black	1-31/32"	C	.40
BK-4W	Walnut	1-31/32"	C	.40

## WALDOM ELECTRONICS, INC.

Chicago 10, Illinois

Manufacturers of Field Coils and Replacement Cones

# PROTECT against Fire hazards!



**REPLACE INSTANTLY!**  
Can be fused with  
**LITTLE-FUSE.**  
3 AG up to 8 amps,  
3 AB up to 20 amps, underwriters approval up to 15 amps.



LIST PRICE

**39¢**

Less Fuses

# ELMENCO

## FUSED PLUGS

### COMPLETE PROTECTION!

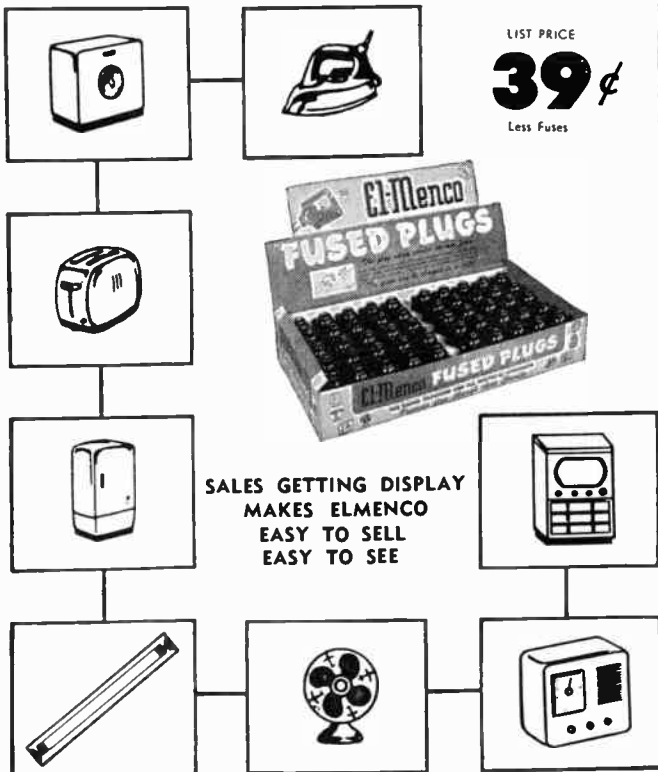
The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it contains 2 small fuses which provides complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.

### NEW MARKETS! GREATER VALUE!

Approved by Underwriters Laboratories and used by many of the largest manufacturers of radio and electronic equipment, battery chargers, washing machines, curling irons, lighting equipment, automatic relay equipment, motors of every description, and practically every other type of product that consumes electricity. Every wired home, office and store is a prospect.

#### We list a few of the larger consumers of the ELMENCO FUSED PLUG

- Auto-Lite
- Bell Telephone Labs.
- Bulldog Electric
- Cambridge Instrument
- Canaday Cooler
- Dictaphone
- Dila-Therm
- Eagle Electric
- Eastman Kodak
- Electro-Physical Labs.
- General Electric
- Gerlat Lighting
- I. B. M.
- Buick Motors
- Philco
- R. C. A.
- Sylvania
- Thomas Edison
- Webster-Chicago
- Westinghouse



SALES GETTING DISPLAY  
MAKES ELMENCO  
EASY TO SELL  
EASY TO SEE

Contact your jobber today. Write us for detailed information giving us your jobbers name.

MANUFACTURED BY

## ELMENCO PRODUCTS CO.

103 LAFAYETTE ST., N. Y. 13, N. Y.

# SMITH

# Electronic Components

HERMAN H. SMITH, INC.

## HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS



This latest type of construction of bakelite strip is made of molded bakelite of very high tensile strength. The barriers between each terminal prevent any possibility of short circuits and leakage between terminals. The terminals and screws are brass, nickel plated. The strips are manufactured by the KULKA ELECTRIC MFG. CO. INC., Design Patent No. 136, 762 and are exclusively distributed by us to the Radio Parts Distributors.

### COLUMN A

All the Barrier Terminal Strips enumerated in this column for the 600, 601, 602 and 603 series are made with the screw type terminals exactly as shown in the illustration at top of the page.

### COLUMN B



All the Barrier Strips enumerated in this column 600, 601, 602 and 603 series are supplied with the two-solder connection lug illustrated above.

### COLUMN C



All the Barrier Strips enumerated in this column 600, 601, 602 and 603 series are supplied with the one-solder connection lug illustrated above.

### COLUMN D



All the Barrier Strips enumerated in this column for the 600, 601 and 602 series are supplied with the bottom type connection lug illustrated above.

The 603 series of Barrier Strips not shown here are heavy duty strips with thick barriers and cross sections. They will take up to 35 amps of current and are ideal for heavy duty electrical control units such as spot welding machines, molding equipment, etc., or any place where a rugged heavy duty terminal block is needed for heavy amperage. Height:  $\frac{3}{8}$ ", Width:  $1\frac{1}{8}$ " (incl. barrier), Terminals on Center:  $\frac{1}{8}$ ", Base (thickness):  $\frac{7}{16}$ ", Mounting Hole Spacing  $\frac{5}{8}$ " (has 3 holes), Screws: 10-32 x  $\frac{3}{8}$ " long with binding head.

### No. 600 SERIES

Height  $\frac{1}{2}$ ", Width  $\frac{7}{8}$ ", Thickness  $\frac{1}{8}$ ". Terminals are  $\frac{3}{16}$ " on centers. Screws 5-40x $\frac{1}{4}$ " long, Binding Head.

COL. A		COL. B		COL. C		COL. D	
No.	Terminals Each	No.	Terminals Each	No.	Terminals Each	No.	Terminals Each
600-1	1	600-ST-1	1	600 $\frac{3}{4}$ ST-1	1	600-Y-1	1
600-2	2	600-ST-2	2	600 $\frac{3}{4}$ ST-2	2	600-Y-2	2
600-3	3	600-ST-3	3	600 $\frac{3}{4}$ ST-3	3	600-Y-3	3
600-4	4	600-ST-4	4	600 $\frac{3}{4}$ ST-4	4	600-Y-4	4
600-5	5	600-ST-5	5	600 $\frac{3}{4}$ ST-5	5	600-Y-5	5
600-6	6	600-ST-6	6	600 $\frac{3}{4}$ ST-6	6	600-Y-6	6
600-7	7	600-ST-7	7	600 $\frac{3}{4}$ ST-7	7	600-Y-7	7
600-8	8	600-ST-8	8	600 $\frac{3}{4}$ ST-8	8	600-Y-8	8
600-9	9	600-ST-9	9	600 $\frac{3}{4}$ ST-9	9	600-Y-9	9
600-10	10	600-ST-10	10	600 $\frac{3}{4}$ ST-10	10	600-Y-10	10
600-11	11	600-ST-11	11	600 $\frac{3}{4}$ ST-11	11	600-Y-11	11
600-12	12	600-ST-12	12	600 $\frac{3}{4}$ ST-12	12	600-Y-12	12
600-13	13	600-ST-13	13	600 $\frac{3}{4}$ ST-13	13	600-Y-13	13
600-14	14	600-ST-14	14	600 $\frac{3}{4}$ ST-14	14	600-Y-14	14
600-15	15	600-ST-15	15	600 $\frac{3}{4}$ ST-15	15	600-Y-15	15
600-16	16	600-ST-16	16	600 $\frac{3}{4}$ ST-16	16	600-Y-16	16
600-17	17	600-ST-17	17	600 $\frac{3}{4}$ ST-17	17	600-Y-17	17
600-18	18	600-ST-18	18	600 $\frac{3}{4}$ ST-18	18	600-Y-18	18
600-19	19	600-ST-19	19	600 $\frac{3}{4}$ ST-19	19	600-Y-19	19
600-20	20	600-ST-20	20	600 $\frac{3}{4}$ ST-20	20	600-Y-20	20
600-21	21	600-ST-21	21	600 $\frac{3}{4}$ ST-21	21	600-Y-21	21
600-22	22	600-ST-22	22	600 $\frac{3}{4}$ ST-22	22	600-Y-22	22

### No. 601 SERIES

Height  $\frac{1}{2}$ ", Width  $1\frac{1}{8}$ ", Thickness  $\frac{5}{16}$ ". Terminals are  $\frac{7}{16}$ " on centers. Screws 6-32x $\frac{1}{4}$ " long, Binding Head.

COL. A		COL. B		COL. C		COL. D	
No.	Terminals Each	No.	Terminals Each	No.	Terminals Each	No.	Terminals Each
601-1	1	601-ST-1	1	601 $\frac{3}{4}$ ST-1	1	601-Y-1	1
601-2	2	601-ST-2	2	601 $\frac{3}{4}$ ST-2	2	601-Y-2	2
601-3	3	601-ST-3	3	601 $\frac{3}{4}$ ST-3	3	601-Y-3	3
601-4	4	601-ST-4	4	601 $\frac{3}{4}$ ST-4	4	601-Y-4	4
601-5	5	601-ST-5	5	601 $\frac{3}{4}$ ST-5	5	601-Y-5	5
601-6	6	601-ST-6	6	601 $\frac{3}{4}$ ST-6	6	601-Y-6	6
601-7	7	601-ST-7	7	601 $\frac{3}{4}$ ST-7	7	601-Y-7	7
601-8	8	601-ST-8	8	601 $\frac{3}{4}$ ST-8	8	601-Y-8	8
601-9	9	601-ST-9	9	601 $\frac{3}{4}$ ST-9	9	601-Y-9	9
601-10	10	601-ST-10	10	601 $\frac{3}{4}$ ST-10	10	601-Y-10	10
601-11	11	601-ST-11	11	601 $\frac{3}{4}$ ST-11	11	601-Y-11	11
601-12	12	601-ST-12	12	601 $\frac{3}{4}$ ST-12	12	601-Y-12	12
601-13	13	601-ST-13	13	601 $\frac{3}{4}$ ST-13	13	601-Y-13	13
601-14	14	601-ST-14	14	601 $\frac{3}{4}$ ST-14	14	601-Y-14	14
601-15	15	601-ST-15	15	601 $\frac{3}{4}$ ST-15	15	601-Y-15	15
601-16	16	601-ST-16	16	601 $\frac{3}{4}$ ST-16	16	601-Y-16	16
601-17	17	601-ST-17	17	601 $\frac{3}{4}$ ST-17	17	601-Y-17	17
601-18	18	601-ST-18	18	601 $\frac{3}{4}$ ST-18	18	601-Y-18	18
601-19	19	601-ST-19	19	601 $\frac{3}{4}$ ST-19	19	601-Y-19	19
601-20	20	601-ST-20	20	601 $\frac{3}{4}$ ST-20	20	601-Y-20	20
601-21	21	601-ST-21	21	601 $\frac{3}{4}$ ST-21	21	601-Y-21	21
601-22	22	601-ST-22	22	601 $\frac{3}{4}$ ST-22	22	601-Y-22	22
601-23	23	601-ST-23	23	601 $\frac{3}{4}$ ST-23	23	601-Y-23	23

### No. 602 SERIES

Height  $\frac{5}{8}$ ", Width  $1\frac{5}{8}$ ", Thickness  $\frac{3}{8}$ ". Terminals are  $\frac{5}{8}$ " on centers. Screws 8-32x $\frac{5}{8}$ " long, Binding Head.

COL. A		COL. B		COL. C		COL. D	
No.	Terminals Each	No.	Terminals Each	No.	Terminals Each	No.	Terminals Each
602-1	1	602-ST-1	1	602 $\frac{3}{4}$ ST-1	1	602-Y-1	1
602-2	2	602-ST-2	2	602 $\frac{3}{4}$ ST-2	2	602-Y-2	2
602-3	3	602-ST-3	3	602 $\frac{3}{4}$ ST-3	3	602-Y-3	3
602-4	4	602-ST-4	4	602 $\frac{3}{4}$ ST-4	4	602-Y-4	4
602-5	5	602-ST-5	5	602 $\frac{3}{4}$ ST-5	5	602-Y-5	5
602-6	6	602-ST-6	6	602 $\frac{3}{4}$ ST-6	6	602-Y-6	6
602-7	7	602-ST-7	7	602 $\frac{3}{4}$ ST-7	7	602-Y-7	7
602-8	8	602-ST-8	8	602 $\frac{3}{4}$ ST-8	8	602-Y-8	8
602-9	9	602-ST-9	9	602 $\frac{3}{4}$ ST-9	9	602-Y-9	9
602-10	10	602-ST-10	10	602 $\frac{3}{4}$ ST-10	10	602-Y-10	10
602-11	11	602-ST-11	11	602 $\frac{3}{4}$ ST-11	11	602-Y-11	11
602-12	12	602-ST-12	12	602 $\frac{3}{4}$ ST-12	12	602-Y-12	12
602-13	13	602-ST-13	13	602 $\frac{3}{4}$ ST-13	13	602-Y-13	13
602-14	14	602-ST-14	14	602 $\frac{3}{4}$ ST-14	14	602-Y-14	14
602-15	15	602-ST-15	15	602 $\frac{3}{4}$ ST-15	15	602-Y-15	15
602-16	16	602-ST-16	16	602 $\frac{3}{4}$ ST-16	16	602-Y-16	16
602-17	17	602-ST-17	17	602 $\frac{3}{4}$ ST-17	17	602-Y-17	17
602-18	18	602-ST-18	18	602 $\frac{3}{4}$ ST-18	18	602-Y-18	18
602-19	19	602-ST-19	19	602 $\frac{3}{4}$ ST-19	19	602-Y-19	19
602-20	20	602-ST-20	20	602 $\frac{3}{4}$ ST-20	20	602-Y-20	20
602-21	21	602-ST-21	21	602 $\frac{3}{4}$ ST-21	21	602-Y-21	21
602-22	22	602-ST-22	22	602 $\frac{3}{4}$ ST-22	22	602-Y-22	22
602-23	23	602-ST-23	23	602 $\frac{3}{4}$ ST-23	23	602-Y-23	23
602-24	24	602-ST-24	24	602 $\frac{3}{4}$ ST-24	24	602-Y-24	24
602-25	25	602-ST-25	25	602 $\frac{3}{4}$ ST-25	25	602-Y-25	25
602-26	26	602-ST-26	26	602 $\frac{3}{4}$ ST-26	26	602-Y-26	26

# SMITH

*Electronic Components*  
HERMAN H. SMITH, INC.

## TEAR DROP TOGGLE SWITCHES

Laminated type. Made by H & H, rated at 1 amp, 250 volts, 3 amps, 125 volts. SPST switches rated at 3 amps, 250 volts, 6 amps, 125 volts. Switches nickel plated; supplied with ring nut and mounting nut.



No.	Type	Shaft	Each
500	SPST	1/8"	\$0.75
501	SPST	1"	1.00
502	SPDT	1/8"	1.00
503	SPDT	1"	1.20
504	DPST	1/8"	1.40
505	DPST	1"	1.60
506	DPDT	1/8"	1.60
507	DPDT	1"	1.85

## BAT HANDLE TOGGLE SWITCHES



Laminated type. Made by H & H, rated at 1 amp, 250 volts, 3 amps, 125 volts. SPST switches rated at 3 amps, 250 volts, 6 amps, 125 volts. Switches nickel plated; supplied with ring nut and mounting nut.

No.	Type	Shaft	Each
510	SPST	1/8"	\$0.75
511	SPDT	1/8"	1.00
512	DPST	1/8"	1.40
513	DPDT	1/8"	1.60

## ROTARY SWITCHES



Made by H & H, rated at 1 amp., 250 volts, 3 amps, 125 volts. Switches nickel plated; supplied with mounting nut. Threaded shank 3/8" O.D. x 3/8" long. Overall length of shaft 1 1/2".

No.	Type	Each
570	SPST	\$1.00
571	SPDT	1.20
572	DPST	1.50
573	DPDT	1.85

## HEAVY DUTY POWER SWITCHES



These Heavy Duty Power Switches made by H & H and specially recommended for use in amplifiers, transmitters, motors and all heavy current circuits where heavy current is carried. Available in 3 types with neutral off in center position. Rated at 10 amps, 125 volts; 5 amps., 250 volts. Mounting sleeve dia. 3/4".

No.	Mounting	Size	Each
574	DPDT	2"x1 1/4"x 7/8"	\$6.25
575	TPDT	2"x2 1/4"x1"	8.25
576	4PDT	2"x2 1/4"x1"	12.00

## FUSE RETAINER



Recommended for use in auto radio power supply cables.

No. 1301	\$20.00 Per C
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## PARTS FOR CONNECTOR AND RETAINER

No.	Type	Per C
1305	Male Cap for #1300 & #1301	\$3.00
1306	Female Shell for #1300	3.50
1307	Contact for #1300 & #1301	5.00
1308	Spring for #1300 & #1301	1.00
1309	Washer for #1300 & #1301	.50
1310	Insulating Tube for #1301	.90
1311	Female Shell for #1301	5.00



## MOLDED BAKELITE SWITCHES

Made by H & H, rated at 3 amps, 250 volts, 6 amps, 125 volts, with bat handle. Back connected silver plated contacts. Slotted sleeve.

No.	Type	Shaft	Each
520	SPST	1/8"	\$1.10
521	SPDT	1/8"	1.25
522	DPST	1/8"	1.70
523	DPDT	1/8"	2.00

## MOLDED BAKELITE MOMENTARY SWITCHES

Same as above except switches are momentary type with circuit normally "OFF."

No.	Type	Shaft	Each
524	SPST	1/8"	\$1.60
525	DPDT	1/8"	2.50

## MOMENTARY PUSH BUTTON SWITCH



Momentary contact A.C. Push Button Switches. Molded type with soldering lug. Rated at 1 amp, 125 volts. Normally "OFF." push to make, release to break. 1/8" shank.

No.	Type	Each
540	SPST	\$0.80
541	SPDT	.85
542	DPST	.90
543	DPDT	1.30

## PUSH BUTTON MOMENTARY SWITCH



Slow make and break switch made by H & H. Laminated type, solder lug. Circuit normally "OFF," push to make. 3/8" slotted sleeve, rated at 1 amp., 125 volts. The two circuit switch has one circuit normally on, one circuit normally off. Black or Red buttons available for both switches.

No.	Type	Each
579	SPST	\$0.90
580	Two Circuit	1.40
581	Button only	.35

## SLIDE LEVER SWITCHES



Rated 1 1/2 amps. 110 volts. Size 1 1/8" x 1/2". Mounting centers 1 1/8".

No.	Type	Each
515	SPST	\$0.35
516	SPDT	.40
517	DPST	.50
518	DPDT	.55

## ANTENNA CONNECTOR



For use as connection of auto radio antenna lead-in to auto radio receiver.

No. 1300	\$12.00 Per C
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## JUMBO FUSE HOLDERS



These jumbo fuse holders are for use with various types of auto receivers. All parts comprising bushings, springs, contacts, etc., are furnished unassembled, packed in individual envelopes.

No.	Size	Fuse Size	Each
1302	1/2" x 2 1/8"	9 amp.	\$0.32
1303	1/2" x 2 3/8"	14 amp.	.32
1311	1/2" x 2 5/8"	30 amp.	.32

## HEAVY DUTY MOMENTARY SWITCH



Made by H. & H. DPST Momentary contact push button switch, normally off, screw terminal, bakelite case, 1/8" slotted sleeve. Rated at 6 amps, 250 volts—12 amps, 125 volts—1 HP at 250 volts.

No. 595	\$3.00 each
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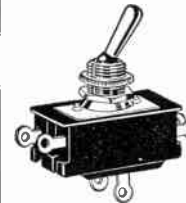
## HEAVY DUTY SWITCH



Made by H. & H. DPST Switch Maintained contact bat handle bakelite case, 1/8" slotted sleeve, screw terminals. Rated at 6 amps, 250 volts—12 amps, 125 volts—1 HP at 250 volts.

No. 596	\$2.10 each
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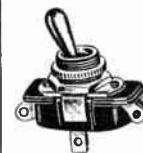
## CENTER OFF SWITCHES



Made by H. & H. Three Position, bat handle switch. "Center Off." Bakelite case, rated at 3 amps, 250 volts—6 amps, 125 volts—solder terminals.

No.	Type	Each
566	SPDT	\$1.90
567	DPDT	2.35

## DPDT CENTER OFF SWITCH



Bat handle toggle switch rated at 1 amp. — 125 volts with center "OFF" position. Lug terminals, 3/8" brass nickel plated shaft. Can be used for switching to either high or low frequency antenna on TV receivers.

No. 565	\$1.45 each
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## CANOPY SWITCH



Rated at 8 amps, 125 volts, 1 amp, 250 volts. Supplied with 6" leads. C.S.A. approved.

No. 585	\$0.45 each
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## NAME PLATES

Brass nickel plated name plates to fit all standard 3/8" sleeves.

No.	Type	Per C
508	ON-OFF	\$5.50
509	HI-LOW	5.50

## WIRED FUSE RETAINER



Wired fuse retainer saves the soldering operation necessary when replacing retainer. Simply cut wire, strip and put in line. Will accommodate either 3 A.G. 20 amp. or SFE 14 amp. fuse.

No.	Each
1304	\$ 0.45
786—Display of 24	10.80

## LEAD-IN ADAPTER



Lead-in adapter converts Motorola pin plug to Delco type plug.

No. 1204	\$11.00 per C
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### INSULATED PHONE TIP JACK

Accommodates all standard insulated and non-insulated phone tip plugs. Recommended for use with our Nos. 200 and 201 phone tip plugs. Available in Black, Red, Yellow and Green. Mounts in a  $\frac{1}{8}$ " hole. Complete with insulating shoulder washer and nut. Specify color.

No.	Head Dia.	per C
202	$\frac{1}{8}$ "	\$20.00
223	$\frac{1}{2}$ "	35.00

### ALL INSULATED TIP JACK

Standard phone tip all insulated jack with phosphor bronze contact. Mounts in  $\frac{3}{8}$ " hole in panels up to  $\frac{3}{8}$ " thick; overall length 1". Supplied in Red, Black, Yellow, Green, Blue. Specify color. Supplied with nut.

No. 240	\$50.00 per C
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### INSULATED BANANA JACK

Accommodates all standard banana type plugs. Mounts in a  $\frac{3}{8}$ " hole in panels up to  $\frac{3}{8}$ " thick. Insulated head  $\frac{7}{8}$ " dia. available in Black, Red, Yellow and Green. Complete with insulating shoulder washer, soldering lug, and nut. Specify color.

No. 205	\$20.00 per C
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### INSTRUMENT BANANA JACK

Made of brass, nickel plated. Jack receptacle countersunk to accept all standard Banana type plugs for a snug and positive contact. Insulated head  $\frac{1}{2}$ " diameter, supplied complete with insulating washer, lock washer, heavy duty soldering lug and nut. Available in Black, Red, Yellow and Green. Specify color.

No. 219	\$22.00 per C
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### INSULATED COMBINATION JACK

This combination jack accommodates all standard plugs, of the phone tip type or banana type construction. Mounts in a  $\frac{1}{8}$ " hole in panels up to  $\frac{1}{2}$ " thick. Overall length 1 $\frac{1}{2}$ ". Complete with insulating shoulder washer and nut. Insulated head available in Black, Red, Yellow and Green. Specify color.

No. 206	\$25.00 per C
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### INSULATED MIDGET BANANA JACK

Accommodates all standard banana type plugs. Mounts in a  $\frac{1}{8}$ " hole in panels up to  $\frac{1}{4}$ " thick. Supplied with soldering lug; overall length  $1\frac{1}{8}$ ". The insulated head as well as the washer insulates the body of the jack from the panel to prevent possibility of shock or grounding. Insulated head  $\frac{3}{8}$ " diameter. Available in Black, Red, Yellow and Green. Specify color.

No. 221	\$30.00 per C
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### FUSE MOUNTING BASES



Black bakelite, panel mount type. Accommodates 3 A G Auto type cartridge fuse.

No.	Type	Per C
530	Single	\$25.00
531	Double	40.00
532	Clip Only	2.50

### SOLDERLESS PHONE TIP PLUG

Signal Corps Approved



Solderless steel, case hardened phone tip made in accordance with Signal Corps drawing and specifications. Supplied with insulated handle  $\frac{7}{8}$ " long made in accordance with JAN Specs. Overall length 1 $\frac{1}{8}$ ". Red and Black colors. Specify color.

No. 250	\$65.00 per C
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### INSULATED SOLDERLESS TIP PLUGS



Insulated sleeve  $\frac{3}{8}$ " long, cable opening  $\frac{1}{8}$ ". Available in Black, Red, Yellow and Green. Fits all standard phone tip jacks. Wire fits through sleeve of plug, and is wrapped around screw portion, then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

No.	Length	Per C
200	1 $\frac{1}{8}$ "	\$23.00
201	1 $\frac{1}{2}$ "	23.00

### FIBRE HANDLE SOLDERLESS PLUGS

Same as above except handles are of Vulcanized Fibre.

No.	Length	Per C
230	1 $\frac{1}{8}$ "	\$23.00
231	1 $\frac{1}{2}$ "	23.00

### HEAVY DUTY PHONE TIP PLUG



Heavy duty threaded phone tip plugs, 2 $\frac{1}{2}$ " overall. Insulated handle 1" long. Tip threaded  $\frac{1}{4}$ -32. Cable opening  $\frac{3}{8}$ ", rear of plug will accommodate heavy wire. Supplied in Red, Black, Yellow and Green. Specify color.

No. 215	\$25.00 per C
No. 125—Tip only	13.00 per C

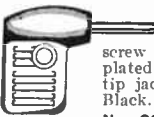
### INSULATED SHORT PHONE TIP



Fits all standard phone tip jacks of the insulated or non-insulated types. Insulated sleeve  $\frac{3}{8}$ " long, overall length 1 $\frac{1}{4}$ ", cable opening  $\frac{3}{8}$ ". Available in Black, Red, Yellow and Green. Specify color.

No. 203	\$20.00 per C
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### MOLDED METER TIP PLUG



Molded Meter Type Plug molded in two halves for easy assembling with screw and nut. Brass nickel plated tip fits in all standard tip jacks. Available in Red and Black. Specify color.

No. 235	\$0.45 Each
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### INSULATED NEEDLE TIP PLUG



Insulated sleeve  $\frac{3}{8}$ " long, overall length 2 $\frac{1}{4}$ ", cable opening  $\frac{3}{8}$ ". Available in Black and Red. Body of plug accommodates all standard banana type plugs. The sharp needle point phone tip will pierce through corrosion for positive contact.

No. 216	\$25.00 per C
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### METAL BINDING POST



Made of brass, heavily nickel plated overall. Supplied complete with screw and lockwasher.

No. 110	\$35.00 per C
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### INSULATED SOLDERLESS BANANA PLUGS



Spring type construction designed to fit all types of banana jacks. Plug portion made of Hexagon brass, designed to set into our No. 219 Banana Jack described above. Small machine screw stud screws into rear of plug so that wire can be wrapped around and tightened without soldering. All external set screws removed to prevent possibility of shock or grounding. Insulated handle 1" long, overall length 1 $\frac{1}{8}$ ", cable opening  $\frac{3}{8}$ ". Available in Black, Red, Yellow and Green. Specify color.

No. 212	\$30.00 per C
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Spring type construction with machine screw stud. Same as described above except that plug portion is not Hexagon but made of round brass. Insulated handle  $\frac{3}{4}$ " long, overall length 1 $\frac{1}{2}$ ", cable opening  $\frac{3}{8}$ ". Available in Black, Red, Yellow and Green. Specify color.

No. 211	\$25.00 per C
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### INSULATED BANANA PLUG Spring Type



Fits all standard banana type jacks. Set screw provided in side of plug to secure wire to plug without soldering. Insulated sleeve  $\frac{7}{8}$ " long available in Black, Red, Yellow and Green. Overall length 1 $\frac{1}{2}$ ", cable opening  $\frac{3}{8}$ ". Specify color.

No. 204	\$25.00 per C
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### INSULATED BANANA PLUG Split Type



Banana plug is of split type construction. Insulated handle  $\frac{7}{8}$ " long. Set screw provided in side of plug, to secure wire to plug without soldering. Overall length 1 $\frac{1}{2}$ ", cable opening  $\frac{3}{8}$ ". Available in Black, Red, Yellow and Green. Specify color.

No. 213	\$20.00 per C
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### INSULATED BANANA PLUG



Insulated handle  $\frac{1}{2}$ " O.D. x 1" long. Set screw provided in side of plug to secure wire to plug without soldering. Overall length 1 $\frac{1}{8}$ ", cable opening  $\frac{3}{8}$ ". Available in Black and Red. Specify color.

No.	Desc.	Per C
233	Split Type	\$75.00
234	Spring Type	75.00

### BANANA PLUG SPLICE



This splice receptacle accommodates all standard banana type plugs. Invaluable for quick splicing connections. Supplied in Red, Black, Yellow, or Green colors. Specify color.

No. 245	\$40.00 per C
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### INSULATED SPADE LUG



Insulated sleeve  $\frac{3}{8}$ " diameter,  $\frac{3}{4}$ " long, overall length 1 $\frac{1}{8}$ ", cable opening  $\frac{3}{8}$ ". Available in Black and Red. Barrel of the insulated sleeve accommodates all standard type banana plugs.

No.	Type	Per C
218	Insulated Lug	\$18.00
129	Lug only	2.00

### COMBINATION BINDING POST



Knurled insulated head binding post. Top of post accommodates standard banana plugs. Hole in side of stud accommodates any standard phone tips. Length 1 $\frac{3}{4}$ " overall with head open, 1 $\frac{1}{4}$ " with head closed, 6-32 x  $\frac{1}{2}$ " long stud supplied with 2 hex nuts. Black and Red. Specify color.

No. 220	\$40.00 per C
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### ALLIGATOR CLIP



Clips are made so that the jaws match accurately, permitting them to grip all sizes wire securely. The barrel of clip will accommodate all standard banana type plugs. Made of steel, cadmium plated. Overall length 2".

No. 300 .....\$10.00 per C

### INSULATED ALLIGATOR CLIP



Embodies our No. 300 Alligator Clip. When used with short insulated handle, rear of clip accommodates standard banana plug. Available in Black or Red colors. Specify color.

No.	Handle	Overall	Per C
301	3/4"	2 7/8"	\$20.00
306	1 1/4"	2 1/8"	35.00

### ALLIGATOR CLIP PHONE TIP JACK



Insulated alligator clip with phone tip jack in rear of handle. The jack portion will accommodate all standard phone tip plugs. Handle 1" long, overall length 2 5/8". Available in Black and Red colors. Specify color.

No. 304 .....\$50.00 per C

### ALLIGATOR CLIP COMBINATION JACK



Insulated alligator clip with combination jack in rear of handle. Jack will accommodate standard phone tip plugs or banana plugs. Handle 1 1/8" long, overall length 3". Available in Black and Red colors. Specify color.

No. 305 .....\$60.00 per C

### SOLDERLESS TEST PRODS



Insulated handles, available in Black and Red colors. The wire is fed through the insulated handle and is wrapped around the screw portion of the plug and then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

No.	Overall Length	Each
302	5 1/4"	\$0.45
303	6 3/4"	.50

### PHONO NEEDLE TEST PRODS



Insulated handles available in Black and Red colors. Wires can be assembled to the metal tip by unscrewing the tip from the prod handle. Removable chuck for replacing broken needles. Specify color.

No.	Overall Length	Each
317	5"	\$0.45
318	6 3/8"	.50

### FIBRE TEST PRODS

Handles are made of fibre 3/8" O.D. x 4" long and can be obtained with either solderless tips or phono needle tips. The fibre handles are available in black or red. Specify color.

No.	Type	Each
323	Solderless Tip	\$0.35

### HEAVY DUTY TEST PROD



Heavy duty threaded brass nickel plated phone tips in Tenite plastic handle. Overall length 5 1/2". Supplied in Red and Black. Specify color.

No. 319 .....\$0.55 Each

### TEST LEADS WITH SOLDERLESS TIPS



Fibre handles colored Red and Black, 4" long x 3/8" diameter. Flexible rubber covered wire leads 50" long also colored Red and Black. Available with standard phone tips, spade lugs or alligator clips.

No.	Type	Per Pr.
600	Phone Tips	\$1.30
601	Spade Lugs	1.30
602	Alligator Clips	1.40

### PHONO NEEDLE TEST LEADS



Fibre handles colored Red and Black, 4" long x 3/8" diameter. Tips are very sharp phonograph needles. Flexible rubber covered wires 50" long also colored Red and Black. Available with standard phone tips, spade lugs, or alligator clips.

No.	Type	Per Pr.
613	Phone Tips	\$1.30
614	Spade Lugs	1.30
615	Alligator Clips	1.40

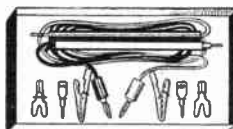
### ALL SOLDERLESS TEST LEADS



The insulated handles and the insulated plugs are both of the solderless type construction. Insulated handles, Red and Black, are our No. 302, and the plugs are our No. 200. Flexible rubber covered wire leads 50" long.

No. 603 .....\$1.95 per pr.

### ALL PURPOSE TEST LEAD KIT



Supplied with 48" of 5,000 volt heavy duty rubber covered kinkless test lead wire. Plastic handles with solderless or needle tips. Other end supplied with standard #204 banana plugs, which are interchangeable with the phone tips, alligator clips, or spade lugs included.

No.	Type	Each
610	Solderless Prods	\$2.75
611	Needle Tip Prods	2.75

### ALLIGATOR CLIP TEST LEADS



Supplied with 48" of 5,000 volt heavy duty rubber covered kinkless test lead wire. Insulated alligator clips on one end and meter type or solderless phone tips on other end.

No.	Type	Each
627	Solderless Tips	\$1.30
628	Meter Tips	1.85

### ALLIGATOR CLIP TEST LEADS



Made of very flexible Red and Black wire with alligator clips at each end.

No.	Wire Length	Per Pr.
604	12"	\$0.85
605	24"	.95
606	36"	1.10
607	48"	1.20

### METER TIP TEST LEAD



Test Leads with 50" rubber covered kinkless test lead wire. Molded Plastic fingertip tips on one end and 5" plastic test prod handles on other end. Supplied in two types, solderless tip or needle tip prod handles.

No.	Type	Per Pr.
625	Solderless Prods	\$2.25
626	Needle Tip Prods	2.25

### HIGH TENSION TEST LEADS



Sturdy, attractive test leads with heavy duty probes, and 48" of quality high tension kinkless rubber-covered test lead wire with heavy insulation, .248 outside diameter. Supplied with insulated solderless type phone tips,

insulated spade lugs or insulated alligator clips. Voltage breakdown (60 cycles), 22,000 volts.

No.	Type	Per Pr.
620	Phone Tips	\$3.00
621	Spade Lugs	3.00
622	Alligator Clips	3.60

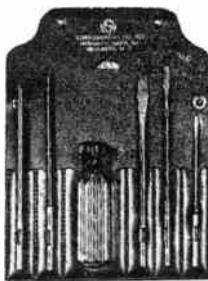
### LABORATORY INTERCHANGE KIT



Permits use of Alligator Clips, Banana Plugs, Spade Lugs, or Phone Tips interchangeably with each other as required. Consists of one each red and black insulated solderless phone tips with banana jack rear, spade lugs with banana jack rear, combination alligator clip jack, and banana plugs with phone tip jack rear. Durable vinyl kit.

No. 640 .....\$3.25 Each

### SCREW DRIVER KIT



Attractive Vinyl plastic kit with special pockets. Kit folds quickly and easily for carrying in tool box and has two eyeleted holes for hanging over work bench. Snap-In-

Chuck provided in unbreakable amber handle for quick interchanging of blades. Kit contains three tempered steel screw driver blades of the Midget Cabinet and all purpose type and two Phillips drivers, #1 and #2.

No. 825 .....\$2.75 each

### POCKET SCREW DRIVERS



Especially high grade pocket screw driver with unbreakable amber handles supplied with pocket clips. Tempered ground steel blades.

No.	Description	Per C
801	2 3/8" Blade x 4" Overall	\$21.00
812	3 1/2" Blade x 5" Overall	35.00



### BANANA TYPE PLUG SPRING TYPE

Flex brass, nickel plated banana plug  $1\frac{1}{4}$ " long overall. Threaded portion 6-32 x  $\frac{3}{8}$ " long. Fits all standard banana jacks. Supplied with hex nut.

No. 102 .....\$20.00 per C



### BANANA TYPE PLUG SPRING TYPE

Hex brass, nickel plated banana plug  $1\frac{1}{4}$ " long overall. Threaded portion  $\frac{1}{4}$ -32 x  $\frac{3}{8}$ " long. Supplied with machine screw stud in rear for solderless connection and one hex nut. Fits all standard banana jacks.

No. 145 .....\$22.00 per C



### BANANA TYPE PLUG

This plug is hexed brass, nickel plated. The spring is made of phosphor bronze assuring positive and lasting contact. Plug is constructed with a 6-32 female thread inside and is supplied with a 6-32 screw and soldering lug.

No. 100 .....\$20.00 per C



### BANANA TYPE PLUG Spring Type

Plug and spring are made of brass, nickel plated. The spring type of construction assures positive and lasting contact. Plug is threaded 6-32 and the threaded portion is  $\frac{1}{2}$ " long. Supplied with two 6-32 hexagon nuts.

No. 103 .....\$20.00 per C



### SPLIT TYPE BANANA PLUG

Made of hexed brass, heavily nickel plated overall. Will fit all standard banana type jacks. Overall length  $1\frac{1}{4}$ ". Threaded portion 6-32 x  $\frac{1}{2}$ " long. Supplied with two 6-32 hexagon nuts.

No. 104 .....\$20.00 per C



### BANANA PLUG JACK

Recommended as the mate for the No. 100 Banana type plug, but will accommodate all standard banana type plugs. Jack is made of brass, heavily nickel plated overall. Mounts in a  $\frac{1}{4}$ " hole and will fit in panels up to  $\frac{3}{8}$ " thick. Jack is furnished with  $\frac{1}{4}$ -32 nut and soldering lug.

No. 101 .....\$15.00 per C



### BANANA PLUG JACK

Will accommodate all standard banana type plugs and specially recommended as the mate for Nos. 103 and 104 banana plugs. Made of brass, nickel plated, and mounts in  $\frac{1}{4}$ " hole in panels up to  $\frac{3}{8}$ " thick. Supplied with nut and soldering lug.

No. 109 .....\$15.00 per C



### SOLDERLESS PHONE TIPS

These tips are constructed so that the wire fits through the body of the tip, and is wrapped around the screw portion, and tightened with the knurled nut provided, making soldering unnecessary.

No.	Length	Per C
105	$1\frac{1}{8}$ "	\$16.00
106	$1\frac{1}{2}$ "	16.00



### PHONE TIP JACK

Will accommodate all standard phone tip plugs of insulated and non-insulated types. Made of brass, nickel plated. Mounts in a  $\frac{1}{4}$ " dia. hole in panels up to  $\frac{3}{8}$ " thick, and is supplied with hexagon nut.

No. 107 .....\$15.00 per C



### SOLDER TYPE PHONE TIPS

Made of brass, nickel plated. Overall length 1". Dia. of tip will fit all standard phone tip jacks.

No. 108 .....\$30.00 per M

### LARGE DIAMETER PHONE TIP

Material of Brass and Nickel-plated finish. The barrel is drilled extra large to accommodate heavy wire. Diameter hole  $\frac{1}{8}$ " — length of barrel  $\frac{1}{2}$ " and overall length 1".

No. 123 .....\$40.00 per M



### HEAVY DUTY PHONE TIP

Brass nickel plated tip,  $1\frac{1}{8}$ " long overall. Barrel O.D.  $\frac{1}{4}$ ", tip O.D.  $\frac{1}{8}$ ", tip length  $\frac{3}{8}$ ", Barrel I.D.  $\frac{3}{32}$ ". Ideally suited for testing heavy voltage.

No. 55 .....\$10.00 per C



### MIDGET PLUGS AND JACKS Banana Type

Midget banana type lugs and jacks, for use where a minimum amount of space is available. Both plugs and jacks made of brass, nickel plated. A hexagon nut is provided with each plug and jack.

No.	Item	Per C
111	Plug	\$15.00
112	Jack	12.00



### MIDGET PHONE JACK

Signal Corps type J 670 — Single open circuit midget phone jack. Mounts in  $\frac{3}{8}$ " hole in panels up to  $\frac{1}{4}$ " thick. Bushing is brass, nickel plated. Springs made of phosphor bronze, and the springs are insulated from the frame

by heavy duty bakelite washers.

No. 122 .....\$35.00 per C

### TEST PROD "MAKE YOUR OWN R. F. PROBE"



An exceptionally sturdy fibre prod with rear of prod designed to accommodate 1N-34 crystal and condensers, necessary for use as an R.F. Probe. Heavy duty removable screw type tip for easy soldering.

No. 630 .....\$1.20 each  
No. 781—Display of 12 No. 630 Prods .....\$14.40 each



### SCRATCH AWL

Scratch awl with unbreakable amber handle. Overall length 5". A "must in a serviceman's tool kit"

No. 814 .....\$0.55 each

### DOUBLE NIB ALIGNING TOOL



This tool is especially designed for aligning push-button receivers and for adjusting iron core I.F. transformers and R.F. coils. There is a recessed screw driver nib on one end and a screw driver blade on the other. Both ends knurled for easy grip.

No. 325 .....\$0.90 each  
No. 777—Display of 24 No. 325 Tools .....\$21.60 each

### METAL NIB ALIGNING TOOL



Fibre handle  $\frac{3}{8}$ " dia. x 6" long, and fitted with a screw driver nib for aligning of coils, padding condensers, etc.

No. 321 .....\$0.45 each  
No. 776—Display of 24 No. 321 Drivers .....\$10.80 each

### ALIGNING TOOL



For Peanut I.F.'s For RCA Front End For "K" Tran. Transformers

Slender, yet sturdy, this tool is specially adapted for aligning peanut I.F.'s and the difficult-to-get-at front end of some receivers. Available in bulk or on attractive display card.

No. 326 .....\$0.90 each  
No. 778—Display of 24 No. 326 Tools .....\$21.60 each

### RECESSED NIB MIDGET TOOL



This recessed nib aligning tool is another essential for television servicing. Constructed from fibre with thin recessed nib for slug tuning. Only  $2\frac{1}{2}$ " long, it makes those hard-to-get-at slugs accessible while chassis is still in cabinet. Available in bulk or on attractive display card.

No. 327 .....\$0.60 each  
No. 779—Display of 48 No. 327 Tools .....\$28.80 each

### FIBRE ALIGNMENT SCREW DRIVERS



Made of bone hard fibre  $\frac{3}{8}$ " O.D. x 7" long.

No. 307 .....\$0.45 each  
No. 701—Display of 24 No. 307 Drivers .....\$10.80 each

### "VERI-THIN" ALIGNING TOOL

Fibre aligning tool 7" long x  $\frac{1}{8}$ " O.D. with screw driver on each end. Because of its "Veri-Thin" O.D. this tool can make adjustments on all TV receivers.

No. 328 .....\$0.40 each  
No. 782—Display of 36 No. 328 Tools .....\$12.60 each

### "LONG REACH" ALIGNING TOOL

Aligning tool 9" long x .165 O.D. with screw driver on each end. Long enough and thin enough to make adjustment on any TV receiver. Material of treated clear Lucite.

No. 330 .....\$0.60 each  
No. 783—Display of 36 No. 330 Tools .....\$21.60 each

### EXTRA LONG ALIGNING TOOL

Hard Bone Fibre screw driver 12 inches long by  $\frac{1}{8}$  inches dia. Extra strong and durable. Available in bulk or on attractive display card.

No. 333 .....\$0.70 each  
333D—Display of 50 tools .....\$35.00

### NEUTRALIZING AND ALIGNMENT TOOL



A complete, fully insulated neutralizing tool, screw driver and wrench combination. The fibre wrench portion has a  $\frac{1}{4}$ " hexed socket on one end and a  $\frac{1}{8}$ " hexed socket on the other end. A  $\frac{1}{4}$ " metal screw driver nib on the inside portion of the tool fits into the fibre tube itself.

No. 320 .....\$1.00 each  
No. 700—Display of 12 No. 320 Tools .....\$12.00 each

## PANEL INDICATOR 1/2 INCH JEWEL



Jewel holder made of brass, nickel plated. Jewel mounts in a single 1/8" dia. hole. Also available with universal adjustable bracket for use where more accurate focus of the jewel to lamp filament is required. Facetted jewel available in Red, Green, Amber, Blue, Opal and Clear colors. Please specify.

No.	Type	Each
1900	Miniature Screw Base.....	\$0.45
1901	Candelabra Base .....	.55
1902	Candelabra Base with Univ. Bracket .....	.58
1903	Bayonet Base .....	.45
1904	Bayonet Base with Univ. Bracket .....	.50

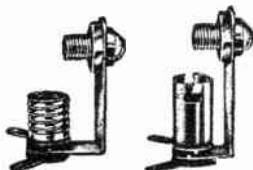
## PANEL INDICATOR 3/4 INCH JEWEL



Jewel holder is made of brass, nickel plated. Jewel mounts in a single 1/4" dia. hole. Available with facetted jewels in Red, Green, Amber, Blue, Opal and Clear colors. Please specify.

No.	Type	Each
1905	Miniature Screw Base .....	\$0.95
1906	Miniature Bayonet Base .....	1.00
1907	Candelabra Base .....	1.00

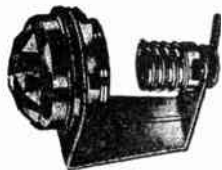
## PANEL INDICATOR 3/8 INCH JEWEL



Jewel holder made of brass, nickel plated. Jewel mounts in a single 3/8" dia. hole. Available with facetted jewels in Red, Green, Amber, Blue, Opal and Clear colors. Please specify.

No.	Type	Each
1908	Miniature Screw Base .....	\$0.50
1909	Miniature Bayonet Base .....	.50

## PANEL INDICATOR 1 INCH OPEN TYPE



Jewel Removable from Front Panel

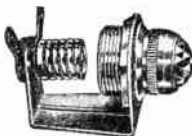
Jewel holder made of brass, chromium plated finish. Jewel mounts in single 1" dia. hole. The embossed

rib in center of bracket supplies additional strength, assuring perfect alignment. Available with facetted jewels in the following colors: Red, Green, Amber, Blue, Opal, and Clear colors. Please specify.

No.	Type	Each
1917	Miniature Screw Base .....	\$1.60
1918	Miniature Bayonet Base .....	1.60
1919	Candelabra Base .....	1.70

## PANEL INDICATOR 1/2 INCH OPEN TYPE

Jewel Removable from Front of Panel



Jewel holder made of brass, nickel plated. Mounts in a single 1/8" dia. hole. The embossed rib in center of bracket gives additional strength and assures perfect alignment. Available with facetted jewels in Red, Green, Amber, Blue, Opal and Clear colors.

No.	Type	Each
1920	Miniature Screw Base .....	\$0.70
1921	Miniature Bayonet Base .....	.70

## CLIP-ON TYPE PILOT LIGHT SOCKETS

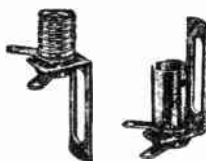


Can be used by clipping on to variable condenser or chassis. All brackets are cadmium plated.

No.	Type	Per C
1922	Min. Screw Up Clip .....	\$14.50
1923	Min. Screw Down Clip .....	14.50
1924	Min. Bayonet Up Clip .....	16.50
1925	Min. Bayonet Down Clip .....	16.50
1926	Candelabra Up Clip .....	18.75
1927	Candelabra Down Clip .....	18.75

## BRACKET TYPE PILOT LIGHT SOCKETS

Brackets are steel, cadmium plated.



No.	Type	Per C
1928	Min. Screw Up Bracket .....	\$14.50
1929	Min. Screw Down Bracket .....	14.50
1930	Min. Bayonet Up Bracket .....	16.50
1931	Min. Bayonet Down Bracket .....	16.50
1932	Candelabra Up Bracket .....	18.75
1933	Candelabra Down Bracket .....	18.75

## UNMOUNTED TYPE SOCKETS



No.	Type	Per C
1934	Miniature Screw Base .....	\$14.50
1935	Miniature Bayonet Base .....	13.50
1936	Candelabra Base .....	15.50

## CLIP-IN SOCKET



This clip-in socket is of the bayonet base type construction, and is assembled with two solder lugs. The special clip-in bracket is steel, cadmium plated, and is designed to clip into the dial directly.

No. 1938.....\$15.50 per C

## GLASS JEWELS

Jewels are available in Red, Green, Amber, Blue, Opal and Clear colors in smooth or facetted types. Jewel holders are brass, nickel plated, and are supplied with mounting nut.



### 3/8 Inch Jewel MOUNTS IN 1/8" HOLE

No.	Type	Each
1940	Smooth .....	\$0.25
1941	Facetted .....	.25

### 1/2 Inch Jewel MOUNTS IN 3/16" HOLE

No.	Type	Each
1911	Smooth .....	\$0.30
1912	Facetted .....	.30

### 3/4 Inch Jewel MOUNTS IN 1/4" HOLE

No.	Type	Each
1913	Smooth .....	\$0.70
1914	Facetted .....	.70

### 1 Inch Jewel MOUNTS IN 1" HOLE

No.	Type	Each
1915	Smooth .....	\$1.25
1916	Facetted .....	1.25

## MICROPHONE CONNECTOR Single Contact Male



A completely shielded single contact connector. Made of brass and heavily chrome plated. Mate for No. 116 female connector.

No. 115 .....\$0.55 each

## MICROPHONE CONNECTOR Single Contact Female



Mate for our No. 117 chassis connector. This connector is used extensively for making connections from microphone to amplifier. Comes equipped with coupling ring. All metal parts are made of brass, heavily chrome plated, except the spring.

No. 116 .....\$0.58 each

## CHASSIS CONNECTOR Single Contact Male



This type connector is recommended for use on the chassis or in the microphone. Made of brass, heavily nickel plated. Threaded 3/8"-27, and mounts in a 3/8" hole. Supplied complete with washers, soldering lug and nut.

No. 117 .....\$0.38 each

## CLOSED CIRCUIT CHASSIS CONNECTOR



Same as No. 117 Connector except that circuit closes when female microphone connector (our No. 116) is removed. Supplied complete with washers, soldering lug and nut.

No. 114 .....\$0.55 each

## CAP AND CHAIN



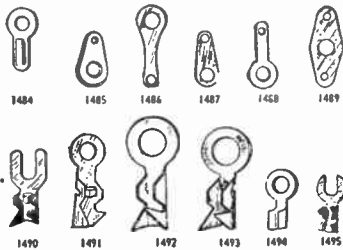
Made of brass, heavily nickel plated. The cap seals open end units against dust, eliminating noisy connections. Used with any threaded one or two conductor chassis unit.

No. 118 .....\$0.60 each

# SMITH

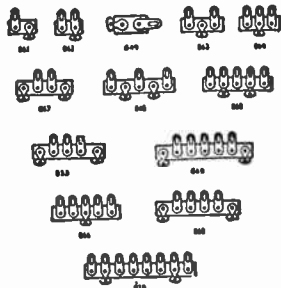
Electronic Components  
HERMAN H. SMITH, INC.

## SOLDER TYPE LUGS Brass Hot Tinned



No.	Length	Hole	Per M
1484	5/8"	No. 6	\$ 7.70
1485	5/8"	No. 6	8.00
1486	7/8"	No. 6 & No. 8	8.00
1487	3/4"	No. 6	8.00
1488	3/4"	No. 6	6.60
1489	3/4"	No. 8	9.00
1490	3/4"	No. 10	10.00
1491	1 1/8"	No. 10	11.00
1492	1-1/8"	1/4"	20.00
1493	1"	1/4"	20.00
1494	5/8"	No. 6 & No. 8	8.30
1495	5/8"	No. 8	7.70

## TIE DOWN TERMINAL STRIPS



No.	Per C	No.	Per C
849	\$3.10	864	\$4.40
853	6.10	865	6.10
860	9.10	866	6.20
861	2.80	867	5.10
862	2.90	868	6.50
863	3.90	869	7.50
		870	9.20

## TERMINAL BOARDS Screw Type



Brass hot tinned lugs mounted on 1/8" bakelite. Lugs are spaced 7/8" center to center.

No.	Terminals	Mounting Center	Per C
872	2	1 1/8"	\$10.00
873	3	1 3/8"	15.00
874	4	2 1/8"	20.00
875	5	2 3/8"	25.00
876	6	3 1/8"	30.00
877	7	3 3/8"	35.00

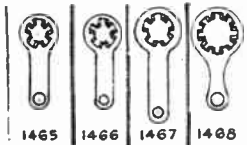
## TERMINAL LUGS AND SCREWS



Recommended for heavy duty terminal strips. Lugs are tapped with screw inserted. No. 1478 lug, brass cadmium plated and No. 1479, lug, brass hot tinned.

No.	Per C
1478	\$3.50
1479	6.00

## LOCKING TYPE TERMINAL LUGS



No.	Hole Size	Thick	Per M
1465	No. 4	.020	\$14.00
1466	No. 6	.020	14.00
1467	No. 8	.020	14.00
1468	1/4"	.020	14.00

## TINNERMAN SPEED NUTS

Available packed 100 per package or 24 \$0.45 list envelopes on an attractive display card.

Size	No.	Per C
4	1155	\$0.90
6	1156	.90
8	1157	.90
10	1158	.90
1/4	1159	1.10

Size	Disp. No.	Each
4	1155D	\$10.80
6	1156D	10.80
8	1157D	10.80
10	1158D	10.80
1/4	1159D	10.80

## MINIATURE WAFER SOCKETS Seven Pin



Miniature bakelite sockets with brass cadmium plated contacts. XP bakelite top plate 1/8" thick, bottom plate 3/16" thick; high grade spring brass cadmium plated contact; .095 dia. mounting holes.

No.	Description	MTG. Cen.	Per C
880	Eyelet only	7/8"	\$12.00
881	Eyelet and Shield	7/8"	12.50
882	Grid Strap and Shield	7/8"	13.00
840	Eyelet only	1"	13.25
841	Eyelet and Shield	1"	14.50
842	Grd Strap and Shield	1"	15.25

## Nine Pin

Miniature bakelite sockets with brass cadmium plated contacts. XP bakelite top plate 1/8" thick, bottom plated 3/16" thick; high grade spring brass cadmium plated contact; .095 diameter mounting holes.

No.	Description	MTG. Cen.	Per C
890	Eyelet only	1 1/8"	\$14.25
891	Eyelet and Shield	1 1/8"	14.75
892	Grd Strap and Shield	1 1/8"	15.50

## MOLDED MINIATURE SOCKETS Seven Pin — Saddle Type



Molded of general purpose black bakelite-saddle steel cadmium plated, .015 thick; contacts high quality spring brass, cadmium plated; .098 mtg. holes, 7/82 mtg. centers. Supplied with center shield.

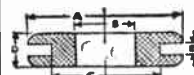
No.	Type	Per C
895	Bottom Mount	\$15.40
896	Top Mount	15.40

## MINI-MAX CONNECTING STRIP



This fastening connecting strip is spaced so that it will snap onto terminal connections of portable batteries.

No.	Type	Per C
1205	67 1/2 Volt	\$30.00
1206	90 Volt	40.00



## RUBBER GROMMETS

A: Outside Dia.; B: Inside Dia.; C: Panel Hole; D: Thickness Over-all; E: Panel Thickness.

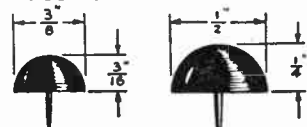
No.	A	B	C	D	E	Per C
2185	1 1/8"	1 1/8"	1/4"	1 1/8"	1 1/8"	\$2.20
2172	1 1/8"	1 1/8"	3/8"	1 1/8"	1 1/8"	3.30
2170	1 1/8"	1 1/8"	1/2"	1 1/8"	1 1/8"	3.85
2174	1 1/8"	1 1/8"	3/8"	1 1/8"	1 1/8"	3.60
2175	1 1/8"	1 1/8"	1/2"	1 1/8"	1 1/8"	3.85
2177	1 1/8"	1 1/8"	3/8"	1 1/8"	1 1/8"	3.60
2186	1 1/8"	1 1/8"	1/2"	1 1/8"	1 1/8"	4.95
2187	1 1/8"	1 1/8"	3/8"	1 1/8"	1 1/8"	5.20
2188	1 1/8"	1 1/8"	1/2"	1 1/8"	1 1/8"	5.50
2189	1"	1"	3/8"	1"	1"	5.50

## RECESS RUBBER BUMPERS



No. 2192	No. 2193	No. 2194
\$2.00 C	\$2.75 C	\$4.40 C

## RUBBER TACK BUMPERS



No. 2190	No. 2191
\$2.40 C	\$2.65 C

## RUBBER FEET BUMPER



Rubber Bumper — 5/8" diameter x 3/8" thick. Recessed to accommodate a self-tapping screw, machine screw, wood screw or a tack.

No. 2184	\$4.00 per C
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## PHONO ADAPTER ATTACHMENT PLUG



R.C.A. type phono plug. For use with record players, recording and reproducing equipment, etc. Extra long pin for new type jacks and large hole in cap for coaxial cable.

No. 1201	\$10.00 per C
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## PHONO JACK



Female for No. 1201 plug. Single prong positive grip jack mounted on 1/8" bakelite with 1/8" mounting centers.

No. 1203	\$14.00 per C
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## DUAL PHONO JACK



Two positive grip jacks mounted on 1/8" bakelite. Double mounting holes spaced 1/2" x 1 1/8". Jacks are 3/8" center to center. Used on recording units and phono players, etc., where dual application is necessary.

No. 1214	\$20.00 per C
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## MOTOROLA TYPE PLUG



Attachment plug for all Motorola auto radio receivers and many other types of auto radios.

No. 1200	\$14.00 per C
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# SMITH

Electronic Components  
HERMAN H. SMITH, INC.

## BRASS BUSHINGS

These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

For No. 6			For No. 8		
No.	Per C	Length	No.	Per C	Length
2100	\$5.00	1/4"	2105	\$5.00	1/4"
2101	6.50	3/8"	2106	6.50	3/8"
2102	8.00	7/8"	2107	8.00	7/8"
2103	9.50	1"	2108	9.50	1"
2104	11.00	1 1/8"	2109	11.00	1 1/8"
3/8" O.D.			1 1/2" O.D.		
2110	\$8.00	1/4"	2115	\$8.00	1/4"
2111	9.50	3/8"	2116	9.50	3/8"
2112	11.00	7/8"	2117	11.00	7/8"
2113	12.50	1"	2118	12.50	1"
2114	14.00	1 1/8"	2119	14.00	1 1/8"

## INSULATED BUSHINGS

For No. 6			For No. 8		
No.	Per C	Length	No.	Per C	Length
2130	\$6.00	1/4"	2140	\$6.00	1/4"
2131	6.75	3/8"	2141	6.75	3/8"
2132	7.00	1/2"	2142	7.00	1/2"
2133	9.00	3/4"	2143	9.00	3/4"
2134	10.75	1"	2144	10.75	1"

## THREADED BRASS BUSHINGS

Brass bushings 1/4" O.D. Threaded 6-32 and 8-32.

Threaded 6-32			Threaded 8-32		
No.	Per C	Length	No.	Per C	Length
2120	\$6.00	1/4"	2125	\$6.00	1/4"
2121	7.50	3/8"	2126	7.50	3/8"
2122	9.00	1/2"	2127	9.00	1/2"
2123	11.00	3/4"	2128	11.00	3/4"
2124	12.50	1"	2129	12.50	1"

## VOLUME CONTROL AND TOGGLE NUTS

Brass Nickel Plated

No.	Type	Dimensions	Per M
1195	Volume Control	3/8-32 x 1/2 x 3/8	\$21.00
1196	Toggle Switch	15-32 x 1/8 x 5/8	30.00
1197	Toggle Ring Nut	15-32 x 5/8 x 1/8	30.00

## MINI-SHIELDS FOR MINI-TUBES

These Mini-Shields fit snugly on all Mini-Tubes. Serrations in base clip prevent shielded tube from joggling or working loose. Available in two sizes for 1 1/2" and 2" long tubes.

No.	Type	Over-all Length	Per C
550	For 2" Tube	1 3/4"	\$13.00
551	For 1 1/2" Tube	1 1/4"	11.00
553	3-Prong Base Clip	5/8"	5.50
554	Single Clips		3.30

## BRASS AND INSULATED COUPLINGS

Available in both brass and insulated material. Overall length 3/4". O.D. 1/8". Set screws are provided in coupling for tightening to shaft.

No.	Type	Material	Each
120	1/4"-1/4"	Brass	\$0.25
140	1/4"-1/4"	Insulated	.25
131	3/8"-1/4"	Brass	.25
141	3/8"-1/4"	Insulated	.25
133	3/8"-3/8"	Brass	.25
142	3/8"-3/8"	Insulated	.25

## STEEL SPADE BOLTS

Steel, cadmium plated finish, threaded 6-32, thread length 1/8", length overall 3/4".

No. 15000	\$11.00 per M
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## FAHNESTOCK SPRING BATTERY CLIPS

Clips are made of brass, nickel plated and are available in the single and double clip types.

No.	Type	Length	Per C
533	Single	3/4"	\$1.80
534	Single	1"	2.20
535	Double	1 1/2"	10.00
536	Double	2 1/8"	11.00

## BRASS AND INSULATED EXTENDERS



Extra long extenders in either brass or insulated material. Suitable for use on amplifiers, television receivers, radio receivers or wherever a 1/4" shaft extender is required. Shaft length 1 3/8". Overall length 1 3/4".

No.	Type	Material	Each
150	1/4"-1/4"	Brass	\$0.30
130	1/4"-1/4"	Insulated	.30
132	3/8"-1/4"	Brass	.30
134	3/8"-1/4"	Insulated	.30

## THREADED BRASS RODS

Rods ordinarily supplied in 2-foot lengths; if one-foot length is required, please specify.

No.	Size	Per Foot
1400	6-32	\$0.35
1401	8-32	.35
1402	10-32	.45
1403	1/4"-20	.50

## BEARING FOR PANEL ASSEMBLY



Made of brass, and fits in 3/8" diameter hole in panels up to 1/8" thick. Bearing is made to accommodate 1/4" shafts. Overall length 1/2".

No. 119	\$0.25 each
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**FAHNESTOCK CLIP**

A speedy and positive contact spring clip. Especially useful for clipping to ammeter screws on auto radios. Supplied in phosphor bronze.

No. 538	\$11.00 per C
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## FIBRE SHOULDER WASHERS



A. Inside Diameter  
B. Outside Diameter  
C. Thickness Over-all  
D. Height of Shoulder  
E. Diameter of Shoulder

No.	A	B	C	D	E	Per M
2150	#6-.140	.375	.098	.031	.237	\$11.50
2151	#4-.110	.250	.062	.031	.187	9.50
2152	#6-.136	.250	.093	.031	.187	10.00
2153	#6-.136	.312	.093	.031	.187	11.00
2154	1/4"-.250	.500	.068	.028	.312	12.00
2155	#8-.172	.375	.093	.031	.246	11.00
2156	#10-.196	.375	.093	.031	.308	11.00
2157	3/8"-.375	.750	.093	.031	.500	14.50
2158	3/8"-.385	.625	.093	.031	.500	14.00

## FLAT FIBRE WASHERS

No.	For Screw-(I.D.)	O.D.	Thickness	Per M
2160	#6-.136	.250	1/8"	\$9.50
2161	#4-.110	.250	1/8"	9.50
2162	#6-.140	.375	1/8"	9.50
2163	#8-.172	.375	1/8"	8.50
2164	#10-.196	.375	1/8"	8.50
2165	1/4"-.250	.500	1/8"	8.50
2166	1/4"-.250	.500	3/8"	9.00
2167	1/8"-.312	.500	1/8"	9.50
2168	3/8"-.385	.625	1/8"	9.00
2169	3/8"-.375	.750	1/8"	14.00

## MINI-SPRING FOR MINI-TUBES



For Table Radios • Electronic Equipment Radio Receivers

The Mini-Tube guard gives support to the Mini-Tube in two ways. It maintains a direct axial pressure downward plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently.

No.	Type	Per C
560	Short	\$13.50
561	Medium	13.50
562	Long	13.50
563	9-Prong	13.50

## PANEL BEARING ASSEMBLY



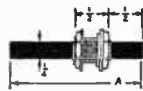
This panel bearing is accurately machined and is specially recommended for use as dial drives, or for mounting volume controls, switches, etc. Over-all length 1 1/4". Supplied with nut. Drive shaft 1/4" O.D.

No. 126	\$30.00 per C
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## BRASS AND INSULATED RODS

No.	Type	Length	Dia.	Each
1404	Brass	6ff	1/4"	\$0.30
1405	Brass	12"	1/4"	.60
1406	Insulated	6"	1/4"	.25
1407	Insulated	12"	1/4"	.50

## PANEL BEARING ASSEMBLY



This assembly combines either 3" or 6" brass rod, 1/4" O.D. with our standard No. 119 Panel Bearing. Completely assembled so that panel bearing is held rigidly in place. Will fit on panels up to 1/8" thick and can be used with either rigid or flexible couplings.

No.	A	Each
148	3"	\$0.50
149	6"	.60

## ANTENNA HANK



Cotton covered copper antenna hank.

No. 1222	\$35.00 Per C
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# SMITH

Electronic Components  
HERMAN H. SMITH, INC.

## STEEL MACHINE SCREWS Round Head, Cadmium Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1000	\$5.90	6-32 x 1/4"	1018	\$1.00
1001	6.30	6-32 x 3/8"	1019	1.10
1002	6.80	6-32 x 1/2"	1020	1.15
1006	7.60	8-32 x 1/4"	1024	1.25
1007	8.30	8-32 x 3/8"	1025	1.35
1008	8.80	8-32 x 1/2"	1026	1.40

## BRASS MACHINE SCREWS Round Head, Nickel Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1044	\$6.50	4-36 x 1/4"	1036	\$1.00
1045	8.10	4-36 x 3/8"	1037	1.05
1046	10.00	4-36 x 1/2"	1038	1.10
1047	6.50	4-40 x 1/4"	1039	1.00
1048	8.10	4-40 x 3/8"	1040	1.05
1049	10.00	4-40 x 1/2"	1041	1.10
1050	9.30	6-32 x 1/4"	1070	1.55
1051	10.90	6-32 x 3/8"	1071	1.80
1052	12.50	6-32 x 1/2"	1072	2.10
1056	13.70	8-32 x 1/4"	1076	2.30
1057	15.60	8-32 x 3/8"	1077	2.65
1058	17.60	8-32 x 1/2"	1078	2.95

## HEXAGON NUTS Brass, Nickel Plated

No.	Per M	Size	No.	Gross
1188	\$9.00	4-36 x 1/4"	1182	\$1.55
1168	9.00	4-40 x 1/4"	1169	1.55
1189	12.90	6-32 x 1/4"	1183	2.10
1190	12.90	6-32 x 3/8"	1184	2.10
1191	14.10	8-32 x 1/4"	1185	2.30
1192	14.10	8-32 x 3/8"	1186	2.30
1193	15.90	10-32 x 3/8"	1187	2.65

## Steel, Cadmium Plated

1179	\$7.10	6-32 x 1/4"	1176	\$1.10
1180	7.10	6-32 x 3/8"	1177	1.30
1181	7.90	8-32 x 3/8"	1178	1.30

## PARKER KALON SELF TAPPING SCREWS Round Head — Cadmium Plated

TYPE A Sharp Point			TYPE Z Blunt Point		
No.	Gross	Size	No.	Gross	Size
1801	\$1.45	4 x 1/2"	1807	\$1.45	4 x 1/2"
1802	1.35	6 x 1/4"	1808	1.35	6 x 1/4"
1803	1.40	6 x 3/8"	1809	1.40	6 x 3/8"
1804	1.45	6 x 1/2"	1810	1.45	6 x 1/2"
1805	1.55	8 x 3/8"	1811	1.55	8 x 3/8"
1806	1.65	8 x 1/2"	1812	1.65	8 x 1/2"

## SLOTTED HEX HEAD — CADMIUM PLATED Type Z — Blunt Point

No.	Size	Gross
1830	6 x 1/4"	\$1.35
1831	6 x 3/8"	1.40
1832	6 x 1/2"	1.45
1833	8 x 3/8"	1.55
1834	8 x 1/2"	1.65

## FLAT AND SHAKEPROOF WASHERS

No.	Per M	Type	No.	Gross
1149	\$4.80	No. 4 Brass N.P.	1153	\$0.70
1150	4.80	No. 6 Brass N.P.	1146	.70
1151	4.80	No. 8 Brass N.P.	1147	.70
1152	4.80	No. 10 Brass N.P.	1148	.70
1127	4.50	No. 4 Shakeproof Int. Teeth	1121	.65
1128	4.80	No. 6 Shakeproof Int. Teeth	1122	.75
1129	4.80	No. 8 Shakeproof Int. Teeth	1123	.75
1130	5.40	No. 10 Shakeproof Int. Teeth	1124	.80
1132	7.20	1/4" Shakeproof Int. Teeth	1126	1.10
1131	9.00	3/8" Shakeproof Int. Teeth	1125	1.45
1139	4.50	No. 4 Shakeproof Ext. Teeth	1133	.65
1140	4.80	No. 6 Shakeproof Ext. Teeth	1134	.75
1141	4.80	No. 8 Shakeproof Ext. Teeth	1135	.75
1142	5.40	No. 10 Shakeproof Ext. Teeth	1136	.80
1144	7.20	1/4" Shakeproof Ext. Teeth	1138	1.10
1143	9.00	3/8" Shakeproof Ext. Teeth	1137	1.45

## FANCY HEAD BRONZE FINISH SCREWS

No.	Size	Per M
1160	6-32 x 3/4"	\$10.70
1161	6-32 x 1"	11.40
1162	6-32 x 1 1/4"	12.50



## KEY KITS

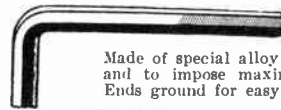
Attractive tear proof Vinyl plastic kit with individual pocket for each of six keys in kit. Hex kit for screws from 3 to 1/2"; Spline kit for screws for No. 5 to 3/8"; combination kit for Nos. 6, 8 and 10 hex and spline screws.

No.	Description	Per C
355	Hex Key Kit	\$85.00
385	Spline Key Kit	85.00
390	Combination Key Kit	85.00
395	Combination Key Kit	180.00



## DISPLAY CARDS

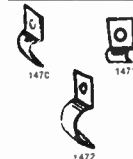
No.	Description	Each
785	Display of 24 Hex Kits	\$20.40
784	Display of 24 Spline Kits	20.40
787	Display of 24 Combination Kits	20.40
790	Display of 20 Combination Kits	36.00



## HEX AND SPLINE KEYS

Made of special alloy steel, tempered to avoid brittleness and to impose maximum resistance to torsional strain. Ends ground for easy insertion.

HEX KEYS			SPLINE KEYS		
No.	Screw Size	Per C	No.	Screw Size	Per C
340	No. 2	\$11.00	370	No. 4	\$11.00
341	No. 3, 4	11.00	371	No. 5	11.00
342	No. 5, 6	11.00	372	No. 6	11.00
343	No. 8	11.00	373	No. 8	11.00
344	No. 10	13.20	374	No. 10	13.20
345	1/4"	13.20	375	1/4"	13.20
346	3/8"	13.20	376	3/8"	13.20



## CABLE CLAMPS

1470—Steel, Cadmium plated, No. 8 hole, 1 3/4", w. 3/8". Fits 1/4" cable. \$1.50  
1471—Steel, Cadmium plated, No. 8 hole, 1 5/8", w. 3/8". Fits 1/4-1/2" cable 1.50  
1472—Steel, Cadmium plated, No. 8 hole, 1 1", w. 3/8". Fits over 1/2" cable 1.80

## BRASS AND STEEL ANGLES

No.	Material	Size	Per C
1474	Brass N.P.	1/2" x 1/2"	\$2.80
1475	Brass N.P.	5/8" x 5/8"	5.50
1476	Steel H.T.	3/4" x 3/4"	2.20
1477	Steel H.T.	5/8" x 1 1/8"	2.20



## EYELET TYPE SOLDER LUGS

Made of brass. Nos. 1480, 1481 and 1482 are hot tinned and No. 1483 cadmium plated. Specially recommended for mounting on terminal strips.

No.	Length	Hole	Per M
1480	5/8"	3/4" slot	\$ 4.50
1481	5/8"	No. 8	10.00
1482	1 1/4"	No. 8	7.50
1483	1 1/8"	No. 8	7.50

## BINDING HEAD SCREWS Steel Nickel Plated

No.	Per M	Size	No.	Gross
1425	\$5.90	6-32 x 1/4"	1450	\$1.00
1426	6.30	6-32 x 3/8"	1451	1.10
1427	6.80	6-32 x 1/2"	1452	1.15
1428	7.60	8-32 x 1/4"	1453	1.25
1429	8.30	8-32 x 3/8"	1454	1.35
1430	8.80	8-32 x 1/2"	1455	1.40



## RACK SCREWS Oval Head, Steel, Nickel Plated

Specially recommended for mounting panels in racks and cabinets. Available in gross packages or packed 1000 to the box.

No.	Per M	Size	No.	Gross
1111	9.20	10-32 x 1/2"	1099	\$1.55
1112	10.40	10-32 x 3/4"	1100	1.60



## COUNTERSUNK WASHERS Brass, Nickel Plated

Recommended for use with Rack Screws designated above.

No.	Per M	Size	No.	Gross
1115	\$6.80	6	1118	\$1.05
1116	7.20	8	1119	1.10
1117	7.20	10	1120	1.10

# SMITH

*Electronic Components*  
HERMAN H. SMITH, INC

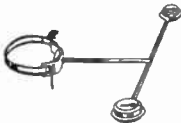
## STRAP TYPE STANDOFF



Supplied with Universal Polyethylene Insert for masts up to 2 3/4" in diameter. Heavily plated to prevent rust.

No.	Size	Per C
1603	3 1/2"	\$19.00
1607	7 1/2"	25.00

## "T" TYPE DUAL STANDOFF



No.	Size	Per C
1633	3 1/2"	\$35.00
1677	7 1/2"	40.00

## SCREW EYE STANDOFF



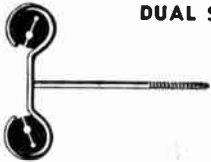
No.	Size	Thread	Per C
1265	3 1/2"	Wood Screw	\$ 6.25
1280	7 1/2"	Wood Screw	9.00
1276	3 1/2"	Machine Screw	8.00
1290	7 1/2"	Machine Screw	11.00

## DRIVE-IN STANDOFF



No.	Per C
1371	\$7.00

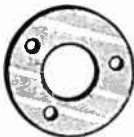
## DUAL STANDOFF



No.	Size	Thread	Per C
1320	3 1/2"	Wood Screw	\$24.00
1325	7 1/2"	Wood Screw	29.00
1340	3 1/2"	Machine Screw	24.00
1345	7 1/2"	Machine Screw	29.00

## "FLOATING" GUY RING

Made of heavy gauge galvanized steel. Free floating, permitting placement at any point on the mast by use of a clamp underneath.



No.	Size	Per C
1390	1" I.D.	\$20.00
1391	1 1/4" I.D.	20.00
1392	1 3/8" I.D.	20.00
1393	1 1/2" I.D.	20.00

## MIDGET TURNBUCKLES



No.	Diameter of Bolt	Overall Length Closed	Overall Length Extended	Per C
1215	3/8"	3 3/8"	4 5/8"	\$23.00
1216	1/2"	4"	5 5/8"	25.00
1217	3/4"	4 1/2"	6 3/8"	27.50
1218	1"	5 1/2"	7 5/8"	33.00
1219	1 1/8"	6 3/8"	9 1/4"	55.00
1220	1 1/4"	7 1/2"	10 1/2"	85.00

## AIRPLANE INSULATOR



White glazed low absorption porcelain insulator 2" long.  
No. 1283 .....\$13.00 Per C

## ANODE EXTENSION CORD



Standard Anode connector with 30" of wire. Female end takes standard anode cap so that cathode tube does not have to be removed from cabinet on some sets when chassis is being serviced.

No. 1382 .....\$1.50 each

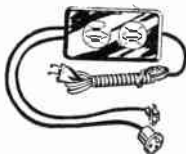
## CATHODE RAY TUBE EXTENSION CORD



Female end fits Cathode Ray Tube. Male end fits wiring in chassis to tube. 40" long. Eliminates interference of tube with short wiring while servicing set. A serviceman's must.

No.	Each
1285—Complete cord	\$2.00
1286—Socket only	.30

## UNIVERSAL TV CHEATER CORD



Cheater cord for all types of TV sets, with dual receptacle for soldering iron.

No.	Each
1224	\$2.25

## TELEVISION SOCKET Half Moon Type



Bakelite molded socket. 5 contacts wired with 5 leads, 18" long #20 wire. Wired from emergence.

No.	Each
1295	\$1.00

## SECOND ANODE CONNECTOR



For television tubes. Silver plated snap button plug insulated by 1 1/2" diameter rubber cap. Snaps into opening on side of tube. Supplied with 15" or 23" long wire lead.

No.	Lead	Each
1380	15"	\$0.65
1381	23"	.75

## SECOND ANODE CONNECTOR



For Diheptal tubes. Cadmium plated contacts with rubber insulator 3/4" wide by 1 1/8" long. Snaps over prong on side of diheptal tubes.

No. 1375 .....\$0.60 Each

## SPRING GRID CLIP



Small and large type grid clip used to replace clips that have lost their tension due to heat causing poor contact. Available in bulk of 24 \$8.45 list envelopes on attractive display card.

No.	Tube Type	Per C	Disp.	Each
1288	1X2-6HQ6	\$8.00	1288D	\$10.80
1289	1B3-6RG6	8.00	1289D	10.80

## TV SAFETY CORD



Servicemen's "Cheater Cord." This cord is used on some Philco, Zenith, Emerson, Sylvania, and other make sets. Standard A.C. plug on one end which disconnects power when back of receiver is removed. Cord is brown, 6 feet long and hanked. Underwriters' approved.

No. 1221 .....\$1.25 Each

## TV SAFETY CORD



Servicemen's "Cheater" Cord. Standard A.C. plug on one end and safety plug on other end which disconnects power when back of receiver is removed. Cord is brown, 6 ft. long and hanked. Underwriters approved.

No. 1209 .....\$0.75 Each

## INTERLOCK PLUG



Male plug which is mate for TV Safety Cord as described above. Brass nickel plated prongs.

No. 1208 .....\$0.20 Each

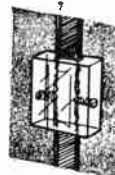
## MIDGET KNIFE SWITCHES



Midget knife switches ideal for use in rear of television receiver where two antennas are used. Screw terminals placed for easy connection and two holes in each type base for mounting.

No.	Type	Type Base	Each
1241	SPST	Porcelain	\$0.45
1242	SPDT	Bakelite	.55
1243	DPST	Porcelain	.77
1244	DPDT	Bakelite	.88
1245	DPDT	Porcelain	.88

## 300 OHM SPLICE



A handy connector for splicing 300 ohm line. Will not cause mismatch. Easy to use and makes a secure connection. By using dope to seal ends can be used outdoors.

No. 1225 .....\$25.00 Per C

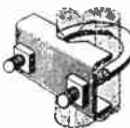
## EYE BOLT



Sturdy steel eye bolt for use where guy wire is necessary for T.V. mast installation. Inside diameter 3/8", shank length 1 3/8", thread length 1 1/8", overall length 2 1/2".

No. 1249 .....\$7.00 per C

## MAST JOINER



"U" Bolt mast coupler. 4" galvanized "U" bolt with galvanized steel bracket. Bracket "cradles" mast with sufficient "bite" for secure coupling. Accommodates up to two 1 1/2" masts.

No. 1360 .....\$0.30 ea.

## "U" BOLT



4" galvanized steel "U" bolt supplied complete with two nuts and two lock washers. Threaded portion enables securing together two masts from 1" to 1 1/2" O.D.

No. 1361 .....\$12.00 Per C



SINCE  
1921



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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## U. S. ARMY-NAVY SPECIFICATION PLUGS



DESIGNED TO MEET THE LATEST JAN SPECIFICATION P-642. High compression-molded insulation for high di-electric and tensile strengths. Features durability with low moisture absorption characteristics.

No. PJ-055B..... Dealer Cost \$ .90

No. PJ-054..... Dealer Cost .90

No. PJ-068—3 Conductor Microphone Plug..... Dealer Cost \$2.36

### STRAIN RELIEF CLAMP



For firm attachment of cables to PJ0 and PL type plugs. Approved by government services. No. 5695..... Dealer Cost \$2.00C

### ICA BAKELITE DOUBLE PHONE PLUG

Molded bakelite ribbed barrel. Takes 2 cord tips. Fits all jacks.



Dealer Cost

No. 24B—Black..... \$ .34

Display Card of 24 above

D-70024B..... 8.16  
24R—Red..... .34

Display Card of 24 above

D-70024R..... 8.16  
34B—Black barrel only..... 13.36C  
34R—Red barrel only..... 13.36C  
34P—Plug only..... .27

### ICA MIDGET PHONE PLUG

Overall length—2 1/4". Diameter of barrel 1/8".



No. Dealer Cost  
29B—Black..... \$ .34

Display Card of 24 above

D-70029B..... 8.16  
29R—Red..... .34

Display Card of 24 above

D-70029R..... 8.16

### ICA STUBBY SHIELDED PHONE PLUG



Barrel measures 1 1/8" diameter x 1" long.

No. 27..... Dir. Cost \$ .49  
No. 37—Barrel only..... Dir. Cost .32

### ICA MIDGET SHIELDED PHONE PLUG

Diameter of Barrel 3/8". Overall size of Plug 2 1/4".



No. 30..... Dealer Cost \$ .48

### ICA 3-WIRE MICROPHONE PLUG



Has solder connections for cable or microphone use. Barrel molded of bakelite; brass parts, nickel plated.

No. 1901..... Dealer Cost \$ .83

### ICA SHIELDED DOUBLE PHONE PLUG

Nickel Barrel—Brass Shell Nickel Plated



Supplied with fibre insulating tube.

No. 25..... Dealer Cost \$ .60

### ICA SHIELDED 3-WIRE MICROPHONE PLUG



Shielded Nickel Barrel

No. 1900..... Dealer Cost \$1.10

### PHONE PLUG ADAPTER



Soldering or wiring not necessary.

No. 33..... Dealer Cost \$ .30

### ICA INSULATED SOLDERLESS SPLIT BANANA PLUGS



Set screw provided at side of barrel to fasten screw without soldering.

1 1/2" Long

No. 883B—Black..... Dir. Cost \$15.00C  
No. 883R—Red..... Dir. Cost 15.00C

Display Card of 20 each above

No. D-70883B-R..... Dir. Cost \$6.00

2 1/2" Long

With sleeve covering set screws.

No. 882B—Black..... Dir. Cost \$ .27  
No. 882R—Red..... Dir. Cost .27

4" Long

With sleeve covering set screws.

No. 881B—Black..... Dir. Cost \$ .34  
No. 881R—Red..... Dir. Cost .34

Display Card of 8 each above

No. D-70881B-R..... Dir. Cost \$5.44

### ICA INSULATED SOLDERLESS SPLIT BANANA PLUGS With Solderless Wire Nut

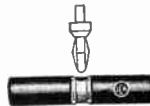


No. 434B—Black..... Dir. Cost \$18.00C  
No. 434R—Red..... Dir. Cost 18.00C

### WIRE CONNECTOR WITH BANANA PLUG RECEPTACLE

Ideal for quick splicing for testing point.

No. 1933..... Dir. Cost \$ .25



### ICA SPLIT BANANA PLUGS



For positive and durable spring action. Allows spring to fit into jack, cannot bend out of shape — Complete with two nuts.

No. 403..... Dealer Cost \$11.66C

### BERYLLIUM BANANA PLUGS

Approved by the Signal Corps and other government agencies. These plugs are used in all government equipment. Made of nickel-plated Beryllium copper and guaranteed for its spring and durability.



No. 419 — Overall size 1 1/8" long. Shank length 1/2" long. Shank diam. 1/8". Dealer Cost \$13.35C



No. 421 — Overall size 1 3/8" long. Threaded shank length 1/2" long threaded for 6/32 nuts.

Dealer Cost..... \$21.00C

### SILVER-PLATED BANANA PLUGS

No. 424 — SILVER-PLATED Beryllium Copper Banana Plug. Overall length 1 1/2". Shank length 3/4", threaded for 8/32 nuts.

Dealer Cost..... \$25.00C

### INSULATED MIDGET PHONE TIP PLUG

Fits all standard jacks. Tip is threaded. Overall length 1 1/4".



No. Dealer Cost  
876R—Red..... \$12.00C  
876B—Black..... 12.00C

### MIDGET SHARP POINT PHONE TIP THREADED—NOT INSULATED



Threaded to fit all test prods. No. 365..... Dir. Cost \$10.00C

### ICA GRIP-RITE MOLDED PHONE TIP PLUG



Replacement for ICA and Weston — as well as other make Test Leads.

No. Dir. Cost  
868—Red..... \$ .34  
869—Black..... .34

Display Card of 12 each above

No. 70868-9 Dealer Cost \$8.16

### ICA PHONO NEEDLE CHUCKS

Push on type can be forced into handles — Threaded type can be screwed into handles. Machined of brass, nickel plated with needle point.



No. Dir. Cost  
508—Push-on Type, Overall size 1". \$12.00C  
509—Threaded Type, Overall size 1". 15.00C

### STANDARD PHONE TIPS

Overall Length 1"



No. 360 Dealer Cost..... \$16.67M

### HEAVY DUTY PHONE TIPS



Overall Length 1 1/8". Dir. Cost  
No. 361..... \$7.80C

SINCE  
1921



# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## ICA INSULATED SOLDERLESS PLUG



2" long — fits all standard phone tip jacks.

No. 885B—Black Dealer Cost \$13.80C  
No. 885R—Red Dealer Cost 13.80C

## ICA SR. SOLDERLESS PLUGS



1 1/2" over-all length.

No. 358  
Dealer Cost.....\$9.58C

## ICA JR. SOLDERLESS PLUGS—No. 359

1 1/2" over-all length.  
Tip 1/2".



Dealer Cost.....\$9.58C

## ICA INSULATED NEEDLE POINT TIP PLUG

No. 886B—Black  
Dir. Cost.....\$14.16C  
No. 886R—Red  
Dir. Cost.....\$14.16C



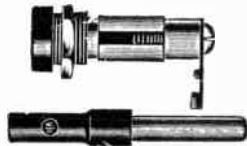
## PHONE TIP WITH INSULATING JACKET

Nickel Plated brass  
with small O.D. insulating sleeve.



No. 341B—Black Dealer Cost \$10.00C  
No. 341R—Red Dealer Cost 10.00C

## TRANSMITTING PLUGS AND JACKS



A new line of heavy duty transmitting plugs and jacks. Plug-in type with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. currents. Supplied with large hex nuts for panel mounting.

Handle 1,000 Volts at 10 Amps

No.	Dealer Cost
450—Medium Plug—RED	.....\$ .42
451—Medium Plug—BLACK	.....\$ .42
452—Medium Jack—RED	.....\$ .80
453—Medium Jack—BLACK	.....\$ .80
454—Giant Plug—RED	.....\$ .63
455—Giant Plug—BLACK	.....\$ .63
456—Giant Jack—RED	.....\$ .88
457—Giant Jack—BLACK	.....\$ .88

## ICA PLUGS AND JACKS



Used on RCA recording units, receivers and auto sets.

No. Dealer Cost  
2383—Pin Plug .....\$5.00C  
2385—Socket and Shield..... 7.00C



2378



2375

No. Dealer Cost  
2375—Motorola Pin Plug..... \$ 8.33C  
2378—Motorola Shielded Jack..... 13.33C

## ICA DELUXE PHONE JACKS

Greater Efficiency

New design. Tension fatigue minimized. Spring members made of phosphor bronze. Hooked type soldering lugs — Cannot turn or short. For standard 1/4" plug.



No. Dealer Cost  
1920—Single Open Circuit.....\$ .50  
1921—Single Closed Circuit..... .58  
1922—Three-Way Microphone Jack..... .75



## ICA PHONE JACKS

Smaller type precision made jacks for limited space. Complete with nut and metal washer.

No. Dealer Cost  
1870—Single Open Circuit.....\$ .34  
1871—Single Closed Circuit..... .37  
1872—3-Way Microphone Jack..... .42

## ICA PANEL MOUNTING JACKS



Small and compact. Insulated shoulder washers. Phosphor-bronze, nickel-plated springs.

No. Dealer Cost  
325—Single Open Circuit.....\$ .34  
1905—3-Way Microphone Jack..... .75

## ICA SHIELDED 3-WAY PORTABLE MICROPHONE JACK



For all types of microphones. Sturdily constructed of brass parts with phosphor bronze springs. Nickel plated and thoroughly insulated.  
No. 1904..... Dealer Cost \$1.00

## ICA SHIELDED PORTABLE JACK

Single Open Circuit



No. 1913—2 1/8" Long, 1/8" Diameter...\$ .84  
Dealer Cost

## ICA BAKELITE PORTABLE JACKS



Single Open Circuit

No. Dealer Cost  
1911—Overall Size 1 1/2"; Diam. 3/8"....\$ .50

Display Card of 16 above

No. D-71911..... Dealer Cost \$8.00  
No. 1903—Portable Jack, black Bakelite barrel..... Dealer Cost \$ .75

## ICA INSULATED TIP JACKS



With receptacle for standard phone tips.

No. Dealer Cost  
889B—Black .....\$12.00C  
889R—Red ..... 12.00C

## INSULATED BANANA JACKS



With receptacle for banana plugs.

No. Dealer Cost  
888B—Black .....\$12.00C  
888R—Red ..... 12.00C

## ICA BAKELITE INSULATED TIP JACKS

Molded Bakelite Head  
No. Dealer Cost  
1889—Black .....\$15.00C

Display Card of 40 above

D-71889 .....\$6.00  
1890—Red .....\$15.00C  
Display Card of 40 above  
D-71890 .....\$6.00



## INSULATED TIP JACKS



Bakelite. Spring contact of heat treated beryllium copper.

No. Dealer Cost  
1897—Black .....\$ .36  
1898—Red ..... .36

## HIGH VOLTAGE TIP JACK

Nylon insulation can withstand 10,000 v. breakdown. Low leakage resistance; very low moisture absorption. One piece spring contact loop of phosphor bronze. Offers stability in sensitive test equipment. Takes all standard phone tips and test prods. Molded washer affords added protection against "shorts."  
No. 1899..... Dealer Cost \$ .45



## ICA BRASS TIP JACKS

Nickel Plated

No. 357

Dealer Cost.....\$9.00C



## BAKELITE BANANA TYPE JACKS

No. Dealer Cost  
1891—Black .....\$15.00C

Display Card of 40 above

D-71891 .....\$6.00  
1892—Red .....\$15.00C

Display Card of 40 above

D-71892 .....\$6.00



## ICA TRANSMITTING BANANA JACKS

Nickel Plated Brass

No. 402..... Dealer Cost \$9.00C



## ICA COMBINATION BANANA PLUG OR PHONE TIP JACK

Made to take banana plug or standard phone tips interchangeably. Insulated cap in black and red — With washers and nuts.

No. Dealer Cost  
528R—Red .....\$15.00C  
528B—Black .....\$15.00C



## MICROPHONE CONNECTORS

No. 1929—For use on chassis unit or in microphone. Single Contact.  
Dealer Cost \$18.00C

No. 1930—Closed circuit connector. With spring actuated contact.  
Dealer Cost .27



## MICROPHONE CONNECTORS

NEW Universal shielded cable single contact microphone connector. Newly designed non-fixed coupling ring permits easy cable connection. Male-female connector in one. Eliminates necessity for mating connectors.

No. 1931..... Dealer Cost \$ .30



## MICROPHONE CONNECTORS

Shielded cable type. Single contact male microphone connector. Chrome-plated brass.  
No. 1932..... Dealer Cost \$24.00C

SINCE  
1921



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## ICA INSULATED BINDING POSTS WITH JACK FOR BANANA TYPE PLUG



Length 1 1/4" overall when top is up. Extends 5/8" above panel when top is screwed down. Fitted with 8/32 screw 3/8" long, and two hex nuts.

No. Dealer Cost  
622—Red ..... \$24.00  
623—Black ..... 24.00

Display Card of 16 each above  
D-70622-3.....Dealer Cost \$7.68

## ICA ALL METAL BINDING POST

Designed for high amperage use and where low resistance connections are necessary on test equipment, etc. Nickel plated brass. Dimensions same as No. 617 below.



No. Dealer Cost  
620 ..... \$21.00

## ICA BAKELITE BINDING POSTS

3/8" Diameter Head with Brass Threaded insert. Nickel Plated Screw; Knurled nut.



No. Dealer Cost  
617—Red ..... \$15.00  
618—Black ..... 15.00

## ICA VISE-GRIP BINDING POST



Engineered on principle of a vise. Can cause no damage to even finest wire strands. Wire hole and designating symbol always in alignment. Two styles.

No. 630 Series—Has 8/32 Male Threaded Shank..... Dealer Cost \$ .34  
No. 690 Series—Has 8/32 Female Thread..... Dealer Cost \$ .40

No.	Marking	No.	Marking
630	ANT	690	ANT
631	GND	691	GND
632	A	692	A
633	G	693	G
634	+	694	+
635	—	695	—
636	Rec.	696	Rec.
637	PLAIN (No Marking)	697	PLAIN (No Marking)



## BAKELITE BINDING POST HEADS

Bakelite Heads only with Brass Threaded Insert for 8/32 Screw.



No. 628—Red..... Dealer Cost \$10.00  
No. 629—Black..... Dealer Cost 10.00

## ICA ALLIGATOR CLIPS

Good firm grip. Ideal for work in tight places. Overall length 2".



No. 364..... Dealer Cost \$6.66  
Display Card of 40 above  
No. D-70364..... Dealer Cost \$2.67

## ICA ALLIGATOR CLIP WITH SCREW CONNECTION



Good firm bite. Convenient screw connection eliminates the necessity for soldering. Overall length 2".

No. 376..... Dealer Cost \$8.35

## ICA INSULATED ALLIGATOR CLIPS



No. 884B—Black..... Dealer Cost \$15.00  
No. 884R—Red..... Dealer Cost 15.00

Display Card of 20 each above  
No. D-70884B-R..... Dealer Cost \$6.00

## ICA INSULATED ALLIGATOR CLIP WITH PHONE TIP JACK



Has standard phone tip jack in insulated sleeve. Will accommodate phone tip or solderless plug tips.

No. 525R—Red..... Dealer Cost \$ .37  
No. 525B—Black..... Dealer Cost .37

Display Card of 12 each above  
D-70525R-B ..... 8.88

## ICA INSULATED COMBINATION JACK ALLIGATOR CLIP



An insulated alligator clip with a dual purpose Jack in catalin sleeve. Equipped with the new combination Jack which takes either solderless phone tip or Banana plug. Overall length—3 1/4".

No. 520R—Red..... Dealer Cost \$ .42  
No. 520B—Black..... Dealer Cost .42

## INSULATED SPADE LUG

Insulated Spade Lug with banana plug receptacle on lead end.



No. 887B—Black..... Dealer Cost \$10.85  
No. 887R—Red..... Dealer Cost 10.85



## ICA SPADE LUG

Can be used on any size screw or terminal up to size 10. Receptacle fits all I.C.A. and other make Banana Plugs.

No. 879 ..... Dealer Cost \$3.35



## HEAVY DUTY INSULATED SPADE LUGS

Heavy gauge nickel-plated brass spade lug which will fit on screws or binding posts up to 3/8" in diameter. Supplied with tenite sleeve—red or black—unassembled for forced fit after wiring.

No. 867R—Red..... Dealer Cost \$ .21  
No. 867B—Black..... Dealer Cost .21

## ICA SHEARING PUNCHES

Now! No Hammering Necessary to Punch Chassis Holes  
Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.



No.	Size of Hole	Dealer Cost
723	5/8"	\$2.75
725	3/4"	2.75
724	1"	3.17
727	1 1/8"	3.33
726	1 3/8"	3.33
728	1 5/8"	3.33
729	1 7/8"	3.33
730	2"	3.67

## ICA SQUARE HOLE SHEARING PUNCH

This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.



No. 790..... Dealer Cost \$13.35

## ICA IMPROVED ALL-PURPOSE CIRCLE CUTTER

Will Cut Holes from 1/2 to 8 Inches  
Cutting bar holder is 7/8" in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is 3/8" square and is arranged to hold a 3/8" high speed cutting bit.



No. 775..... Dealer Cost \$3.97

## ICA UNIVERSAL MULTI-PURPOSE CUTTING TOOL

This handy tool can be used for counter-sinking, beading, drilling or cutting holes. Equipped with 3/8" drill for holes from 3/8" diameter up to 3" diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.



No. 780..... Dealer Cost \$3.08

## REPLACEMENT DRILLS AND CUTTERS

Used as replacement on ICA No. 775 and No. 780 circle cutters as well as on other make cutters.

No. 776—Replacement drill for No. 775 Circle Cutter  
Dealer Cost \$ .50

No. 777—Replacement cutter for No. 775 Circle Cutter  
Dealer Cost \$ .67

No. 781—Replacement drill for No. 780 Circle Cutter  
Dealer Cost \$ .50

No. 782—Replacement cutter for No. 780 Circle Cutter  
Dealer Cost \$ .67



SINCE  
1921



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## TOP QUALITY SOLDERING IRONS AND ACCESSORIES



ICA Soldering Irons represent the finest in durable material and precision fabrication . . . submitted to rigid tests for maximum performance.

- Fully insulated, removing slightest possibility of grounding
- Heats to operating temperature in three minutes
- Special air chamber reduces heat losses, assuring cool grip
- Plunger type soldering tip offers proper operating heat at soldering point

### 60 WATT IRON

No. 1960-A—105-120 Volts...Dir. Cost \$3.33  
No. 1963—220 Volts .....Dir. Cost 3.33

### 85 WATT IRON

No. 1962-A—105-120 Volts...Dir. Cost \$4.33  
No. 1964—220 Volts .....Dir. Cost 4.33

### 115 WATT IRON

No. 1961-A—105-120 Volts...Dir. Cost \$5.00  
No. 1965—220 Volts .....Dir. Cost 5.00

### REPLACEMENT ELEMENTS FOR ICA SOLDERING IRONS



Because of the practical design of ICA Soldering Irons, burnt out elements may be easily replaced.

105-120 Volts		220 Volts	
No.	Watts Dir. Cost	No.	Watts Dir. Cost
1985	60 \$2.00	1990	60 \$2.00
1986	85 2.33	1991	85 2.33
1987	115 2.33	1992	115 2.33

### REPLACEMENT TIPS

For ICA Soldering Irons



Available in All Sizes

Made of a special copper alloy. Electrolytically pure. For replacement in ICA Soldering Irons. Can also be used in American Beauty and irons of similar construction.

No.	Watts	Tips	Dia.	Length	Dealer Cost
1970	60	Flat	3/8"	3"	\$.42
1972	85	Point	3/8"	3 1/2"	.58
1971	115	Point	1/4"	3 1/2"	.67

### ICA RIVET AND EYELET PUNCH SET



A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexagonal sides, thus permitting the tool to be placed in a vise without slipping.

No. 785—Complete with ample assortment of eyelets and rivets.

Dealer Cost \$3.33

### RIVET AND EYELET ASSORTMENT

Additional eyelets and rivets can be purchased separately.

No. 5265--(Assmt. of 100)....Dir. Cost \$5.57

### RIVET & EYELET SETTING TOOL



No. 786 ..... Dealer Cost \$6.64

### TUBE EXTRACTOR



For removing all makes and sizes of tubes. Molded rubber cushion over claws offers full tube protection. Sturdy zinc-plated steel; "Iridited."

No. 1001 ..... Dealer Cost \$1.35

Display Card of 3 above

No. D-71001 ..... Dealer Cost \$4.05

### ICA "TURN-TITE" SOCKET WRENCHES

#### HOLLOW SHAFTS



Made of hardened steel, cadmium plated, with sturdy Black japanned wooden handles.

6 Inches Long			9 Inches Long		
No.	Dir. Cost		No.	Dir. Cost	
898—3/8"	\$.45		900—3/8"	\$.53	
890—1/4"	.45		894—1/4"	.53	
891—5/16"	.45		895—5/16"	.53	
892—3/8"	.45		896—3/8"	.53	
893—1/2"	.45		897—1/2"	.53	
899—1/2"	.45		901—1/2"	.53	
910—Set of 6			911—Set of 6		

Wrenches \$2.70

Wrenches \$3.18

#### ICA UNBREAKABLE "TURN-TITE" SOCKET WRENCHES



7" long. Handle is of ribbed shockproof unbreakable material.

No.	Socket	Dir. Cost	No.	Socket	Dir. Cost
940	3/8"	\$.75	944	3/8"	\$.75
941	1/2"	.75	945	1/2"	.75
942	5/8"	.75	946	5/8"	.75
943	1 1/8"	.75	949 Set of 7 wrenches as above		5.25

#### ICA UNBREAKABLE VOLUME CONTROL WRENCH



Socket is 3/8" diameter.

No. 937 ..... Dealer Cost \$1.38

### ICA FLEXIBLE SOCKET WRENCH



Especially designed for hard-to-reach spots. Can actually be used around corners or under obstructing objects.

No. 913—1/4" Hex ..... Dealer Cost \$1.00

Display Card of 6 above

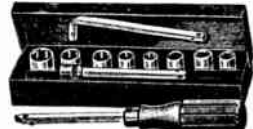
No. D-70913 ..... Dealer Cost \$6.00

No. 914—3/8" Hex ..... Dealer Cost \$1.00

Display Card of 6 above

No. D-70914 ..... Dealer Cost \$6.00

### ICA LOCK SOCKET WRENCH AND SCREW DRIVER SET



The all-purpose socket wrench, packed in neat, enameled steel case. Includes sturdy 6 1/2" Wood Grip Screw Driver—4" L Handle—3 3/4" Extension Adaptor, 1/4", 1/8", 3/8", 1/2" and 5/8" Hex—3/8" Round Knurled Socket—1/4" and 1/8" Square Sockets.

No. 999 ..... Dealer Cost \$2.35

### ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER



Particularly shaped to fit into set screws of knobs. No. 1013 has convenient pocket clip.

1013—4 1/2" length ..... \$16.67C

D-71013 ..... 3.96

1017—7" length ..... 21.68C

D-71017 ..... 3.46

### ICA FLEXIBLE SCREW DRIVER

For the Hard to Reach Spots



Allows access to screws in hard to reach and out of the way places. Can go under objects or around corners.

No. 935 ..... Dealer Cost \$1.35

Display Card of 6 above

No. D-70935 ..... Dealer Cost \$8.10

### ICA COMPLETE NEUTRALIZING TOOL KIT



The kit consists of one of each of the following ICA tools, described herein:—Nos. 382, 1008, 987, 1015, 977, 996, 992, 985, 990, 1024, 1019, 1026, 1022, 1002, 1013, 1028, 1039, 1029, 1033, 935, 937.

No. 995—Kit, Complete with Carrying Case Dealer Cost \$14.50

### ICA UTILITY NEUTRALIZING AND ALIGNING TOOL KIT



A handy Service Man's Kit containing carefully selected tools suitable for varied uses. Packed in vest pocket leatherette case.

No. 997 ..... Dealer Cost \$2.17

### ICA NEUTRALIZING AND ALIGNING TOOL KIT

The Kit consists of twelve separate and distinct parts, some of which can be employed for several operations. These units telescope into each other, forming four separate tools when assembled.

No. 998 ..... Dealer Cost \$4.58

Complete with Carrying Case



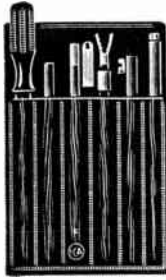
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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## ICA DE LUXE NEUTRALIZING AND ALIGNING TOOL KIT



For Every Service Need

Consists of 14 tools, most of which telescope into one another, forming six assembled units in attractive leatherette pocket case.

Includes the following: No. 1039 Screw Driver (double blade); No. 1026 Balancing Tool (2 tools: Screw Driver and Side Wrench); No. 1024 Fork Type Wrench and Screw Driver; No. 1022 5-in-1 neutralizing tool (thin metal nib Screw Driver— $\frac{1}{8}$ " hex slotted wrench— $\frac{1}{8}$ " hex wrench—Steel Screw Driver Nib—Steel Socket Head Wrench  $\frac{3}{16}$ "); No. 996 Neutralizing Tool; No. 977 Aligning Tool; No. 935 Flexible Screw Driver; Fibre Wrench,  $\frac{1}{8}$ " hex. No. 994. Dealer Cost \$5.50

## ICA NEUTRALIZING AND ALIGNMENT TOOL KIT — SIGNAL CORPS No. TE45-A



ICA Catalog No. 993 This versatile kit, designed for and used by the Signal Corps, is also strongly recommended for general service use. Compact, and contained in a handsome leatherette case, this kit consists of the following:

- |   |  |
|---|--|
| 1—No. 935 Screw Driver                    | 1—Bone Fibre No. 1015 Neutralizing Tool    |
| 1— $4\frac{1}{4}$ " Screw Driver No. 1013 | 2—No. 980—Hex Tools, $\frac{1}{4}$ " I.D.  |
| 1—Insulated Screw Driver No. 1028         | 2—No. 981—Hex Tools, $\frac{3}{16}$ " I.D. |
| No. 993                                   | Dealer Cost \$4.90                         |

## ICA DIAL CABLE ADJUSTER



Handy aid to replacing slipped-off dial cable over drive drum. Permits easy manipulation in cramped places.

- |                          |                    |
|--------------------------|--------------------|
| No. 437                  | Dealer Cost \$ .55 |
| Display Card of 12 above |                    |
| No. D-70437              | Dealer Cost \$6.60 |

## ICA 4-in-1 NEUTRALIZING TOOLS,

### SCREW DRIVER AND WRENCH

Made of Fenoline Fully Insulated



- |                          |                    |
|--------------------------|--------------------|
| No. 1019—Complete        | Dealer Cost \$ .60 |
| Display Card of 12 above |                    |
| No. D-71019              | Dealer Cost \$7.20 |

## ICA 5-IN-1 NEUTRALIZING AND COMPENSATING TOOL

Same features as the 4-in-1 tool described above with an additional all metal screw driver.



- |                          |                     |
|--------------------------|---------------------|
| No. 1022                 | Dealer Cost \$1.00  |
| Display Card of 12 above |                     |
| No. D-71022              | Dealer Cost \$12.00 |

## ICA BALANCING TOOL



- |                                       |                    |
|---------------------------------------|--------------------|
| Fits into No. 1019 Neutralizing Tool. |                    |
| No. 1026                              | Dealer Cost \$ .37 |

## ICA ALL PURPOSE ALIGNING TOOL



Handle is of  $\frac{3}{8}$ " Fenoline. End has Socket Screw Driver for neutralizing all iron core tuning systems.

- |                          |                    |
|--------------------------|--------------------|
| No. 1002                 | Dealer Cost \$ .55 |
| Display Card of 16 above |                    |
| No. D-71002              | Dealer Cost \$8.80 |

## ICA ALIGNMENT WRENCH

For RCA, Philco, etc.



Used on all makes Air Trimmer. Made of  $\frac{1}{2}$ " Fenoline Rod— $8\frac{1}{2}$ " long—one end has hollow shaft hexagon wrench—other end has an especially shaped hook.

- |          |                    |
|----------|--------------------|
| No. 1008 | Dealer Cost \$1.08 |
|----------|--------------------|

## INSULATED NEUTRALIZING WRENCHES



Hexed—Full Length

For Philco, Majestic and Other Receivers  $\frac{3}{8}$ " Diameter

- |  |                      |
|--|----------------------|
| No. 985—6" long; Hex $\frac{1}{4}$ "                   | Dealer Cost \$21.68C |
| 986—8" long; Hex $\frac{1}{4}$ "                       | .24                  |
| 980—5" long; Hex $\frac{1}{4}$ "                       | 20.00C               |
| 981—5" long— $\frac{1}{8}$ " dia.; Hex $\frac{1}{8}$ " | .25                  |

## ICA Alignment Tool for Philco Receivers

For Air Trimmer Sets



Has specially designed metal clip for air trimmers. Made of narrow fibre rod,  $\frac{3}{32}$ " diam. by 6" long.

- |          |                    |
|----------|--------------------|
| No. 1033 | Dealer Cost \$ .45 |
|----------|--------------------|

## ICA Insulated Adjustable Neutralizing Tools



Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.

- |  |        |
|--|--------|
| No. 990—Ext. from 6" to 10" Dir. Cost  | \$ .65 |
| No. 991—Ext. from 12" to 16" Dir. Cost | .73    |

## ICA NEUTRALIZING AND ALIGNING TOOL



U. S. Army No. TL138A — ICA No. 1011 Used for general radio tuning and aligning. Approved by U. S. Army and Navy.

- |                          |                    |
|--------------------------|--------------------|
| No. 1011                 | Dealer Cost \$ .73 |
| Display Card of 12 Above |                    |
| No. D-71011              | Dealer Cost \$8.76 |

## BAKELITE NEUTRALIZING TOOL



Neutralizing tool used by U. S. Army Signal Corps (U. S. Army No. TL-138B).

- |          |                    |
|----------|--------------------|
| No. 1010 | Dealer Cost \$ .37 |
|----------|--------------------|

## ICA Neutralizing Tools with Metal Nibs

Patent No. U.S. 83,321. Sturdy, unbreakable, will outlast all other type neutralizing tools.

- |                          |                     |
|--------------------------|---------------------|
| No. 996                  | Dealer Cost \$1.08  |
| Display Card of 10 Above |                     |
| No. D-70996              | Dealer Cost \$10.80 |

## ICA BONE FIBRE SCREW DRIVER



Of  $\frac{5}{16}$ " bone fibre rod with a sturdy blade.

- |          |                    |
|----------|--------------------|
| No. 1029 | Dealer Cost \$ .53 |
|----------|--------------------|

## ICA BONE FIBRE SCREW DRIVER



Double Edged—No Metal—Fully Insulated Made of  $\frac{1}{4}$ " Bone Fibre Rod

- |                          |                    |
|--------------------------|--------------------|
| No. 1039                 | Dealer Cost \$ .27 |
| Display Card of 16 above |                    |
| No. D-71039              | Dealer Cost \$4.32 |

## ICA NEUTRALIZING TOOL

For Push Button Tuners



The Socket is  $\frac{3}{4}$ " in diameter, and contains a screw driver blade.

- |          |                    |
|----------|--------------------|
| No. 1003 | Dealer Cost \$ .55 |
|----------|--------------------|

## ICA SET TRIMMER NEUTRALIZING TOOLS

For Philco, Zenith, RCA, etc.



Fits the smallest size trimmer condensers. Trimmer end is  $\frac{3}{32}$ " diam. to fit  $\frac{1}{4}$ " hole.

- |                 |                    |
|-----------------|--------------------|
| No. 992—6" long | Dealer Cost \$ .73 |
|-----------------|--------------------|

## Display Card of 12 above

- |                  |                    |
|------------------|--------------------|
| No. D-70992      | Dealer Cost \$8.76 |
| No. 933—10" long | Dealer Cost \$ .92 |

## ICA NARROW SHAFT ALIGNMENT TOOL



RCA—Zenith—etc.  $\frac{3}{32}$ " Bakelite Shaft

- |         |                    |
|---------|--------------------|
| No. 987 | Dealer Cost \$ .65 |
|---------|--------------------|

## Display Card of 16 above

- |             |                     |
|-------------|---------------------|
| No. D-70987 | Dealer Cost \$10.40 |
|-------------|---------------------|

## ICA ALIGNMENT TOOLS

For RCA Receivers



Narrow shaft Neutralizing Tools made of Bone Fibre— $\frac{3}{32}$ " wide. Has screw nib inserted in one end; screw driver other end.

- |          |                    |
|----------|--------------------|
| No. 1015 | Dealer Cost \$ .55 |
|----------|--------------------|

## Display Card of 16 above

- |             |                    |
|-------------|--------------------|
| No. D-71015 | Dealer Cost \$8.80 |
|-------------|--------------------|

## ICA MAGIC TUNING ALIGNMENT TOOL

Consists of a Bakelite rod with a Brass cylinder at one end, and a special finely divided iron core at the other end.

- |         |                    |
|---------|--------------------|
| No. 977 | Dealer Cost \$ .73 |
|---------|--------------------|

## ICA FORK TYPE NEUTRALIZING WRENCH and SCREW DRIVER

For RCA and Other Sets



- |          |                    |
|----------|--------------------|
| No. 1024 | Dealer Cost \$ .37 |
|----------|--------------------|

## ICA Fenoline Neutralizing Screw Drivers



Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.

- |          |                    |
|----------|--------------------|
| No. 1028 | Dealer Cost \$ .27 |
|----------|--------------------|

## Display Card of 16 above

- |             |                    |
|-------------|--------------------|
| No. D-71028 | Dealer Cost \$4.32 |
|-------------|--------------------|

## ICA NEUTRALIZING AND ALIGNING TOOL



Machined of bakelite rod 9/32 inch diameter. Designed for Western Electric Co. Approved by U. S. Army and Navy.

- |          |                    |
|----------|--------------------|
| No. 1006 | Dealer Cost \$ .84 |
|----------|--------------------|

## Display Card of 10 above

- |             |                    |
|-------------|--------------------|
| No. D-71006 | Dealer Cost \$8.40 |
|-------------|--------------------|

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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

**LATEST TELEVISION TOOL KIT, TOOLS — ACCESSORIES**

**DEEP-NIB ALIGNER**



Tough fibre. Metal nib entirely insulated and set within barrel end. For tuning IF and RF shielded coils and trimmers. Small enough to fit under television tubes without removing. Length: 2 1/2" x 1/4" diameter.

No. 6156 ..... Dealer Cost \$ .36  
**Display Card of 16 above**  
No. D-76156..... Dealer Cost \$5.76

**TELEVISION "CHANNEL TUNER"**



A narrow all-insulated screw driver of machined fiber. Ideal for deep, inaccessible tuning. Overall: 7" Length. 1/8" blade on 4 1/2" shaft.

No. 6157 ..... Dealer Cost \$ .55  
**Display Card of 12 above**  
No. D-76157..... Dealer Cost \$6.60

**"BIG STRETCH" ALIGNER**



Extra thin, extra long (9"), bone fibre aligning tool, 6 1/2" blade. Specially designed for adjustment of nested iron cores of "Admiral," "Zenith" and similar make TV sets. Permits use on RCA front ends and normally inaccessible areas.

No. 6162 ..... Dealer Cost \$ .73  
**Display Card of 12 above**  
No. D-76162..... Dealer Cost \$8.76

**TUNING WRENCH**



Insulated fibre tuning wrench with extra thin recessed blade. Extra thin screw driver blade on other end (4 3/4" L.). Tenite handle. Especially designed for "Zenith" TV sets, etc.

No. 6164 ..... Dealer Cost \$ .55  
**Display Card of 16 above**  
No. D-76164..... Dealer Cost \$8.80

**CORE ALIGNER**



For Stewart-Warner, Belmont and other television receivers employing Stackpole adjustable cores. The 6" insulated fibre shaft has brass insert at one end for milled end cores; recessed screw driver blade at other end for standard slotted cores. Inserts are "pinned-in" and flush with shaft end for durability and ease of use.

No. 6170 ..... Dealer Cost \$ .55  
**Display Card of 16 above**  
No. D-76170..... Dealer Cost \$8.80

**DUAL ALIGNER**



Dual purpose narrow shaft, fibre alignment tool for trimmers, IF transformers, etc. Recessed screw nib on one end; metal screw driver on other end.

No. 6166 ..... Dealer Cost \$ .54  
**Display Card of 16 above**  
No. D-76166..... Dealer Cost \$8.64

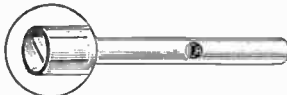
**DURA-DUAL FIBRE TV ALIGNER**



A double bladed aligning tool, measuring 7 inches in length. Made of durable fibre for complete insulation and sturdiness. Narrow shaft is 1/8" in diameter. Serves many TV servicing requirements.

No. 6158 ..... Dealer Cost \$24.00C  
**Display Card of 16 above**  
No. D-76158..... Dealer Cost \$3.84

**DOUBLE END "KLEER ALIGNER"**



Low-loss CLEAR PLASTIC all-insulated shaft. Has two recessed blades set within rod ends, completely insulated. One blade suitable for No. 6 screw and smaller; other blade for No. 4 screw and smaller. Shaft is 7" long x 3/32" diameter.

No. 6193 ..... Dealer Cost \$ .60  
**Display Card of 12 above**  
No. D-76193..... Dealer Cost \$7.20

**"KLEER-ALIGNER"**



A low-loss CLEAR PLASTIC all-insulated aligning tool. Narrow shaft. Has recessed insulated blade on one end; extended blade on other end. Designed for many aligning uses. For trimmers, IF transformers, etc. Measures 7" in length x 3/32" diameter.

No. 6192 ..... Dealer Cost \$ .60  
**Display Card of 12 above**  
No. D-76192..... Dealer Cost \$7.20

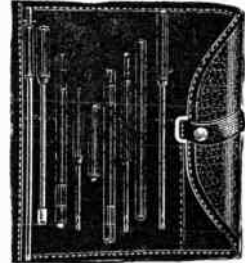
**"SUPER STRETCH KLEER ALIGNER"**



All insulated extra long TV aligner for inaccessible areas. The low-loss CLEAR PLASTIC Rod is 12" long x 3/32" diam. Carries an extended blade at one end; brass slotted insert at other end. A handy tool for those hard-to-reach spots.

No. 6194 ..... Dealer Cost \$ .83  
**Display Card of 12 above**  
No. D-76194..... Dealer Cost \$9.96

**TELEVISION HANDI-KIT**



For Television servicing. Contains nine (9) latest tools especially designed for television needs. Includes Aligner for IF and RF and "K-Tran" Transformers (No. 978); slim aligning tool for cramped spaces (No. 6161); thin diameter tuning wand (No. 6163); deep nib aligner (No. 6156); narrow insulated screw driver for deep tuning (No. 6157); extra thin long (9") aligner (No. 6162); tuning wrench (No. 6164); stackpole core aligner (No. 6170); dual aligner, narrow shaft (No. 6166).

No. 6165..... Dealer Cost \$5.00

**TRAN-ALIGNER**



Newly designed all-insulated aligning tool for standard IF and RF and "K-Tran" midjet transformers. Trim fiber; milled at one end, screw driver at other end. 2 1/2" length blade; 6" overall.

No. 978 ..... Dealer Cost \$ .54  
**Display Card of 16 above**  
No. D-70978..... Dealer Cost \$8.64

**SLIM-ALIGNER**



Alignment tool with extra thin recessed blade and slim metal shaft for cramped probing in television receivers. Fiber handle. Especially suitable for "Admiral" and similar make television sets.

No. 6161 ..... Dealer Cost \$ .73  
**Display Card of 12 above**  
No. D-76161..... Dealer Cost \$8.76

**TUNING WAND**



Extra thin diameter to fit small coil openings in television sets. Flexible vinylite. Brass insert in one end; molded powdered iron core in other end. Lowers or increases inductance. Suitable for "Zenith," etc. TV sets.

No. 6163 ..... Dealer Cost \$ .73  
**Display Card of 12 above**  
No. D-76163..... Dealer Cost \$8.76

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## HEXY-SQUARE ALIGNER



All bone fibre iron core aligning tool especially designed for Raytheon-Belmont IF transformers and similar type transformers. 8" shaft has  $\frac{3}{8}$ " diam.;  $\frac{3}{32}$ " hex one end;  $\frac{1}{8}$ " square other end.

No. 6171 ..... Dealer Cost \$ .75

Display Card of 12 above

No. D-76171 ..... Dealer Cost \$9.00

## HEX-ALIGNER



All bone fibre iron core aligning tool. Has  $\frac{3}{32}$ " hex one end;  $\frac{1}{8}$ " hex other end. Especially designed for Dumont, Raytheon-Belmont receivers and other sets, using similar type iron cores. Shaft 6" long;  $\frac{3}{8}$ " diam.

No. 6199 ..... Dealer Cost \$ .83

Display Card of 12 above

No. D-76199 ..... Dealer Cost \$9.96

## ALL-PURPOSE ALIGNER



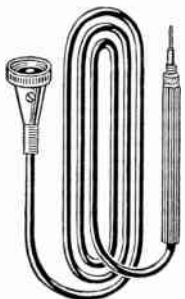
Bone fibre screw driver ends set in red tenite handle. Overall length 6"; blade width  $\frac{3}{2}$ "; tip thickness  $\frac{1}{64}$ ". Designed for general aligning purposes for Motorola and other popular receivers.

No. 6248 ..... Dealer Cost \$ .55

Display Card of 16 above

No. D-76248 ..... Dealer Cost \$8.80

## OHMMETER PROBE For RCA "Vohhmyst"



Designed specifically for RCA "Vohhmyst". Offers precise resistance measurements not ordinarily provided by standard test leads. Includes 48" low-loss coaxial cable; coaxial connector. Tenite handle is 4" long; has heavy duty phone tip.

No. 317 ..... Dealer Cost \$2.75

## D.C. PROBE for RCA "Vohhmyst"

Includes one megohm resistor for voltage measurements in operating circuits demanding minimum disturbance of circuit parameters. Includes 48" low-loss coaxial cable; coaxial connector. 4" long tenite handle has heavy duty phone tip.

No. 316 ..... Dealer Cost \$3.00

## ICA SAFE-T-TESTER

A new, unique, non-short-circuiting prod that makes contact only when pressure is applied to barrel. Ideal for cramped spaces where probing is necessary. Specially applicable to television needs.



No. 446 ..... Dealer Cost \$1.00

## "KILOVOLT" MULTIPLIER PROBE

A skilfully-made probe that combines the finest high voltage design principles with precision fabricating—a superb multiplier probe whose efficiency . . . sturdiness . . . popular price, is beyond compare.

Equipped with 15 K.V. range multiplier that provides full range PLUS existing meter voltage. For example, use of the ICA probe will increase the range of a 5,000 volt range voltmeter to 20,000 volts full scale.

The three (3) built-in 1% resistors (totaling 6 watts dissipation) are coaxially mounted, providing air-spacing to further assure heat dissipation and a completely insulated probe.

Highest grade components include sturdy thermo-plastic barrel with safety finger guard and sealed ends. Over-all length; 8  $\frac{1}{2}$ ". Supplied with 5-ft. heavy duty lead with insulated phone tip.

No. 6167—20,000 ohms per volt (50 micro amps. meter movement)	Dealer Cost \$6.95
6168—10,000 ohms per volt (100 micro amps. meter movement)	6.95
6169—5,000 ohms per volt (200 micro amps. meter movement)	6.95

NOTE: Probe of special resistance values up to 2000 megohms are available on order to quantity users.



## NEW 30-KV PROBE

Similar to the Insuline "Kilovolt" No. 6167 above, for 20,000 ohm per volt, 50 micro amp. meters only. A precision instrument . . . 600 megohms 2% high voltage multiplier

No. 6220 ..... Dealer Cost \$7.95

## THE INSULINE "100 X" MULTIPLIER PROBE

A new 30KV to 50KV Multiplier Probe (Internal resistance 1090 meg-ohms). For ALL 10 to 11 megohm input instruments.

This VTVM probe will multiply existing meter ranges by a factor of 100; thus, if the top range of the instrument is 300 volts, meter will read 30,000 volts with probe. If top range is 500 volts, meter with probe will read 50,000 volts.

A few of the most popular VTVM's with which this probe may be used follows:

### 30-KV TOP RANGE

RCA No. WV65A; WV75A; 165A Electronic Design  
Heath No. V1; V2; V2A; V4 Radio City 664; Reiner 661;  
Triplet 2541

### 50-KV TOP RANGE

RCA No. WV95A; 162A; 162B; 162C

No. 6222—With microphone type connector and ground lead ..... Dealer Cost \$7.95

For phone plug instruments, the Insuline No. 33 Adapter is required.

No. 33—Phone Plug Adapter ..... Dealer Cost \$ .30



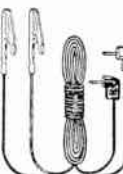
## EXTRA LONG HANDLED TEST LEADS



Features special low-loss highly polished hard rubber, high dielectric properties, 8" prod handles — with sharp pointed penetrating tips — for easier testing of less accessible points. The black and red kinkless wire leads measure

48". Includes molded black and red gun-handle phone tip plugs.

No. 329 ..... Dealer Cost \$3.00



## "CLIP-ON" TEST LEADS

A convenient "Clip-on" test lead that includes phone tip plugs on one end; sturdy alligator clips on other end. The red and black kinkless wire leads measure 48". The black and red molded phone plugs are of the gun-handle type.

No. 328 ..... Dealer Cost \$3.00

## HEAVY DUTY "CLIP-ON" TEST LEADS



Heavy duty test leads of the "clip-on" type for use with binding post type instruments. Includes a heavy gauge nickel-plated brass insulated spade terminal which will fit screws or binding posts up to  $\frac{3}{8}$ " in diameter. The sturdy battery-type spring clips are covered with protective sleeve for safe operation. The pair consists of a 48" red and black lead with tenite insulation.

No. 327 ..... Dealer Cost \$1.20

## RF AND SIGNAL TRACER PROBE



Germanium Crystal Circuit. Assures accurate analysis of circuit defects. May be used with audio amplifier for audible tracing or with V.T.V.M. for RF and AF measurements. Low input capacitance. The ideal probe for the audio section of television circuits. The sturdy bakelite barrel has sealed tenite ends with solderless phone tip and includes 48" RG59/U coaxial cable with phone plug and 18" rubber covered ground lead with alligator clip.

No. 4310 ..... Dealer Cost \$4.95

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## ICA ALL-PURPOSE TEST LEAD KIT

Complete For Every Testing Need

Equipped with one pair of test leads which have 48" of red and black kinkless live rubber wire. One end has insulated removable banana-type plugs.

Included in this test kit:  
1 pr. all-purpose test leads.

- 1 pr. insulated alligator clips—red and black No. 884.
- 1 pr. insulated spade lugs—red and black No. 887.
- 1 pr. insulated needle points—red and black No. 886.



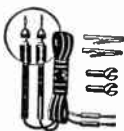
No. 1005—Kit, complete.....Dir. Cost \$2.67

## ICA PHONO-NEEDLE POINT TEST LEADS

With Slim Handles and Flexible Wire

Flexible rubber-covered, kinkless wire, 48" long. Tenite handles 4" long.

- |                                |           |
|--------------------------------|-----------|
| No.                            | Dir. Cost |
| 382—With Phone Tips.....       | .73       |
| <b>Display Card of 6 above</b> |           |
| D-70382.....                   | 4.38      |
| 381—With Spade Terminals.....  | .73       |
| <b>Display Card of 6 above</b> |           |
| D-70381.....                   | 4.38      |
| 379—With alligator Clips.....  | .74       |



## ICA DE LUXE EXTRA-FLEXIBLE TEST LEADS

Slim Handles and Solderless Plugs

48" Extra-Flexible Test Leads with 4" Tenite handles. New non-kinking, rubber insulated wire.

- |                                |           |
|--------------------------------|-----------|
| No.                            | Dir. Cost |
| 355—With Phone Tips.....       | \$.73     |
| <b>Display Card of 6 above</b> |           |
| D-70355.....                   | 4.38      |
| 356—With Spade Terminals.....  | .73       |
| <b>Display Card of 6 above</b> |           |
| D-70356.....                   | 4.38      |



## ICA PENCIL TYPE TEST LEADS

Finger-Grip Molded Tips

All connections are properly soldered providing low resistance connections vital in all precision tests. The Molded Finger Grip Tips are provided with rivets for easy removal of wire. Length of test leads is 48". Handles are 5" long.

- |                                |                    |
|--------------------------------|--------------------|
| No. 373.....                   | Dealer Cost \$1.35 |
| <b>Display Card of 6 above</b> |                    |
| No. D-70373.....               | Dealer Cost \$8.10 |



## NEW ICA SLIM-LINE TEST LEADS

Long vinyl-insulated shaft permits probing in closely wired circuits without fear of shorting. Black and red Tenite handles, 48" wire lead. With molded phone tip plug.

- |                                |            |
|--------------------------------|------------|
| No.                            | Dir. Cost  |
| 438.....                       | \$1.17 pr. |
| <b>Display Card of 6 above</b> |            |
| D-70438.....                   | \$7.02     |

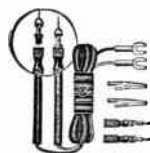


## ICA HEAVY DUTY LABORATORY TEST LEADS

Long Slim Handles and Removable Phono Needle Chuck

Extra long slim red and black handles knurled at end for finger grip ease. Handles 6" long. 48" of heavy duty kinkless, flexible rubber wire.

- |  |           |
|--|-----------|
| No.  | Dir. Cost |
| 400—With knurled grip handle. Insulated solderless plug..... | \$1.20    |
| 388—With alligator clip.....                                 | 1.13      |
| 391—With spade lugs.....                                     | 1.00      |
| 392—With non insulated phone tips.....                       | 1.00      |



## HEAVY DUTY TEST LEADS

Engineered for TV's high voltage measurements. Insulated to withstand 15,000 volts D.C. Thick-walled bakelite handles with finger guards. 48" heavy duty cable.



No. 4317.....Dealer Cost \$3 per pair

**Display Card of 3 above**

No. D-74317.....Dealer Cost \$9.00

## ICA SLIM HANDLE TEST LEADS

Made of sturdy Tenite Handles, 48" of Kinkless Live Rubber wire. Handles 6" Long — Overall Length 7". Prods have pointed large phone tip plugs.

- |                                 |           |
|---------------------------------|-----------|
| No.                             | Dir. Cost |
| 313—Phone Tips on end.....      | \$.92     |
| <b>Display Card of 6 above</b>  |           |
| D-70313.....                    | 5.52      |
| 314—Spade Lugs on end.....      | .92       |
| 315—Alligator Clips on end..... | 1.00      |
| <b>Display Card of 6 above</b>  |           |
| D-70315.....                    | \$6.00    |



## ICA ALL PURPOSE TEST LEADS

Made of sturdy Tenite Tubing, Slim handles, 6" long. Overall length 7 1/4". Rubber covered wire 48" long.

With Interchangeable Tips

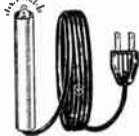
- |                       |           |
|-----------------------|-----------|
| No.                   | Dir. Cost |
| 312—Complete Kit..... | \$1.83    |



## ICA TEST-LITE

Provides a steady, bright light—without annoying flickering—for dark, narrow spaces around chassis, cabinets, etc. Plugs into any AC-DC socket, 105-125 volt.. 4 1/2 ft. cord.

Includes standard 6 volt lamp, No. 47, .15 amp., and plug complete.  
No. 938.....Dealer Cost \$1.10



## ICA UNBREAKABLE TEST LEADS

Long Metal Prod with Shock-proof Rubber Handles

One end has standard needle point Tips. Other end has Insulated Solderless Plugs. Supplied with 48" Kinkless Rubber Wire.

- |   |                  |
|---|------------------|
| No. 332—With Phone Tips                     | Dir. Cost \$3.75 |
| No. 331—Insulated Solderless Plug Ends..... | Dir. Cost \$8.84 |



## HIGH VOLTAGE ICA HEAVY-DUTY BAKELITE TEST PROD HANDLES



High Voltage, 10,000 Volts

Has midjet threaded phone tip. Ideal for all high voltage work. Made of black bakelite with finger guard ring. Minimum amount of metal exposed. Prods are 6" long overall. Used for high voltage test purposes.

No. 480.....Dealer Cost \$ .84

## HIGH VOLTAGE HEAVY-DUTY BAKELITE TEST PRODS



High Voltage, 10,000 Volts

Made of black bakelite. Fully insulated with threaded midjet sharp pointed phone tips. Minimum amount of metal exposed. Measures 2" overall. Exposed metal tip is only 1/2" long.  
No. 485.....Dealer Cost \$ .42

## ICA HEAVY-DUTY TEST PRODS



Slim tapped Tenite handle fitted with threaded heavy-duty phone tip. Length 5".

No. 387R—Red.....Dealer Cost \$ .37

No. 387B—Black.....Dealer Cost .37

## ICA SOLDERLESS PLUG TEST PRODS

With Solderless Plug Chuck



Slim tapped Tenite handles in black or red, threaded to take the solderless plug chuck. All brass parts are nickel plated. Available in two sizes.

5/4 Inch Long Prods

No. 390R—Red.....Dealer Cost \$ .27

**Display Card of 16 above**

No. D-70390R.....Dealer Cost 4.32

No. 390B—Black.....Dealer Cost .27

**Display Card of 16 above**

No. D-70390B.....Dealer Cost 4.32

7 1/4 Inch Long Prods

No. 335R—Red.....Dealer Cost .34

No. 335B—Black.....Dealer Cost .34

## ICA FENOLINE PHONO. NEEDLE POINT TEST PRODS

With Removable Chuck



Supplied in black or red Tenite tapped handles. Needle point chuck is tapped to screw into handle. Available in two sizes.

5 Inch Test Prod

No. 389R—Red.....Dealer Cost \$ .27

**Display Card of 16 above**

No. D-70389R.....Dealer Cost 4.32

No. 389B—Black.....Dealer Cost .27

**Display Card of 16 above**

No. D-70389B.....Dealer Cost 4.32

7 Inch Test Prod

No. 334R—Red.....Dealer Cost .30

No. 334B—Black.....Dealer Cost .30

## NON-KINK FLEXIBLE TEST LEAD WIRE

Flexible rubber covered wire that will not kink or wear down in service. Consists of very fine tinned stranded copper wire with a heavy wall of live rubber insulation.



No. 307—100 ft. spool, Black.....Dir. Cost \$3.35

No. 309—100 ft. spool, Red.....Dir. Cost 3.35



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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## ICA CHROME SILVER DIAL PLATES

2 3/4" and 4" diameter. Two types, calibrated 180 degrees 0-100 and 325 degrees, 0-100.



No.	Degrees	Dia.	Calib.	Dir. Cost
2196	325	2 3/4"	0-100	\$ .85
2197	180	2 3/4"	0-100	.85
2194	325	4"	0-100	1.03
2195	180	4"	0-100	1.03

## ICA BRASS BLACK SATIN FINISH DIAL PLATES

With Etched Silver Numerals



No.	Degrees	Dia.	Calib.	Dir. Cost
2230	325	3 1/4"	0-100	\$ .47
2232	180	3 1/4"	0-100	.47
2233	180	2"	100-0	.37
2234	325	2"	0-100	.37
2236	180	2"	0-100	.37

## ICA CHROME SILVER DIALS

With Finger Grip Flange Knobs



Beautiful dial plates accurately Etcho-engraved with black numerals and calibrations.

No.	Size	Degrees	Calib.	Dir. Cost
2170	2 3/4"	325	0-100	\$1.50
2171	2 3/4"	180	0-100	1.50
2168	4"	325	0-100	2.00
2169	4"	180	0-100	2.00



## ICA VERNIER DIAL MARKER

Complete with screws, nuts, and spacers for mounting on metal, wood, bakelite or brass panels.

No.	For	Size	Degrees	Dials	Dealer Cost
2189	For	2 3/4"	325°	Dials	\$ .37
2190	For	2 3/4"	180°	Dials	.37
2191	For	4"	325°	Dials	.37
2192	For	4"	180°	Dials	.37



## ICA MINIATURE DIALS

Beautiful Chrome Silver dials with black etched numerals. Finger grip black knob. Only 1 1/8" diameter. Fit 1/4" shafts.

No.	Dir. Cost
2164—10-0-180	\$.63
2165—10-0-270	.63

## ICA CHROME SILVER DIAL PLATES

Attractive grain satin finish. Black Etcho Engraving on Chrome Silver Background Plates.

No.	Degrees	Dia.	Calib.	Dir. Cost
2294	180	2"	0-100	\$ .58
2295	325	2"	0-100	.58
2296	180	3 1/4"	0-100	.92
2297	325	3 1/4"	0-100	.92
2298	180	4"	0-100	1.00
2299	325	4"	0-100	1.00

## ICA ETCHED DIAL PLATES

### RECTANGULAR TYPES

Made of brass—finished in black with etched silver markings. Calibrated for 300 degree rotation. Marked 0 to 10. Will fit on 3/8" bushing. Size 2 1/4" x 1-11/16"

No.	Marking	Dir. Cost
2244	Record	\$21.66C
2245	Microphone	21.66C
2246	Gain	21.66C
2247	Tone	21.66C
2248	Plain (Calibrated but not worded)	\$21.66C



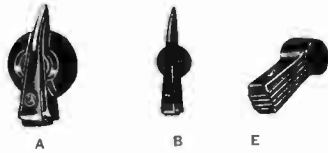
## ICA INDICATING PLATES

Made of heavy brass with black satin background. Silvered "Etcho Gravured" numerals and lettering. 1/2" center mounting hole. 1 1/2" Diameter.

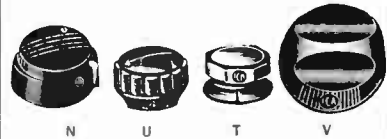
No.	Marking	Degrees	Dir. Cost
2259	Marked 1 to 6	180	\$ .25
2450	Marked 1 to 5 (Volume)	325	.27
2451	Marked 1 to 5 (Tone)	325	.27
2452	Marked 1 to 10	325	.27
2453	Marked Off-On—with arrow	325	.27



## RADIO REPLACEMENT AND INSTRUMENT KNOBS



No.	Type	Color	Size	Dir. Cost
1125	A	Black	1 1/4"	\$13.33C
1127	A	Red	1 1/4"	16.67C
1126	B	Black	2"	16.67C
1128	B	Red	2"	18.34C
1153	E	Black	1 3/4"	20.00C
1154	E	Walnut	1 3/4"	20.00C



No.	Type	Color	Size	Dir. Cost
248	J	Black	1 1/2"	\$18.33C
249	J	Black	1 1/2"	20.00C
1076	K	Walnut	3/4"	13.33C
1049	L	Walnut	1 1/2"	11.66C
1050	L	Walnut	1"	13.33C
1174	M	Black	1 1/2"	16.67C
1089	N	Walnut	1 1/2"	13.33C
1090	N	Walnut	1 1/2"	15.00C
1147	U	Black	7/8"	13.33C
1148	U	Walnut	7/8"	13.33C
1077	T	Walnut	3/4"	11.66C
1078	T	Walnut	7/8"	13.33C
1272	V	Black	3/4"	15.00C
1273	V	Walnut	3/4"	15.00C

## ICA FINGER-GRIP POINTER KNOBS



Moulded of black bakelite with 1/4" hole. Pointer type knobs have white indicators. Flange type knobs have white indicating line. With 1/4" Brass Inserts



### TYPE A—WITH POINTER

No. 1166—1 1/4"	Dealer Cost	\$ .40
No. 1168—1 1/2"	Dealer Cost	.55
No. 1170—2 3/4"	Dealer Cost	.70

### TYPE A—LESS POINTER

No. 1165—1 1/4"	Dealer Cost	\$ .32
No. 1167—1 1/2"	Dealer Cost	.38
No. 1169—2 3/4"	Dealer Cost	.55

### TYPE B—WITH FLANGE

No. 1171—2 3/4"	Dealer Cost	\$ .55
No. 1172—3"	Dealer Cost	.65

NOTE: Above Knobs also furnished with 2 set screws. Order by adding "S" to each number.

## ICA NAME PLATES

### 1-INCH ROUND

No. 2237—For "Microphone"	Dealer Cost	\$15.00C
No. 2238—For "Phone"		
No. 2239—For "On Off"		



No.	Type	Color	Size	Dir. Cost
1270	F	Black	1 1/2"	\$18.35C
1271	F	Black	2 1/2"	21.66C
1137	G	Walnut	5/8" x 3/4"	13.33C
1138	G	Walnut	3/4" x 1 1/2"	11.66C
1139	G	Walnut	1" x 1 1/2"	13.33C
1087	H	Walnut	1 1/2"	15.00C
1088	H	Black	1 1/2"	15.00C
1133	I	Walnut	3/4" x 3/4"	11.66C
1134	I	Walnut	1" x 5/8"	13.33C
1274	S	Black	1 1/4" x 5/8"	18.35C
1274-S*	S	Black	1 1/4" x 5/8"	.25
1275	S	Black	2" x 5/8"	20.00C
1275-S	S	Black	2" x 5/8"	\$.25

\*With 2 Set Screws.



No.	Type	Color	Size	Dir. Cost
1081	P	Black	7/8"	\$10.00C
1082	P	Red	7/8"	10.00C
1084	P	Brown	7/8"	10.00C
1085	P	White	7/8"	10.00C
1116	Q	Walnut	7/8"	11.66C
1117	Q	Walnut	1"	13.33C
1135	R	Walnut	3/4"	10.00C
1136	R	Walnut	7/8"	11.66C
1310	W	Black	3/4"	8.35C
1311	W	Walnut	3/4"	8.35C
1312	W	Ivory	3/4"	8.35C
1320	W	Black	3/4"	8.35C
1321	W	Walnut	3/4"	8.35C
1322	W	Ivory	3/4"	10.00C
1331	X	Walnut	3/4"	8.35C
1332	X	Ivory	3/4"	10.00C

## ICA KNOB ASSORTMENTS



### Walnut Bakelite Junior Assortment

50 Knobs. Contains 5 each of 10 popular type knobs listed above.

No.	Dealer Cost
1048	\$5.90

### MASTER ASSORTMENT

100 Knobs. Contains 12 different type popular knobs, including pointer knobs.

No. 1043 ..... Dealer Cost \$11.50

### ECONOMY ASSORTMENT

50 Knobs. Contains 25 each (assorted colors) of the modern bakelite bullet and crown shaped knobs. Suitable for wide variety of applications.

No. 1064 ..... Dealer Cost \$3.50

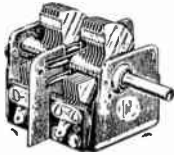
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OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## ICA MIDGET PRECISION CONDENSERS



Better mechanical design insures constancy of calibration and uniformity between units. Ball bearings on both ends of shaft insure long life without wear or side play. Heavy brass springs make direct contact with rotor shaft, insuring a clean wiping contact at all times.

No.	Single Gang Condenser	Dealer Cost
533	135 mmfd.	\$2.17
<b>Two Gang Condenser</b>		
538	135 mmfd.	2.58
534	365 mmfd.	2.58
<b>Three Gang Condenser</b>		
532	135 mmfd.	3.25
531	365 mmfd.	3.25

## SUPERHETERODYNE TYPE

Designed for 455KC IF. RF section is 27 plates; 435 Mmfd. Oscillator Section is 19 plates; 173 Mmfd. Measurements similar to two gang condensers shown above.  
Overall Width: 1 1/8" Overall Height: 2"  
Overall Length: 3 3/8"  
No. 545.....Dealer Cost \$2.58

## ICA CERAMIC PADDING CONDENSERS



Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Spring contacts.

No.	Min. Cap.	Max Cap.	Dir. Cost
611	4.0 mmfd.	40 mmfd.	\$.37
612	12.0 mmfd.	100 mmfd.	.37
613	70.0 mmfd.	350 mmfd.	.40
614	160.0 mmfd.	500 mmfd.	.40

## CERAMIC RODS

Made of Alsimag. Suitable for mounting insulators, condensers, coils, etc.  
Available in two lengths.



No.	Length	Dia.	Tap.	Dir. Cost
2310	1 1/4"	1/2"	6-32	\$18.35C
2311	3 1/4"	1/2"	6-32	.25

## CERAMIC BEAD INSULATORS



3/8" Diam.

Used for construction of short concentric link lines.  
No. 2315—(100 beads).....Dealer Cost \$8.7



## ICA BASE-MOUNTING BAKELITE SOCKETS

No.	Dealer Cost
2480—4 Prong	\$.34
2481—5 Prong	.39
2482—6 Prong	.42
2483—7 Prong comb. large and small	.45
2489—8 Prong OCTAL	.50
2490—Contact for above Sockets	\$2.08C

## ICA MOLDED BAKELITE SNAP-ON SOCKETS



Octal—Loktal

Mounted in cadmium plated steel "Saddle." Equipped with 4 grounding lugs on saddle—Positive grip contacts.

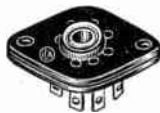
No.	Dealer Cost
2470—Octal Socket	\$12.00C
Mtg Center 1 1/2"—Chassis Hole 1 1/8"	
2471—Loktal Socket	15.00C
Mtg Center 1 3/8"—Chassis Hole 1"	



## ICA BAKELITE WAFER SOCKETS

No.	Dealer Cost
1118—4 Prong	\$ 9.16C
1096—5 Prong	9.16C
1095—6 Prong	9.16C
1119—7 Prong, small	9.16C
1120—7 Prong, large	9.16C
1121—8 Prong OCTAL	11.66C
1123—Loktal Wafer	11.66C

## BAKELITE WAFER SOCKETS



Wafer socket of punched bakelite for miniature seven pin button base tubes. Phosphor bronze contacts. Standard mounting centers.

No. 1122	Dealer Cost \$10.00C
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Similar to No. 1122 above but with grounding strap.  
No. 1124.....Dealer Cost \$10.00C

## BAKELITE WAFER SOCKET

## MOLDED BAKELITE SOCKET

For Miniature Tubes  
Black molded general purpose bakelite with mounting saddle.



Standard mounting centers. Phosphor bronze contacts.

No. 2475	Dealer Cost \$15.00C
Same as above but mica filled.	
No. 2476	Dealer Cost \$18.00C



## ICA "INSULEX" BASE MOUNTING SOCKETS

Especially adapted for ultra short-wave work and transmitters.

No.	Dealer Cost
290—4 Prong	\$.67
291—5 Prong	.67
292—6 Prong	.75
294—Comb. 7 Prong, large and small	.75
300—8 Prong OCTAL	.84

## ICA "INSULEX" WAFER SOCKETS

An ideal low loss socket designed for ultra high frequency reception.



No.	Dealer Cost
2600—4 Prong	\$.30
2601—5 Prong	.30
2602—6 Prong	.34
2603—7 Prong, large	.37
2604—7 Prong, small	.37
2605—8 Prong OCTAL for new metal tubes	.38
2636—Contact for above Sockets	\$3.33C

## ACORN TUBE WAFER SOCKET



Of Navy approved ceramic with silver plated contacts. Can be easily inserted and removed and no amount of vibration will cause the tube to become loose.

No. 961	Dealer Cost \$ .60
No. 2466—Contact only	Dealer Cost 2.08C

## INSULEX INSULATORS

Made of white glazed Insulex . . . non-porous; low-loss.  
All feed-thru types have cork washers.

### STAND OFF INSULATORS



No.	Description	Height	Base Size	Dir. Cost
2300	Little Pete	1"	1/2" x 7/8"	\$10.00C
2301	Junior Pete	1 1/8"	3/8" x 1 1/4"	11.66C
2302	Big Pete	1 7/8"	1" x 1 1/2"	16.67C
2303	Beehive	2 3/8"	2" Diam.	20.00C
2304	Jack Type	1 1/2"	1" x 1 1/2"	20.00C



### FEED-THRU INSULATORS

No.	Description	Ht.	Base Diam.	Mtg. Hole	Dir. Cost
2305	Sub-Panel	1 3/4"	5/8"	3/8"	\$15.00C
2306	Sub-Panel	2"	3/4"	3/8"	20.00C
2307	Sub-Panel	2 3/8"	7/8"	7/8"	21.66C
2334	Large Sub-Panel	4"	1 1/2"	5/8"	.53
2320	Jack Type	1 1/8"	3/4"	7/8"	.27
2321	Jack Type	2 1/8"	7/8"	7/8"	.30



2320 2321

### GIANT INSULEX INSULATORS

No.	Description	Ht.	Base Diam.	Mtg. Hole	Dir. Cost
*2332	Feed thru	4"	2"	7/8"	.72
**2333	Feed thru	4"	2"	7/8"	.67



2305 2306 2307



2332 2333

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## ICA TOGGLE SWITCHES

Furnished in Nickel or Antique Bronze. Capacity 1 Amp. 250 Volts. 3 Amps. 125 Volts. Mfd. by H & H for ICA.



No.	Shank Length	Description	Finish	Dir. Cost
1230	3/8"	S.P.S.T.	Nickel	\$.50
1232	3/8"	S.P.S.T.	Bronze	.50
1233	3/8"	S.P.S.T.	Bronze	.60
1235	3/8"	S.P.S.T.	Nickel	.60
1236	3/8"	S.P.D.T.	Nickel	.63
1237	3/8"	S.P.D.T.	Nickel	.72
1238	3/8"	D.P.S.T.	Nickel	.84
1365	3/8"	D.P.D.T.	Nickel	1.00
1366	3/8"	D.P.D.T.	Nickel	1.12

## BAT-HANDLE TOGGLE SWITCH

Made by H & H. Identical to toggle switches listed at left, except that handle is longer and shaped like a baseball bat.

Less on and off plate.  
Nickel plated only—3/8" shank.



No.	Description	Dealer Cost
1296	S.P.S.T.	\$.50
1297	S.P.D.T.	.63
1298	D.P.S.T.	.84
1299	D.P.D.T.	1.00

## BAT HANDLE DOUBLE THROW SWITCH

A sturdy double throw bat handle toggle switch featuring center "OFF" position. Made by H. & H. Has many uses: Television Antenna installations; for reversing motor direction; model railroads, etc.



Case Measurements: 1 1/2" L., 1 1/2" W., 1" H., 5/8" Shank.

No.	Dealer Cost
1386—Single Pole Double Throw.....	\$1.08
1387—Double Pole Double Throw.....	1.65

## ICA BAKELITE KNIFE SWITCHES

Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of black BAKELITE. Firm contact assured.



No.	Description	Dir. Cost	No.	Description	Dir. Cost
1216	S.P.S.T.	\$.55	1220	3 P.D.T.	\$1.33
1217	S.P.D.T.	.60	1221	4 P.S.T.	1.67
1218	D.P.S.T.	.75	1222	4 P.D.T.	2.00
1219	D.P.D.T.	.90	1364	5 P.D.T.	2.35
1360	3 P.S.T.	1.23			

## ICA PORCELAIN KNIFE SWITCHES

Moisture-proof base. Recommended for outdoor use. Hardware of brass, heavily nickel plated.



No.	Description	Base Size	Dir. Cost
235	S.P.S.T.	1 1/4" x 1"	\$.27
236	S.P.D.T.	2 1/2" x 1"	.34
237	D.P.S.T.	1 1/4" x 1 1/2"	.47
238	D.P.D.T.	2 1/2" x 1 1/2"	.58

## ICA SLIDER SWITCHES

SMALL COMPACT. Switch dimensions: 1 1/2" x 1/2" x 3/8". S.P.S.T. includes chrome mounting plate.



No.	Description	Dealer Cost
1255	S.P.S.T.	\$21.68C
1259	S.P.D.T.	23.35C
1260	D.P.D.T.	.34
1264	D.P.S.T.	.30

## MINIATURE BAKELITE SWITCHES

Can be mounted on panel or base. Black Bakelite base—highly nickel-plated brass parts with insulated handles.

No.	Description	Base Size	Dir. Cost
2223	S.P.S.T.	1 1/4" x 1/2"	\$.25
2224	S.P.D.T.	1 1/4" x 1/2"	.42
2225	D.P.D.T.	1 1/4" x 1"	.53
2226	D.P.S.T.	1 1/4" x 1"	.50



## ICA ROTARY SWITCHES

Rated 3 Amps. at 125 Volts. Over-all Length of shafts 1 1/2". Made by H & H for ICA. Underwriters Approved.

No.	Threaded Shank	Description	Dealer Cost
1228*	3/8"	S.P.S.T.	\$.67
1229*	1"	S.P.S.T.	.82
1286.	3/8"	S.P.D.T.	.80
1287	1"	S.P.D.T.	.97
1288	3/8"	D.P.D.T.	1.25
1289	1"	D.P.D.T.	1.35

\*Rated 3 Amps. at 250 V.

## ICA HI-POWER SWITCH

Push Button Type



Designed to break primary circuit when rack door is open. D.P.S.T. Made by H & H for ICA. Capacity 12 Amp. 125 Volt. Overall size 1 3/4" long, 3/4" wide, 3/4" high, 7/16" shank.

No. 1280..... Dealer Cost \$1.58

## ICA PUSH-BUTTON SWITCH

Single pole 2 circuit momentary switch. One circuit is "ON"; other normally "OFF." One Amp., 125 Volt, made by H & H for ICA. Shank 5/8" long.



No. 1282..... Dealer Cost \$1.05

## ICA EXTRA HEAVY DUTY SWITCH

D.P.D.T. With Neutral Center



An extra large heavy duty, Double Pole, Double Throw Switch with neutral position in the center for use in heavy current circuits such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 Amps., 125 Volts. Size of switch case, 2 1/2" long, 1" high, 1 1/4" wide. Mounting sleeve diameter 3/4".

No. 1283..... Dealer Cost \$3.75

## "ON-OFF" PLATE

For Toggle Switch



No.	Dir. Cost
1300	\$3.35C
Antique Bronze	
1300BR	3.35C

## ICA POWER SWITCH

(Toggle Type)

Characteristics and dimensions same as No. 1280 described above.



No. 1281  
Dealer Cost \$1.08

## ICA ROTARY CANOPY SWITCH

Single pole switch 1/4" shank with brown bakelite knob and 6" leads—1 ampere—250 volts.

No. 1257..... Dealer Cost \$ .42



## GT AND GT/G TYPE TUBE SHIELDS

Latest type seamless, drawn shell type. Length 2 1/4".



No.	Dir. Cost
1744—Open top*	\$10.00C
For tube diam. 1.218"	
1745—Closed top*	10.00C
For tube diam. 1.218"	
1746—Open Top**	10.00C
For tube diam. 1.165"	
1747—Closed top**†	10.00C
For tube diam. 1.165"	

\*For GT and GT/G tubes with large metal base.

\*\*For GT tubes with small metal base.

†For Loktal tubes.

## ICA COIL SHIELDS

With Detachable Base

A sturdy coil shield made of aluminum with a detachable base.

No.	Dealer Cost
1539—2 1/2" x 3" High.....	\$.42
1540—2 1/2" x 3 1/2" High.....	.47
1549—3" x 3 1/2" High.....	.50



## FORM FIT TUBE SHIELDS

A tube shield that assures a snug, positive fit. Vertical grooves provide flexibility. Includes ground clip as illustrated. Protects tubes against excessive vibration.



No. 1727B—For GT; GT/G and Loktal tubes. Length 2 1/2"..... Dealer Cost \$10.00C

No. 1729B—For GT and GT/G tubes. Length 2 3/4"..... Dealer Cost 10.00C

## ICA GRID CAP SHIELDS

(For Metal Tubes)

Fits firmly over grid cap, affording complete shielding. Slotted cap permits passage of grid wire.



No.	Dealer Cost
1552	\$10.83C
1558—With Bakelite Insert.....	20.00C

## ICA ALUMINUM TUBE SHIELD

For 65, 67, 68, etc. type tubes



No.	Dealer Cost
1708—1 1/4" mounting centers.	\$.30

## ICA 807 TUBE SHIELD

For use with Transmitter Pentodes, and Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39 and 804 tubes.



No.	Dealer Cost
1545	\$.42

## MINIATURE TUBE SHIELD AND CLIP

For miniature tubes with T5 1/2 bulbs. Includes base clip. Length 1 1/4" Mtc. Centers (base clip) 7/8" for standard miniature tubes.



No. 1735..... Dealer Cost \$10.00C

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1921



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## SHORT-WAVE AND BROADCAST PLUG-IN COILS



4 Prongs . . . 2 Windings

Wound on Low-Loss Bakelite Forms. Diam. 1 1/4"; height 2 1/4". Item handle for easy changing. Uniformly spaced winding. Used with either 140 or 150 mmfd. tuning condenser.

No.	Dealer Cost
1471—Set of 4 short wave coils—from 9 1/2 to 217 Meters.....	\$2.50
1473—Set of 2 Broadcast coils—190 to 550 Meters.....	2.00

## ICA LARGE LOW-LOSS "RIBBED" COIL FORMS



For use in 4, 5, and 6-prong sockets. Designed for easy grooving or threading. Size 3 3/8" x 1 3/8".

No.	Dealer Cost
1051—4-Prong .....	\$ .45
1052—5-Prong .....	.45
1053—6-Prong .....	.50

## ICA SMALL BAKELITE COIL FORMS



Equipped with special rim on top making it easy to insert and pull out of socket. Black Bakelite. Ridge is grooved for color coding.

No.	Dealer Cost
1108B—4-Prong .....	\$ .35
1113B—5-Prong .....	.37
1114B—6-Prong .....	.38

## ICA TRANSMITTING COIL FORMS



Made of Low-Loss RX-47 Di-electric. Coil forms ribbed for air space winding. Knurled flange for easy handling. Supplied in standard bases, either 4, 5, or 6 prongs to fit standard sockets. Eight 1/4" ribs insure low-loss winding.

No.	Dealer Cost
2670—4-Prong .....	\$ .73
2671—5-Prong .....	.77
2672—6-Prong .....	.83

## ICA SMALL RIBBED BAKELITE COIL FORMS

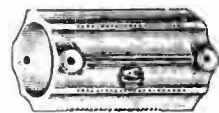


Rugged and durable, these coil forms are designed for long service. Measures 1 3/8" diameter, 2 1/4" high with molded ribs for low-loss winding and special rim on top. There is a recess in the rim to insert the ICA Round Labels to signify wave lengths.

No.	Dealer Cost
2158—4-Prong .....	\$ .35
2159—5-Prong .....	.40
2160—6-Prong .....	.40

## ICA GROOVED INSULEX TRANSMITTING COIL FORMS

Particularly suited for winding low-loss Inductors for Oscillators, R.F. Amplifiers, Short Wave Diathermy machines, etc. The forms are grooved to hold the turns in place and holes are provided for tapping at every other turn if desired. Raised bosses are provided for mounting supports. Grooved for 25 and 28 turns respectively with .143" spacing.



For 20 and 40 Meters

No.	Dealer Cost
2650—Without supporting legs .....	\$1.17
2651—Complete with mounting legs and hardware .....	1.58



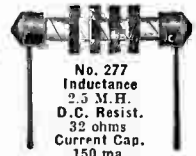
For 80 and 160 Meters

No.	Dealer Cost
2652—Without supporting legs .....	\$2.00
2653—With supporting legs .....	2.25

## INSULEX R.F. CHOKE COIL

HIGH FREQUENCY. Consists of four narrow sections each universally wound spaced on an Insulex form. Designed especially for high frequency receivers.

Low distributed capacity. Supplied with wire leads for mounting. May be mounted in grid leak clips.



No. 277  
Inductance  
2.5 M.H.  
D.C. Resist.  
32 ohms  
Current Cap.  
150 ma.  
Dir. Cost \$ .37

## ICA INSULEX R.F. CHOKES

Can be used in any circuit or position. Designed particularly for short wave but equally effective over the broadcast band. Insulex forms are used with a special Radio Frequency Lacquer for impregnation and ample moisture proofing. Solder lugs for firm electrical and mechanical contacts.



No.	Inductance	D.C. Resis.	Current Cap.	Dealer Cost
1777	2.5	30	150	\$ .45
1775	5.5	57	150	.57
1774	10	73	150	.60
1772	30	136	125	.67
1773	60	196	125	.87
1771	80	222	125	.92

## IRON CORE HIGH "Q" R.F. CHOKES



A high impedance choke coil with low distributed capacity winding on magnetic core, specially impregnated for high frequency purposes. Designed for minimum loss with smallest diameter and space requirements, and minimum D.C. resistance. Ideal for detector plate circuits and R.F. filtering systems in general.

No.	Ind. M.H.	D.C. Res. Ohms	Dealer Cost
6200	2.5	17	\$1.07
6201	3.5	22	1.17
6202	5.5	28	1.17
6203	10	55	1.23
6204	30	83	1.43
6205	60	142	1.60
6206	80	168	1.70
6207	125	214	2.00

## ICA TRANSMITTING R.F. CHOKES

Tapered Sections



Wound on Insulex low-loss core. Has a continuous universal winding in five tapered sections. Designed for maximum impedance in amateur bands from 160 meters downward.

No.	Ind. M.H.	Cur. Ma.	Res. Ohms	Dealer Cost
266	2.8	1000	5	\$2.00
267	5.3	600	12.5	1.83

## HEAVY DUTY TRANSMITTING CHOKES

Heavy duty transmitting chokes designed for durable service. Extremely low power loss and distributed capacity. Coils securely fastened.



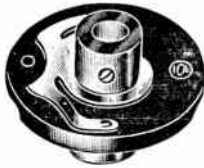
No.	Ind. M.H.	Cur. Cap. Ma.	D.C. Res. Ohms	Dealer Cost
280	2.5	1000	5	\$1.83
278	5.6	600	12	1.67

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### ICA BAKELITE FLEXIBLE SHAFT COUPLING

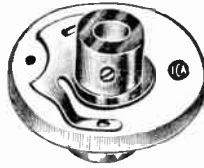
Flexible phosphor bronze spring contact mounted on a round bakelite disc. 1 1/8" diam. Has 1/4" bushing.

No. 2142..... Dealer Cost \$ .50

### ICA INSULEX FLEXIBLE SHAFT COUPLING

Flexible phosphor bronze spring contact. Mounted on Insulex disc for efficient low-loss coupling. 1 1/8" diam. 1/4" bushing.

No. 2143..... Dealer Cost \$ .58



### BAKELITE BUSHINGS

Molded bakelite bushings for complete insulation. Strong seamless threads. Heat resisting to 300°F. Complete with stamped lock nuts.

No.	Hole Size	Dealer Cost	No.	Hole Size	Dealer Cost
606	1/32"	\$10.00C	609	1/16"	\$11.68C
607	3/64"	10.00C	610 (Two holes)	3/32"	13.35C
608	1/16"	11.66C			

### ICA INSULATED BUSHINGS

Equipped with knurled nut that can be tightened easily. Used as insulated grommet on condenser shafts, panel bearing, etc.



No.	Color	Hole	Diam.	Long.	Dealer Cost
670	Black	1/8"	3/8"	3/8"	\$13.33C
671	Red	1/8"	3/8"	3/8"	13.33C
672	Black	1/4"	1/2"	1/2"	16.68C
673	Red	1/4"	1/2"	1/2"	16.68C



### ICA PANEL BEARING ASSEMBLY

Can be used with either rigid or flexible couplings for mounting volume controls, condensers, etc., at a distance away from the panel. Will fit on panels up to 1/8" thickness.

No. 1248	Overall length 3"	Dealer Cost \$ .30
No. 1249	Overall length 6"	Dealer Cost .35

### UNIVERSAL PANEL BEARING

Designed to accommodate 1/4" shaft wherever a panel bushing is desired. Furnished with nut and insulating washers.

No. 1250..... Dealer Cost \$15.00C



### ICA BRASS EXTENSION RODS

No.	Length	O.D.	Dealer Cost
2117	6" L.	1/4" O.D.	\$18.00C
2118	12" L.	1/4" O.D.	\$ .36

### FENOLINE EXTENSION RODS

No.	Length	O.D.	Dealer Cost
2120	6" L.	1/4" O.D.	\$15.00C

### ALUMINUM IDLER PULLEYS

Precision made. Distortion free. Non-warping. Permits closer tolerances. Supplied in any quantity in any type — with or without shoulders. Listed here are typical sizes without shoulders, hole diam. .128".

No.	O.D.	Cord Diam.	Dir. Cost
601	3/8"	1/4"	\$3.35C
602	1/2"	3/8"	3.67C
603	3/4"	1/2"	4.00C
604	5/8"	1/2"	4.35C
605	3/4"	5/8"	4.66C



### ICA BAKELITE BASE FUSE MOUNTINGS FOR 3 AG TYPE FUSES

#### Flush Type Mounting



For radio or automotive fuses. Countersunk center hole for mounting. Equipped with soldering lugs.



No. 2340	Single Pole	Dealer Cost \$13.33C
No. 7201	Double Pole	Dealer Cost 21.66C



#### Panel Type Mounting

Equipped with 6-32 mounting screws.

No. 2341—Single Pole  
Dealer Cost \$16.67C

No. 7203—Double Pole  
Dealer Cost \$.27



### FOR 8 AG TYPE FUSES

#### FLUSH MOUNT

#### PANEL MOUNT

No.	Dealer Cost	No.	Dealer Cost
7202	Single Pole .....\$11.66C	7205	Single Pole .....\$15.00C
7204	Double Pole ..... 21.66C	7206	Double Pole ..... 15.00C

### STANDARD FUSE HOLDERS

Top quality fuse holder and parts



2348



2360



2364

No. 2348	Standard fuse holder complete	\$12.00C
No. 2360	Female sleeve only	3.00C
No. 2364	Fibre Insulator only	5.33M

### JUMBO FUSE HOLDERS

Fuse holders of various needed values



2349



2359

No.	Description	Dealer Cost
No. 2349	SFE 30 Amperes (2 5/8" L. x 1/2" d.)	\$20.00C
No. 2346	SFE 20 Amperes (2 1/2" L. x 1/2" d.)	20.00C
No. 2345	SFE 14 Amperes (2 1/4" L. x 1/2" d.)	20.00C
No. 2344	SFE 9 Amperes (2 1/8" L. x 1/2" d.)	20.00C
No. 2359	Male sleeve only	3.75C
No. 2367	Bakelite bushing only	3.00C
No. 2358	Female sleeve only	5.00C

### PRE-WIRED JUMBO FUSE HOLDER

Suitable for 3 A.G. 20 amp. or SFE 14 amp. fuse. Eliminates necessity of soldering when

changing fuse holder. Wire is merely severed, stripped and placed in line.

No. 2368..... Dealer Cost \$ .27



### ANTENNA CONNECTOR . . . PARTS



2347



2362



2361



2363

No.	Description	Dealer Cost
No. 2347	Antenna Connector Complete	\$ 7.50C
No. 2362	Male part only (also part for 2348)	1.80C
No. 2361	Female sleeve only	2.10C
No. 2363	Spring only for 2347 and 2348	6.00M

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### ICA SHAFT COUPLINGS AND EXTENSION RODS

To increase lengths of shafts of different diameters. In two types—Brass . . . Fenoline.

Brass Couplings and Reducers				
No.	Length	Hole	O.D.	Dir. Cost
2105	3/4"	1/4" coupler	7/8"	\$15.00C
2106	3/4"	3/8" coupler	1"	15.00C
2107	3/4"	3/8" to 1/4" coupler	1"	15.00C
2111	1 1/8"	1/4" to 1/4" shaft	7/8"	18.00C
2112	1 1/8"	1/4" to 3/8" shaft	1"	18.00C
2113	1 1/8"	3/8" to 1/4" shaft	1"	18.00C

ICA Fenoline Couplings and Reducers				
No.	Length	Hole	O.D.	Dir. Cost
2116	3/4"	1/4" coupler	1"	15.00C
2109	3/4"	3/8" to 1/4" coupler	1"	15.00C
2110	1 1/8"	1/4" to 1/4" shaft	7/8"	18.00C

Long Extension Couplings				
Made of Brass with extra long extension.				
No.	Length	I.D.	O.D.	Dir. Cost
2123	1 3/4"	1/4"	7/8"	\$18.00C

### BAKELITE AND FENOLINE TUBING

ICA tubing is strong mechanically, has extremely low electrical absorption and is highly resistant to moisture. Absolute perfection in winding of coils is assured by the use of ICA tubing—thus affording relief from complaints or failure in performance.



Finished in Natural and Black Colors  
Small sizes up to one inch in Black only.  
3/8" Wall Thickness, Full Lengths.  
Approximately 30 to 48"

BAKELITE			FENOLINE		
No.	Dir. Cost Per Ft.	Size O.D.	No.	Dir. Cost Per Ft.	
100	\$.65	1/4"	161	\$.58	
101	.78	3/8"	162	.63	
102	.83	1/2"	163	.70	
103	.90	3/4"	164	.73	
104	.97	1"	165	.77	
105	1.07	1 1/8"	166	.78	
106	1.12	1 1/4"	167	.87	
147	1.17	1 1/2"	134	.78	
148	1.33	1 3/4"	135	.93	
149	1.42	2"	136	.95	
150	1.55	2 1/4"	137	1.07	
151	1.75	2 1/2"	138	1.17	
152	1.80	2 3/4"	139	1.27	
153	2.17	3"	140	1.40	
154	2.40	3 1/4"	141	1.67	
155	2.75	3 1/2"	142	1.83	
156	2.90	3 3/4"	143	1.97	
157	3.10	4"	144	2.32	
158	3.10				
159	3.80				

### STOCK SIZES OF BLACK AND BROWN FENOLINE TUBING

Individual lengths tubing in following diam.: 1"; 1 1/4"; 1 1/2"; 1 3/4"; 2"; 2 1/4"; 2 3/4"; 3"; Wall thickness 1/16".

No.	Dealer Cost
2131—3" long—1" O.D. to 3" O.D.	\$.45
2132—4" long—1" O.D. to 3" O.D.	.55
2133—6" long—1" O.D. to 3" O.D.	.78

When ordering, specify exact diameter.

### SPECIAL LENGTH BAKELITE TUBING

Cut to Order — Wall Thickness to 1/16"  
Outside diameters range from 1" to 4". Prices on request. Other diameters and thicknesses quoted on request.

### FENOLINE INSULATED GRID CAPS

Improved type for standard and transmitting tubes. Sturdy cadmium plated brass clip. Furnished with 12" wire.



For 866 Transmitting Tubes  
No. 683—Black—Dealer Cost \$ .42

For Standard Glass Receiving Tubes with small caps  
No. 680—Red ..... Dealer Cost \$20.00C  
No. 681—Black..... Dealer Cost 20.00C

### RUBBER INSULATED GRID CAPS

For Transmitting Tubes

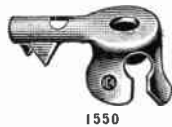
New improved type. Insulation made of special soft rubber over spring bronze.



For 866 Type Tubes  
No. 870—With Leads ..... \$ .25

### SPRING ACTION GRID CAPS

For all types of tubes. Positive contact. All grid caps are hot tinned ready for soldering.



No.	Dealer Cost
1550—For standard glass receiving tubes with small caps (.360 dia.).....	\$7.50M
1551—For tubes with miniature caps (.250 dia.) .....	7.50M
1553—For glass tubes.....	8.35M
1554—For glass tubes.....	8.35M



### ICA "INSULOID" RODS

Made of phenolic material of high electrical insulating properties and great tensile strength.



BAKELITE RODS				FENOLINE RODS			
No.	Color	Size	Dir. Cost	Lengths of 18" to 24"			
2175	Black	12" x 1/4"	\$.30	No.	Diam.	Dir. Cost Per Ft.	Dir. Cost Per Ft.
2176	Black	24" x 1/4"	.53	168	1/4"	\$.57	
2179	Black	12" x 3/8"	.42	178	3/8"	1.05	.77
2180	Black	24" x 3/8"	.85	176	3/8"	1.25	.95
2183	Black	12" x 1/2"	.57	177	1/2"	1.65	
2184	Black	24" x 1/2"	1.13				

### ICA FLEXIBLE SPAGHETTI TUBING

20 Foot Lengths



A flexible tubing in attractive colors. Will accommodate from No. 10 to No. 18 wires.

Furnished in one length—20 feet long on handy spools.

No.	Color	Dealer Cost
210	Red	Per Spool \$ .84
211	Yellow	Per Spool .84
212	Brown	Per Spool .84
213	Green	Per Spool .84
214	Black	Per Spool .84

500 Foot Spools, spaghetti tubing, same grade and colors as above. Specify color per spool.

No. 197..... Dealer Cost \$19.16

### ICA SPAGHETTI TUBING

For No. 10 to No. 18 gauge wire. Guaranteed not to crack. Furnished in 30" lengths.

No.	Color	Dealer Cost per length
182	Red	\$10.00C
183	Yellow	10.00C
184	Brown	10.00C
185	Green	10.00C
186	Black	10.00C

### SMALL SIZE SPAGHETTI TUBING

200—Red	\$10.00C
201—Yellow	10.00C
202—Black	10.00C

### LARGE SIZE SPAGHETTI TUBING

Supplied in 36" lengths. Diameter 9/64" I.D. x 3/16" O.D.

No. 196—Supplied in black only  
Dealer Cost—per length \$ .34

### ICA GIANT SLEEVING

Made of high voltage insulation saturated cambric material. Inside diameter 3/8". For Insulating Resistors, Small Condensers, Wire Cables, Leads, etc. 36" lengths.

No. 198..... Dealer Cost \$ .34

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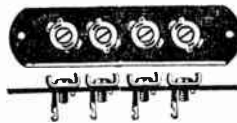
# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS



## ICA TERMINAL STRIPS

Specially suited for amplifiers, mixers, receivers, etc. Made of  $\frac{3}{8}$ " heavy black Bakelite, engraved in white. Terminals are brass cadmium plated.



No.	Terminals	Marking	Mtg. Ctrs.	Size	Dealer Cost
2420	2	Plain	1 1/2	3/8 x 2	\$13.35C
2419	2	A & G	1 1/2		13.35C
2418	2	Output	1 1/2		13.35C
2417	2	Input	1 1/2		13.35C
2414	3	Plain	2	3/8 x 2 1/2	18.33C
2415	3	1, 2, 3	2		20.00C
2413	4	Plain	2 1/2	3/8 x 3	23.32C
2408	4	1, 2, 3, 4	2 1/2		.25
2405	5	Plain	3	3/8 x 3 1/2	.28
2406	5	1, 2, 3, 4, 5	3		.32
2404	6	Plain	3 1/2	3/8 x 4	.34
2402	6	1, 2, 3, 4, 5, 6	3 1/2		.40
2412	7	Plain	4	3/8 x 4 1/2	.42
2411	7	1, 2, 3, 4, 5, 6, 7	4		.45
2410	8	Plain	4 1/2	3/8 x 5	.47
2409	8	1, 2, 3, 4, 5, 6, 7, 8	4 1/2		.52
2424	9	Plain	5	3/8 x 5 1/2	.52
2423	9	1, 2, 3, 4, 5, 6, 7, 8, 9	5		.57
2422	10	Plain	5 1/2	3/8 x 6	.57
2421	10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	5 1/2		.63



## BAKELITE TERMINAL MOUNTING STRIPS



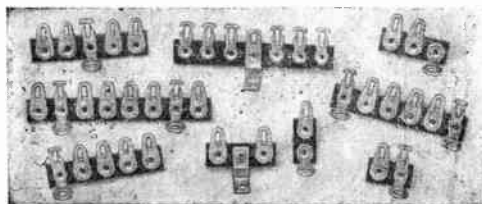
Type A

Mounting tie strips for fastening Resistors, Condensers, etc. Mounting Lug hole diameter .140". Type A shows non-ground mounting lug. Type B shows combination grounding-mounting lug:



Type B

No.	Type	Terminals	Mtg. Centers	Mounting Lugs	Dealer Cost
2434	A	1	} One Hole	1	\$1.92C
2455	B	1		1	2.20C
2435	A	2	} One Hole	1	2.70C
2456	B	2		1	2.70C
2436	A	3	1 1/2	2	4.75C
2457	B	3	1 1/2	2	4.75C
2437	A	4	1 3/8	2	5.75C
2458	B	4	1 3/8	2	5.75C
2438	A	5	2 1/4	2	6.75C
2459	B	5	2 1/4	2	6.75C
2439	A	6	1 3/8	2	8.50C
2460	B	6	1 1/2	2	8.50C
2440	A	7	1 1/2	2	9.25C
2461	B	7	1 1/2	2	9.25C
2441	A	8	1 3/8	2	10.50C
2462	B	8	1 3/8	2	10.50C



## SPECIFICATION TERMINAL STRIPS

Special type terminal strips with terminals in any required position, including offset bracket type. Made to specifications. Send us your print.

## BAKELITE TERMINAL STRIPS

Brown bakelite 1/16" thick. Suitable light duty radio work, experimental purposes, etc.



No.	Terminals	Mtg. Ctrs.	Dir. Cost
2520	2	1 1/4	\$ 9.00C
2521	3	1 3/4	12.00C
2522	4	2 1/8	15.00C
2523	5	2 3/8	18.00C
2524	6	3 1/4	20.00C
2528	Terminal Lug & Screw only		3.46C



## TWIN JACK STRIP

With two terminals. Takes standard phone tips. Base width  $\frac{1}{8}$ ".  $\frac{1}{16}$ " between mounting holes.

No. 2443 ..... Dealer Cost \$15.00C



## Terminal Strip Offset Mounting Bracket

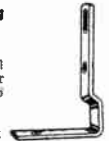
For more rigid mounting of terminal strips. Mounting hole for No. 6 screw.

No. 2430.....Dir. Cost \$1.67C

## Terminal Strip Offset Mounting Bracket and Lug Combination

For sturdy mounting of terminal strips. Affords solder connection for ground. Mounting hole for No. 6 screw.

No. 2431.....Dir. Cost. \$1.67C

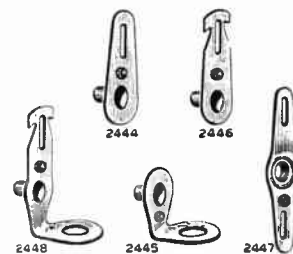


## TERMINAL LUGS



No.	Description	Dealer Cost
2425	Lugs only (less screws)	\$4.03C
2426	Terminal Screws, 3/8" L.	1.07C

## TERMINAL LUGS



No.	Description	Dealer Cost
2444	Terminal Lug	\$5.00M
2445	Mounting Lug—#6 hole	.83C - 5.00M
2446	Notched Terminal Lug	.67C - 5.00M
2448	Combination Term. and Mounting Lug—#6 hole	1.00C - 8.00M
2638	Same as 2448—#8 hole	1.00C - 6.66M
2447	Double lug with center eyelet	1.00C - 8.00M
2463	Combination lug—eyelet type and bracket	.83C - 5.00M

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1921



# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## FILTERVOLT NOISE FILTER



An efficient filter for disturbances caused by electrical appliances. For use with any all-wave or broadcast receiver.

Rated conservatively at 250 watts for 32, 110 and 220 volt AC or DC circuits. Can be installed either at the radio or at the source of disturbance.

Contains heavy duty R.F. chokes, large filter capacitor, and has a "PI" Filter circuit arrangement.

No. 338..... Dealer Cost \$5.00

## ICA FILTERVOLT

Improves extremely noisy radio reception due to interruptions in power line caused by electrical appliances, lights, etc.



No. 394

Dealer Cost \$3.00

## SIMPLEX FILTERVOLT

Eliminates Radio Noises Caused By—



- Electric Shavers
- Refrigerators
- Fans • Elevators
- Motors, etc.

No. 90..... Dealer Cost \$1.17

## UNIVERSAL VOLTAGE REGULATOR

Voltage fluctuation often occurs not gradually but suddenly, thus bringing a tremendous strain on the tubes. This regulator protects tubes through scientific regulation of current fluctuations. Housing body and end rings are neatly constructed and of perforated japanned metal. For all Radio Sets, AC, DC.



No. 92..... Dealer Cost \$1.17

## ICA 3-IN-1 RADIO TUNER



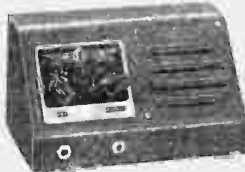
Functions as either an Antenna Tuner, Wave Trap, or Aerial Eliminator. Operates on any make or model radio set.

As an Antenna Tuner, it will improve the reception of a weak station. As a Wave Trap, it will separate interfering stations and improve selectivity. As an Aerial Eliminator, it makes unnecessary the outdoor aerial. Easily installed within a few minutes.

No. 93..... Dealer Cost \$6.00  
Complete with Instructions.

## IMPROVED ICA DELUXE SIGNA-TONE

AUDIO OSCILLATOR — CODE PRACTICE SET — KEYING MONITOR



The ICA Signature is a perfected Audio Oscillator, having 3 different output frequencies and a continuously variable volume control. The Audio notes are similar to those of high quality commercial CW stations.



1. CODE PRACTICE SET—A number of phones and keys may be connected for intercommunication or for classroom or radio club instruction in code.
2. KEYING MONITOR—An invaluable aid in improving any ham's "fist." Will follow the "bug" at all speeds. No well-equipped station should be without this keying monitor. (A double pole keying relay is required for this function—one set of contacts for keying transmitter; other set for monitor.)
3. MODULATION SIGNAL—The steady note of the Signature is ideal for adjusting both the Modulator and modulated stages of your transmitter for 100% modulation.
4. SIGNAL TRACER—By feeding the output of the Signatone into each stage of your modulator and listening to the output of that stage, defects and "bugs" can easily be located. Complete with 50B5 and 35W4 tubes and self-contained speaker for 110 V AC-DC.

No. 4300—Dealer Net Cost.....\$15.75  
No. 4301—Classroom Model (No Speaker)—Dealer Net Cost..... 13.50



## ICA UNBREAKABLE MORSE CODE RECORDS

Learn the International Morse Code Quickly, Easily — Uses EYE - EAR Method. The Complete Linguaphone Code Equipment consists of 5 Double-faced, electrically transcribed records in durable album. Contents: 3 Tables, 10 Lessons.

No. 1800—Complete..... Dealer Cost \$10.95  
No. 1800R—Record only..... Dealer Cost 2.03  
No. 1800B—Booklet only..... Dealer Cost .98

## ICA EAR PHONES

Complete With Head Bands

Made of molded Bakelite and light-weight nickel-plated metal. 2000 ohms.



No. 23—Double Head Phone... Dir. Cost \$2.71

## EAR CUSHIONS



Made of soft rubber. Ideal for the amateur wireless operator, etc.

No. 195..... Dealer Cost \$.84 pr.

## DOUBLE PHONE CORDS



No. 192—Tips on both ends..... \$ .64  
193—Spades on one end, tips on other .64

## ICA TENNA-SCOPE LOOP

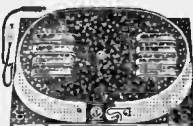
For Midgets or Portables

Eliminates necessity of outdoor or indoor antenna. Replaces the antenna coil in portable or midget sets. Easily assembled.



No. 4385..... Dealer Cost \$ .83

## ICA TENNA-SCOPE



A new style built-in tuned radio antenna. Easily connected. Eliminates use of outside aerial and ground. Features: Better selectivity — Higher signal to noise ratio — Easily connected, no soldering.

No. 4380..... Dealer Cost \$2.00

## ICA "TRIPLEX"

Radio & Telegraph Code Practice Set  
Blinker Light  
Radio Signal—Telegraph

No. 70—Single Unit (less batteries)..... \$1.95  
71—Double Unit (50 ft. wire)..... 4.12



## ICA RECORD-PLAYER SWITCH

Replacement for RCA Switch 9824A

Recommended for quickly connecting Record Players, F.M. attachments, Television attachments, Microphones and similar devices into the audio amplifier of existing radio receivers.



No. 1740..... Dealer Cost \$1.55

## RESISTOR CORDS

A series of replacement resistor cords for practically all AC-DC requirements.



No.	Resistance-Ohms	Dir. Cost
513	135	\$.84
514	160	.84
515	190	.84
516	220	.84
517	290	.84
518	340	.84
519	540	.92

## UNIVERSAL RESISTOR CORD

Replacement Resistor Cord for all makes receivers. From 22 to 330 ohms on one cord. Instructions with each cord.

No. 205..... Dealer Cost \$1.25



SINCE  
1921



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## RADIO HARDWARE



ICA offers a wide variety of radio hardware items suitable for practically any use in the radio-electronic and allied fields. ICA hardware is offered

in standard package quantities or in handsome glass display jars for convenient storing.



### ROUND HEAD MACHINE SCREWS NICKEL-PLATED



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
—	—	5504	1000	2-56 x 1/4" long	\$4.17M
5000	100	5500	1000	4-36 x 1/4" long	4.17M
5001	100	5501	1000	4-36 x 1/2" long	4.17M
5002	75	5502	1000	4-36 x 3/4" long	4.50M
5007	90	5507	1000	6-32 x 1/4" long	4.42M
—	—	5511	1000	6-32 x 3/8" long	5.00M
5008	80	5508	1000	6-32 x 1/2" long	5.16M
5009	70	5509	1000	6-32 x 3/4" long	5.50M
5010	50	5510	1000	6-32 x 1" long	6.50M
5014	75	5514	1000	8-32 x 3/8" long	5.42M
5015	70	5515	1000	8-32 x 1/2" long	6.00M
5017	40	5517	1000	8-32 x 1" long	7.50M
5022	60	5521	1000	10-32 x 1/2" long	7.50M

### BINDING HEAD MACHINE SCREWS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
—	—	5546	100	6-32 x 3/8" long	\$9.00M
5030	80	5547	100	6-32 x 1/2" long	9.00M
5031	75	5548	100	6-32 x 3/4" long	9.00M

### OVAL HEAD MACHINE SCREWS NICKEL-PLATED



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5042†	40	5710†	100	10-32 x 5/8" long	\$7.50M

†For Transmitting Racks.

### PARKER-KALON SELF-TAPPING SCREWS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
—	—	5562	1000	No. 3 x 3/4" long	\$1.00C-\$9.16M
5051	50	5555	1000	No. 4 x 3/4" long	1.17C-10.00M
5052	50	5556	1000	No. 6 x 1/4" long	1.50C-10.00M
5053	45	5557	1000	No. 6 x 3/8" long	1.50C-13.33M
5054	40	5558	1000	No. 7 x 1/2" long	1.75C-15.00M
5055	35	5559	1000	No. 10 x 3/4" long	2.00C-18.33M

### ESCUTCHEON PLATE SCREWS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5182	100	5677	1000	No. 1 x 1/4" long	\$11.00M

## FLAT STEEL PLATED WASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5090	100	5595	1000	For No. 6 Screw	\$2.50M
5091	100	5596	1000	For No. 8 Screw	2.50M
5092	100	5597	1000	For No. 10 Screw	2.50M
5093	100	5603	1000	For 1/4" Screw	3.75M
—	—	5607	1000	For 3/8" Screw	4.17M

## EVERLOCK LOCK WASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5085	100	5592	1000	For No. 6 Screw	\$3.33M
5086	90	5593	1000	For No. 8 Screw	3.75M
5087	80	5594	1000	For No. 10 Screw	4.17M

## KANTLINK SPLIT TYPE LOCKWASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5080	125	5589	1000	For 6-32 Screw-3/8" thick	\$3.33M
5081	125	5590	1000	For 8-32 Screw-3/8" thick	3.33M
5082	100	5591	1000	For 10-32 Screw-3/8" thick	3.33M
5083	75	5602	1000	For 1/4-32 Screw-1/8" thick	4.33M

## FLAT FIBRE WASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Diam. Thick.	Hole	Bulk Dir. Cost
5100	125	5601	1000	1/8 1/8	3/8	\$4.17M
—	—	5612	1000	3/8 1/8	7/8	4.83M
5102	90	5609	1000	1/2 3/8	3/8	5.00M
—	—	5626	1000	3/8 1/8	3/8	5.00M
5101	100	5605	1000	3/8 1/8	3/8	5.00M
5104	50	5610	1000	1/2 1/8	3/8	5.00M
5105	50	5611	1000	3/8 3/8	3/8	6.42M

## FIBRE SHOULDER WASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Overall Diam. Shoulder Diam. Overall Hgt.	Bulk Dir. Cost
—	—	5618	100	1/8 1/8 3/8	\$5.83M
5111	50	5620	100	1/8 3/8 3/8	6.66M
5110	50	5615	100	3/8 1/4 3/8	5.83M
5114	50	5619	100	1/8 1/8 1/8	6.66M
5115	40	5616	100	1/2 1/8 1/8	5.83M
5112	50	5624	100	1/2 3/8 3/8	6.66M
5113	50	5628	100	3/8 1/2 3/8	8.35M

## CUP WASHERS



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Hole Size	Bulk Dir. Cost
5212	45	5712	100	No. 8	\$5.00M
5213	20	5713	100	No. 10	\$1.17C-\$5.00M

\*All JARS ARE \$5.50 each, DEALER COST. BULK QUANTITIES AS SHOWN. ORDER BY Cat. No.

SINCE  
1921



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## PLATED STEEL HEXAGON NUTS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5070	100	5572	1000	4-86 x 1/4"	\$5.00M
—	—	5573	1000	4-86 x 5/16"	5.00M
5074	80	5577	1000	6-32 x 1/8"	5.50M
5071	90	5576	1000	6-32 x 1/4"	5.50M
5072	80	5580	1000	8-32 x 1/8"	5.50M
5073	50	5584	1000	10-32 x 3/8"	\$ .85C- 6.66M
5075	12	5583	1000	1/4-20 x 1/2"	1.00C- 8.33M
—	—	5579	1000	1/4-32 x 3/8"	8.00M
5076	10	5575	1000	3/8-32 x 1/2"	2.50C-22.50M



## PLATED BRASS HEXAGON NUTS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
—	—	5564	100	4-86 x 3/8"	\$ 5.83M
—	—	5566	100	6-32 x 1/4"	8.33M
—	—	5567	100	6-32 x 5/8"	8.35M
—	—	5570	100	8-32 x 1/8"	10.00M
—	—	5574	100	3/8-32 x 1/2"	10.83M



## RACK SCREW AND WASHER ASSORTMENT

Packed in handy ICA jars. Includes 20 Oval Head Screws (10-32 x 3/8") and 20 Cup Washers (10-32).

No. 5210.....Dealer Cost \$ .50



## BRASS EYELETS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Diam. Shank	Length	Bulk Dir. Cost
5172	80	5672	1000	.116	1/8"	\$6.00M
5171	90	5671	1000	.126	1/8"	5.70M
5170	100	5670	1000	.132	1/8"	5.10M



## NICKEL PLATED TUBULAR STEEL RIVETS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Diam. Shank	Length	Bulk Dir. Cost
—	—	5730	1000	3/8"	3/8"	\$5.00M
5160	100	5663	1000	1/2"	1/2"	6.00M
5161	80	5664	1000	1/2"	3/4"	6.00M
5162	70	5665	1000	1/2"	1/2"	6.30M



## STEEL CABLE CLAMPS PLATED

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5200	35	5697	1000	Length 3/8" Diam. Bend 1/8"	\$1.33C-\$12.00M
5201	30	5698	1000	Length 1/2" Diam. Bend 1/8"	1.67C- 15.00M



## NICKEL PLATED SPRING CLIP

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk Dir. Cost
5190	40	5691	100	Width 1/8" Length 1 1/8"	\$15.00M
5191	40	5692	100	Width 1/8" Length 1 1/8"	16.67M
5192	15	5693	100	Width 3/8" Length 1"	19.16M

\*All JARS ARE \$.50 each, DEALER COST. BULK QUANTITIES AS SHOWN. ORDER BY Cat. No.



## MIDGET FUSE CLIPS

(For 1/4" Glass Fuses)

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Height	Length	Bulk Dir. Cost
5180	35	5681	100	1/8"	1/4"	\$15.00M



## ICA FLEXIBLE RUBBER GROMMETS

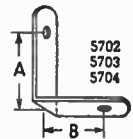
Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	(3) Hole Size	(1) O.D.	(2) Thick- ness	(4) Slot	(5) Mtg. Width	Bulk Dir. Cost
5120	15	5633	100	1/8"	1/2"	1/8"	1/8"	1/8"	\$2.92C
5121	12	5634	100	3/16"	5/8"	1/8"	1/8"	1/8"	3.08C
5129	15	5683	100	3/16"	1/2"	1/8"	1/8"	1/8"	3.00C
5122	15	5635	100	1/4"	1/2"	1/8"	1/8"	1/8"	3.33C
5123	12	5639	100	1/4"	1/2"	1/8"	1/8"	1/8"	2.42C
5125	10	5637	100	1/4"	5/8"	1/8"	1/8"	1/8"	2.75C
—	—	5641	100	1/2"	1"	1/8"	1/8"	1/8"	6.25C
—	—	5642	100	1/2"	1 1/8"	1/8"	1/8"	1/8"	3.08C
5127	12	5687	100	1/4"	1/2"	1/8"	1/8"	1/8"	2.75C
AN GROMMET (931-4-7)									
—	—	5684	100	3/4"	3/8"	1/8"	1/8"	1/8"	\$5.90C



## ANGLE BRACKETS

†One Hole Tapped — One Plain.

‡One Slot — One Hole.



Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	A	B	Width	Bulk Dir. Cost
5205	16	5702	100	3/8"	3/8"	1/8"	\$2.08C
5206	15	5703	100	3/8"	3/8"	3/8"	2.25C
5207	25	5704	100	1 1/8"	1 1/8"	3/8"	3.50C
—	—	5705	100	1 1/8"	1 1/8"	1/2"	4.17C-28.85M
—	—	5706	100	1 1/8"	1 1/8"	3/8"	2.08C
—	—	5707	100	1 1/8"	1 1/8"	3/8"	2.67C

## BRASS TINNED TERMINAL LUGS



Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Length	Hole Size	Bulk Dir. Cost
—	—	5645	100	1 1/2"	No. 8	\$ .72C-\$4.62M
—	—	5654	100	1 1/2"	1/4"	.72C- 4.62M
5135	125	5646	100	1 1/2"	No. 6	.67C- 5.00M
—	—	5656	100	1 1/2"	No. 6	.56C- 4.01M
5136	100	5647	100	1 1/2"	No. 10	.72C- 4.62M
5137	75	5649	100	1 1/2"	No. 8	6.50M
5141	75	5648	100	1"	1/8"	6.00M
—	—	5655	100	1 1/2"	No. 8	.80C- 4.81M
—	—	5653	100	1 1/2"	No. 6	.80C- 4.81M
5138	100	5650	100	1 1/2"	No. 6	.80C- 6.00M
5139	75	5651	100	1 1/2"	No. 10	1.04C- 7.21M
5140	50	5652	100	1 1/2"	1/4"	1.44C-12.66M

## EVERLOCK TERMINAL LUGS



Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Length	Hole Size	Bulk Dir. Cost
5483	—	5484	5482	—	—	—
—	—	5480	100	1 1/2"	No. 6	\$1.25C-11.00M
5145	50	5481	100	1 1/2"	1/4"	1.12C- 8.08M
5146	60	5482	100	1 1/2"	No. 4	1.12C- 8.08M
5147	55	5483	100	1 1/2"	No. 6	1.12C- 8.08M
5148	50	5484	100	1 1/2"	No. 8	1.12C- 8.08M

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1921



# insuline Corporation of America

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## DISPLAY "SALESMAN" MERCHANDISER OF HARDWARE AND RADIO ESSENTIALS



With this ICA display assortment you can now sell hardware in a packaged form. This assortment includes — all sizes Round Head Machine Screws — Nickel plated nuts to match — Parker-Kalon self-tapping screws — Kant-Link lock washers — Shake-Proof washers — plain washers — flat fibre washers — flexible grommets — lugs — eyelets — rivets — escutcheon plate screws — midget fuse clips — spade bolts — spring clips — clamps — angles — rack screws — and washers, etc.

EACH ITEM INDIVIDUALLY PACKED IN A GLASS DISPLAY JAR. Each jar contains an ample quantity of individual type and size hardware used by dealers, servicemen and amateurs. A complete radio hardware assortment, beautifully put up in these jars and stacked in a handsome durable metal rack which holds 36 jars.

No. 5275—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware, such as screws — nuts — bolts — washers — grommets, etc. Dealer Cost \$18.00

No. 5276—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware and essentials such as fibre washers — lugs — metal washers — grommets — spring clips — fuse clips — angle brackets, etc. Dealer Cost \$18.00

No. 5405—METAL DISPLAY AND UTILITY RACK—Consists of 4 shelves for storing 36 hardware jars — small parts and miscellaneous items. Measures 12" high by 17 1/2" wide by 8" deep Dealer Cost \$4.17

### UNIVERSAL RADIO HARDWARE ASSORTMENT



Contains 2 pounds of assorted hardware commonly used by servicemen, amateurs, experimenters, etc. Suitable for many types of radio, television, servicing, etc. jobs. Includes screws, nuts, bolts, rivets, eyelets, lugs, washers, etc.

No. 5250 Dlr. Cost \$2.00



### ICA ALL-PURPOSE RADIO HARDWARE AND ESSENTIAL EQUIPMENT

Packed in a handy indestructible metal utility case.

This DeLuxe assortment includes such items as knob set screws — escutcheon screws — Parker-Kalon self-tapping screws — rubber grommets — screws — nuts, etc.

No. 5251 Dealer Cost \$3.92



### ICA MASTER SCREW AND NUT ASSORTMENT

This assortment is contained in the ICA UTILITY METAL INDESTRUCTIBLE COMPARTMENT CASE. Contains a substantial quantity of all the popular sizes machine screws, wood screws, Parker-Kalon self-tapping screws and nuts to match.

No. 5252 Dealer Cost \$4.42

### ICA UTILITY GLASS JARS

For use on service bench to store hardware, etc. 2 1/2" high x 1 1/2" deep.

No. 5400 Dealer Cost \$9.00



### ICA ANGLE AND BRACKET ASSORTMENT



A complete assortment of 30 popular angles and brackets, nickel plated finish. This combination of angles and brackets has been carefully selected to fill a wide variety of requirements. Packed for ready availability.

No. 5800 Dealer Cost \$ .60

### ICA RUBBER GROMMET ASSORTMENT



Assortment contains popular sizes used in the Radio, Electrical and Television field. Carefully selected group to meet many requirements. Packed for ready use.

No. 5810 Dealer Cost \$ .60

Contains 28 Rubber Grommets

No. 5811 Dealer Cost \$1.20

Contains 60 Rubber Grommets

### ICA FIBRE WASHER ASSORTMENT



A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts. Suitable for wide range of uses. Packaged for ready use.

No. 5805 Dealer Cost \$ .60

Contains 100 assorted washers



### ICA INSULATED AND BRASS SPACERS AND BUSHINGS

Used for raising sub panels, chassis, condensers, etc. For manufacturers, experimenters and laboratory use.

#### Made of High Quality Brass

No.	Diameter	Length	Dealer Cost per C
5760	1/4"	1/4"	\$4.00
5761	1/4"	3/8"	4.83
5762	1/4"	1/2"	5.66
5763	1/4"	3/4"	6.58
5767	1/4"	1"	7.50
5764	3/8"	1/4"	5.83
5765	3/8"	1/2"	6.66
5766	3/8"	3/4"	7.92
5768	3/8"	1"	10.83

#### Made of Fenoline Insulation

5775	1/4"	1/4"	3.50
5776	1/4"	3/8"	4.00
5777	1/4"	1/2"	4.50
5778	1/4"	3/4"	5.50
5782	1/4"	1"	6.50
5779	3/8"	1/4"	4.00
5780	3/8"	1/2"	5.00
5781	3/8"	3/4"	6.00
5783	3/8"	1"	7.50

#### Threaded Brass Bushings—1/4" Diameter

5785	for 6/32 screw	1/4"	4.83
5786	"	3/8"	5.66
5787	"	1/2"	6.66
5788	"	3/4"	7.50
5794	"	1"	8.35
5790	for 8/32 screw	1/4"	5.50
5791	"	3/8"	6.50
5792	"	1/2"	7.50
5795	"	1"	9.16

### SPACER AND BUSHING ASSORTMENTS Brass and Insulated



Assortment of 25 spacers and bushings in 1/4 & 3/8. Diameters from 1/4" to 3/4". Ideal for raising sub panels, chassis, etc.

No. 5260—Insulated Assortment Dealer Cost \$1.50

5261—Brass Assortment Dealer Cost \$1.50

#### Threaded Brass Bushing Assortments

5262—16 Assorted Brass bushings. Threaded for 6/32 from 1/4" to 3/4" lengths Dealer Cost 1.50

5263—16 Assorted Brass bushings. Threaded for 8/32 from 1/4" to 3/4" lengths Dealer Cost 1.50



#### Molded Bakelite Eyelet Bushing

No. 2365—Suitable for either spacer or bushing. With brass eyelet Dealer Cost \$2.92C

2366—Same as above, without eyelet. 1.92C

SINCE  
1921



**insuline Corporation of America**

OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

### MAST ANTENNAS

**Latest type home antenna suggested by leading radio set manufacturers for best standard reception results.**

Sturdily made of guaranteed rust-proof admiralty brass.

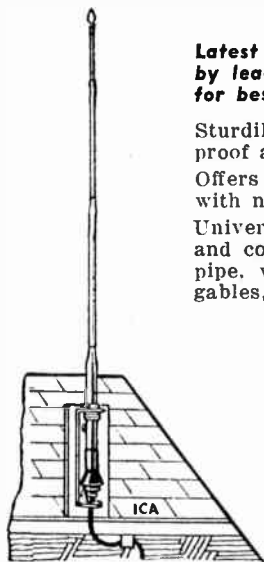
Offers clear, noise-free reception with no power-line interference.

Universal bracket allows permanent and convenient installation on soil pipe, window pipe, chimney, roof, gables, cornices, wall copings, etc.

Includes all accessories for Universal Mounting—Lead-in Wire; Ground Wire; Brackets; Lightning Arrester; Screws; Insulators, etc.

4 Sections—Extends to 12 Feet  
No. 4516.....Dir. Cost \$4.17

Individually boxed—10 to Standard Carton—Wt. 33 Lbs.



### WINDOW ANTENNAS

**Easily installed, sturdily made, rust-proof admiralty brass window antennas for homes, apartments, hotels!**

Adjustable bracket at base permits focusing in any position for best results. Telescopic rods.

Completely assembled.

Includes mounting flange, insulator and lead-in strip. Individually boxed.

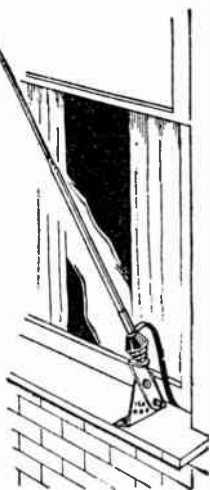
3 Sections—Extends to 96"  
No. 4527B.....Dir. Cost \$2.92

3 Sections—Extends to 75"  
No. 4529.....Dir. Cost \$2.50

#### Extra Length Window Antenna

4 Sections extends to 12 feet. Ideal for DX reception and rural sections where extra length needed for best results.

No. 4513.....Dir. Cost \$4.58



### INSULINE AERIAL KITS



#### DE LUXE KIT

Carries all the essentials for a complete antenna installation. Highest grade materials with Underwriters' Approved Lightning Arrester. Includes:

100 ft. Heavy 7 Strand Aerial Wire, 26 gauge — 30 ft. Stranded Copper, Heavily Insulated, Weatherproof Lead-in Wire — 10 ft. Ground Wire, 22 gauge — Ground Clamp — Lead-in Strip — Underwriters' Approved Lightning Arrester — 2 Porcelain Insulators — 2 Nail-it Knobs — Handsome 4-color Box.

No. 654-N.....Dealer Cost \$1.95

#### SPECIAL KIT

A quality Antenna Kit that includes all the necessary elements for an efficient aerial set-up. Kit contains:

100 ft. Heavy 7/26 Aerial Wire — 30 ft. Stranded Copper Heavily Insulated, Weatherproofed Lead-in Wire — 10 ft. No. 22 Ground Wire — 2 Porcelain Insulators — Ground Clamp — Lead-in Strip — Lightning Arrester — Handsome 4-color Box complete with instructions.

No. 653-N.....Dealer Cost \$1.87

#### CAPITALIZER KIT

Contains high-grade components for fine performance. Includes:

100 ft. Aerial Wire, 7 Strand, 26 gauge — 30 ft. Insulated Lead-in Wire — Underwriters' Approved Lightning Arrester — 2 Porcelain Insulators — Ground Clamp — Lead-in Strip — Handsome 4-color Box.

No. 651.....Dealer Cost \$1.08

#### JUNIOR KIT

A utility Kit for satisfactory reception. Kit contains:

100 ft. 7/26 Aerial Wire — 30 ft. Insulated Lead-in Wire — 2 Porcelain Insulators — Ground Clamp — Lead-in Strip — Handsome 4-color Box with instructions.

No. 649.....Dealer Cost \$ .90

#### LIGHTNING ARRESTER



Black porcelain, measures 3 3/4" in length. Non-grounding and weather-proofed. Individually packed.

No. 336  
Dealer Cost \$2.27

#### GROUND CLAMP

For a quick but firm connection to ground rod or pipe of varying diameters from 3/4" to 2 1/2". Equipped with adjustable screw and convenient clip for fast contact.



No. 223.....Dealer Cost \$6.35C

#### WINDOW LEAD-IN STRIP



Flexible metal strip, 1/2" wide, with Duco varnished covering. Fully insulated. Convenient clips soldered to ends.

No. 1504.....Dealer Cost \$11.68C

#### PORCELAIN INSULATOR



Glazed porcelain insulator that will not crack or absorb moisture. Offers highest measure of strain safety.

No. 227  
Dealer Cost \$6.66C

#### "NAIL-IT" KNOB



Made of durable glazed porcelain. Will not crack or absorb moisture.

No. 229.....Dealer Cost \$9.00C

#### ICA AIRCRAFT TYPE INSULATOR

A strain insulator made of Insulex. Particularly adaptable for aircraft, automobile and TV installation. Two 1/4" mounting holes. Distance between holes 3/4".



No. 2325.....Dealer Cost \$7.83C

GENERAL



CEMENT

RADIO CEMENTS FOR ALL PURPOSES



**G-C RADIO SERVICE CEMENT**

The best Cement for repairing radios and speakers. Excellent for repairing and replacing torn cones. Vibration-proof, water-proof and fast drying. Brushes attached.

No.		List
30-2	2-oz.	\$0.65
34-2	Tube	.55
30-4	4-oz.	1.10
30-6	6-oz.	1.55
30-8	8-oz.	1.95
30-16	16-oz.	3.65

**G-C RADIO SERVICE SOLVENT**

Best Solvent for loosening cement on speaker cones, frames, etc. Will dissolve all cements on speakers. Brush attached.

No.		List
31-2	2-oz.	\$0.55
31-4	4-oz.	.95
31-6	6-oz.	1.10
31-8	8-oz.	1.40
31-16	16-oz.	1.95

**G-C CEMENT THINNER**

Made of same solvents as G-C Service Cement. Best thinner for all cements.

No.		List
28-2	2-oz.	\$0.55
28-4	4-oz.	.95
28-8	8-oz.	1.40
28-16	16-oz.	1.95

**G-C SPEAKER CEMENT**

Best grade cement put up in handy tubes. For radio and speaker repairs. Water-proof, vibration-proof, fast drying.

No.	List
34-2 2-oz. Tube	\$0.55

**G-C PLASTIC CEMENT**

For cementing broken plastic cabinets, knobs, dial and crystal assemblies, grille cloth, etc. Fast drying. Brush attached.

No.		List
32-2A	2-oz.	\$0.65
32-8A	8-oz.	1.95
32-16A	16-oz.	3.65



**G-C BAKELITE CEMENT**

For cementing bakelite to bakelite and bakelite to other materials. For repairing knobs, cabinets, panels, for inserts in moldings, attaching labels to plastics, etc. Brush attached.

No.		List
32-2	2-oz.	\$0.70
32-8	8-oz.	2.40
32-16	16-oz.	4.55

**G-C VINYLITE CEMENT**

Clear transparent adhesive, air drying. For cementing metals, plastics, paper, leather, etc. Used also as thermoplastic cement for non-porous materials. Sets on cooling. Brush attached.

No.		List
58-2	2-oz.	\$0.65
58-8	8-oz.	1.90

**G-C HOUSEHOLD & MODEL CEMENT**

Best cement for model makers, household, and office use. For airplanes, railroads, ships, toys, etc. Will cement wood, paper, plastics, metal, china, ceramics, etc. Fast drying, water-proof. Brush attached.

No.		List
45-2	2-oz.	\$0.50
45-3	Tube	.50

**G-C FABRIC TO METAL CEMENT**

For cementing cloth and felt to metal or plastics. Best for grille cloth, phono turntable felts, upholstery, fabrics, etc. Fast drying, water-proof.

No.		List
22-4	4-oz.	\$0.75
22-8	8-oz.	1.35
22-16	16-oz.	2.45

**G-C GRAY RUBBER CEMENT**

General purpose for cloth, paper, rubber, etc. Has great tackiness and adhesion for radio, shop, auto, or hobby use.

No.		List
23-8	8-oz.	\$1.40
23-16	16-oz.	2.50

**G-C GRILLE CLOTH CEMENT**

Rubber base cement for grille cloth, leatherette, fabric, upholstery, etc. Will not penetrate, stain, or shrink.

No.		List
38-4	4-oz.	\$0.75
38-8	8-oz.	1.35
38-16	16-oz.	2.45



**G-C RUBBER TO METAL DIAL DRIVE CEMENT**

For cementing rubber drives to shafts, rubber mountings, gaskets, hose, weather stripping, for radios, refrigerators, autos, etc.

No.		List
35-2	2-oz.	\$0.65
35-3	Tube	.55
35-4	4-oz.	1.10
35-8	8-oz.	1.90
35-16	16-oz.	3.65

**G-C WOOD GLUE**

New white resin water-proof glue for radio cabinets, furniture, chairs, etc. Will not injure finish. Extra strong.

No.		List
39-2	2-oz.	\$0.65
39-4	4-oz.	1.10
39-8	8-oz.	1.35
39-16	16-oz.	2.15

**G-C ELECTRICAL AND RESISTOR CEMENT**

Heat-proof cement, hardens like porcelain. Same as on resistors, flat irons, etc.

No.		List
27-2	2-oz.	\$0.65

**G-C FILM CEMENT**

New improved cement for all safety and nitrate film. Sets fast. Brush attached.

No.		List
33-1	1-oz.	\$0.50

**G-C ACRYLIC CEMENT**

Welds and cements lucite, plexiglass, and other acrylic materials. Strong, fast drying. Brush attached.

No.		List
40-2	2-oz.	\$0.65

**G-C LABEL CEMENT**

Sticks labels to anything — metal, glass, wood, tin, bakelite, plastics, etc. Good for cementing labels to bins, racks, water-proofing labels, etc.

No.		List
46-2	2-oz.	\$0.65
46-8	8-oz.	1.90

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Catalog — FREE — or Write Us



**G-C No. 67 PAINT THINNER**

For Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish, Rubber Cements, and ordinary paints.

No.		List
67-2	2-oz.	\$0.55
67-4	4-oz.	.95
67-8	8-oz.	1.35
67-16	16-oz.	1.90

**G-C Q-DOPE THINNER**

Will cut and dissolve Q-Dope and other polystyrene coil dopes and cements. Will soften and weld polystyrene rods tubes, sheets, etc.

No.		List
41-2	2-oz.	\$0.55
41-4	4-oz.	.95
41-8	8-oz.	1.35

**G-C LACQUER THINNER**

Will thin all lacquers, lacquer enamels, telephone black or gray, touch-up lacquers, airplane dopes, model cements, etc.

No.		List
29-2	2-oz.	\$0.55
29-4	4-oz.	.95
29-8	8-oz.	1.40
29-16	16-oz.	1.95

**G-C CEMENT SAMPLER KIT**

What kind of cement shall I use? Get this kit and experiment with all types of cements available. Cements for all applications included so you can try them yourself for your application. 10 — 2-oz. bottles in Kit.

No.	List
345 Kit	\$8.60

**G-C PLI-O-BOND CEMENT**

Sticks anything to anything. Cold setting, rubber-like, thermoplastic cement that dries rapidly with a flexible and very strong bond. For iron, steel, plastics, glass, cloth, plastic fabrics, etc.

No.		List
43-2	2-oz.	\$0.80
43-8	8-oz.	1.90
43-16	16-oz.	3.65



**G-C COIL DOPE KIT**

For high frequency coils, ultra low loss. Contains 2-oz. bottle Polystyrene Q-Dope, 2-oz. Thinner, and 2 brushes. The best!

No.	List
888 Kit	\$1.10

**G-C CEMENT & SOLVENT KIT**

"Handy to carry with you." Contains bottle G-C Radio Cement and G-C Solvent, with brushes.

No.	List
343 Kit	\$0.85

**G-C CONTACT & ATTENUATOR KIT**

For cleaning and lubricating attenuator, tunners, contacts, all-wave switches, condenser bearings, etc. Eliminates noise and prevents corrosion.

No.	List
777 Kit	\$1.25

**G-C INSULATING & DIPPING VARNISH**

For treating field coils, noisy or buzzing transformers and chokes. Air dries to a tough insulating film. Can be brushed or dipped.

No.	2-oz.	List
56-2	2-oz.	\$0.65
56-4	4-oz.	1.05
56-8	8-oz.	1.65
56-16	16-oz.	2.75

**G-C LIQUIDOPE**

All wave nitrocellulose base dope for coils. Air dries fast to tough film, that insures toughness and firmness. Use for sealing, doping, supporting coils, etc.

No.	2-oz.	List
36-2	2-oz.	\$0.65
36-8	8-oz.	1.90
36-16	16-oz.	3.30

**G-C Q-DOPE**

Liquid polystyrene ultra low loss coil dope for RF, UHF, and VHF components. Will not change R.F. circuit values. Performs — 70°F to 160°F. Also use as Polystyrene Cement.

No.	2-oz.	List
37-2	2-oz.	\$0.65
37-4	4-oz.	1.10
37-8	8-oz.	1.90
37-16	16-oz.	3.30



**G-C FUNGUS VARNISH**

Used on radio equipment and instruments to insulate and prevent fungus growth in moist or humid climates. Air dry, brush or spray.

No.	2-oz.	List
57-2	2-oz.	\$0.65
57-8	8-oz.	1.65
57-16	16-oz.	2.75

**G-C CONTACT & CRYSTAL CLEANER**

Extra pure cleaner. Fast drying for cleaning contacts and crystals. Will not injure delicate parts.

No.	2-oz.	List
127-2	2-oz.	\$0.55
127-4	4-oz.	.95
127-8	8-oz.	1.10
127-16	16-oz.	1.65

**G-C RED ELECTRONIC CONTACT CLEANER**

The best and only all-purpose cleaner. Dissolves the dirt and removes corrosion. Leaves protective film on contacts to prevent corrosion.

No.	2-oz.	List
210-2	2-oz.	\$0.55
210-4	4-oz.	.95
210-8	8-oz.	1.25
210-16	16-oz.	2.20

**G-C RADIO CHASSIS CLEANER**

Clean the chassis and make extra money on every repair job. Satisfy your customer. For radio chassis, panels, testers, etc. Non-explosive cleaner.

No.	List
123-8	8-oz. \$0.95
123-16	16-oz. 1.50
123-G	1 Gal. 5.25

**G-C CARBON TETRA-CHLORIDE**

100% pure for cleaning and degreasing electrical contacts, controls, motors. Absolutely safe — will not burn. Also kills bugs, roaches, etc.

No.	List
211-2	2-oz. \$0.55
211-4	4-oz. .85
211-8	8-oz. 1.10
211-16	16-oz. 1.95
211-G	1 Gal. 6.90

**G-C CONTACT DOPE**

Ideal cleaner and lubricant for switches, controls and contacts. Resists corrosion and oxidation. Eliminates noise.

No.	List
1213 Tube	\$0.45
1214 2-oz.	.65

**CARB-O-TET**

Specially made from 100% Carbon-Tet materials. 215-G 1 Gal.



**G-C CARBON CONTROL CLEANER**

Fix noisy carbon controls without taking apart. Just squirt cleaner along shaft and job is done. Save money. Applicator supplied.

No.	List
212-2	2-oz. \$0.65

**G-C GRAFOLINE**

Noiseless lubricant for air exposed switch contacts, rheostats, relays, wire volume controls, tube prongs, etc. Increases current capacity of switch controls. Cleans also.

No.	List
120-2	2-oz. \$0.65

**G-C CARBON-X**

New improved formula. Fix those old noisy carbon controls, touch up noisy spots on worn controls. Brush in bottle.

No.	List
1204	1-oz. \$0.85
1205	2-oz. 1.10

**G-C LUBE-REX**

Lubriplate — white lubricant for push buttons, phonographs, Philco mystery controls, guns, fishing reels, dials, etc. Prevents corrosion, repels water.

No.	List
1206	2-oz. Tube \$0.65
1209	2-oz. Bottle .65

**G-C SILICONE COMPOUND**

"The miracle moisture and water-proofing compound for Television and FM"

A permanent water-proofing material for TV and FM leads.

No.	List
81001-oz.	Tube \$1.65
Dealer's Net	.99

**G-C LIQUID SOLDER FLUX**

Non-corrosive flux for radio and electrical work. Solders faster, smoother.

No.	List
42-2	2-oz. \$0.65
42-8	8-oz. 1.90

**G-C CHEMICAL LABORATORY**



Complete assortment of 20 popular radio chemicals and cements in 2-oz. bottles put up on steel rack. Very neat for the radio bench and home work shop. Steel Rack FREE.

No. 997 Lab	List \$12.80
Dealer's Net:	7.68

**G-C DELUXE CHEMICAL LAB**



Practical larger laboratory of popular chemicals and cements to fit needs of average shop — 2-oz., 4-oz., and 8-oz. bottles. Larger bottles of more popular items. Steel rack is FREE.

No. 998 Lab	List \$17.10
Dealer's Net:	10.26

**G-C DE-OX-ID KIT**

"Ideal for Television Controls"



Handy kit contains 2 oz. of De-Ox-Id and hypodermic injector in box.

No. 8460 Kit	List \$2.25
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**G-C ELECTRONIC HYPODERMIC NEEDLE INJECTOR**

A handy applicator on the hypodermic principle; for injecting cleaners and oils into tight places. Supplied with 2-oz. bottle.

No.	List
8383 Hypodermic Needle	\$0.75

**G-C DE-OX-ID\* "Television Contact Cleaner"**



Liquid chemical for all electronic contacts and controls. It cleans, lubricates, and preserves. Recommended for volume and tone controls, relay contacts, push buttons, etc. Dissolves corrosion and oxidation.

No.	List
19-1	1-oz. \$0.85
19-2	2-oz. 1.60
19-16	16-oz. 12.50

GENERAL



CEMENT

# PAINTS—KITS—COMPOUNDS



### G-C RUF-KOAT WRINKLE VARNISH

Air Dry or Bake

The only finish that will air dry and give professional wrinkle job without baking. Same as used by leading manufacturers. Apply and let dry. Colors: Black, Gray, Brown, Green, Red and Blue. (Specify Color.)

No.	List
60-2 2-oz.	\$0.65
60-4 4-oz.	1.10
60-8 8-oz.	1.90
60-16 16-oz.	3.30

### G-C KRYSAL KOAT CRYSTAL LACQUER

Makes beautiful floral pattern when dry. Strictly air drying. For chassis, panels, decorations on metal, etc. (Colors: Black, Gray, Brown, Green, Red, Blue and Clear. (Specify Color.)

No.	List
63-2 2-oz.	\$0.65
63-4 4-oz.	1.10
63-8 8-oz.	2.15
63-16 16-oz.	4.10

### G-C TELEPHONE BLACK OR GRAY

High grade lacquer enamel covers well, dries fast. Black is satin ebony finish similar to telephones. Gray is pleasing shade. For panels, racks, parts, etc. (Specify Color.)

No.	List
62-2 2-oz.	\$0.65
62-8 8-oz.	1.90
62-16 16-oz.	3.30

### G-C TELEVISION HIGH VOLTAGE CORONA DOPE

Used by manufacturers and service men to prevent corona shorts on high voltage circuits in Television sets. Easy to apply, air-drying. It has very excellent high voltage insulating qualities.

No.	List
47-2 2-oz.	\$1.20
47-8 8-oz.	3.90
47-16 16-oz.	7.50

### G-C TELEVISION TUBE KOAT

A black conductive coating for outside of glass TV tubes and for interior of cabinets to ground high potential, built up for TV tubes.

No.	List
49-2 2-oz.	\$1.20
49-8 8-oz.	3.90
49-16 16-oz.	7.50



### G-C KROME-KOAT ALUMINUM PAINT

Fast drying, ready mixed, leaves chrome-like finish. For PA equipment, speakers, chassis, towers, antennas, etc.

No.	List
61-2 2-oz.	\$0.65
61-4 4-oz.	1.05
61-8 8-oz.	1.90
61-16 16-oz.	2.75

### G-C PORCELAIN GLAZE

Fills in nicks and dents on porcelain and duco refrigerators, sinks, washing machines, etc. Fill in and let dry.

No.	List
911 2-oz.	\$0.70
911-16 16-oz.	4.25

### G-C SPIRIT VARNISH

Fast drying walnut spirit varnish for touching up nicks and scratches. Will not raise the finish.

No.	List
161-2 2-oz.	\$0.65
161-4 4-oz.	1.10
161-8 8-oz.	1.90

### G-C PENETRATING STAIN

Spirit type stain, penetrates and will not injure finish. Cover scratches, dents, darken corners on cabinets, etc. Walnut and Mahogany. Specify.

No.	List
162-2 2-oz.	\$0.55
162-4 4-oz.	.95
162-8 8-oz.	1.55

### G-C MICROPHONE CARBON GRANULES

Polished pure carbon granules for microphones.

No. List  
1281 100 Size \$1.10  
Highest Sensitivity  
1282 80 Size 1.10  
Best for General Use  
1283 60 Size 1.10  
Best for Hard Use —  
Sound Trucks, etc.

### G-C SCRATCH REMOVER LIQUID

New liquid! Removes scratches instantly. Simply wipe over scratches. Handy to have in tool box.

No.	List
917 2-oz.	\$0.55
923 1/2-oz.	.33



### G-C RMA COLOR CODING KIT

Complete kit of all standard RMA colors to code resistors, condensers, parts, etc. Chart included. Ten bottles.

No. 677 List \$2.15

### G-C TOUCH UP CODING KIT

Five bottles, 4 colors and solvent for coding and sealing parts, adjustments, wires, etc. Red, Green, Blue, Yellow and Solvent.

No. 675 List \$1.10

### G-C DIAL LITE COLOR KIT

Long lasting coloring for dials signals, lamps, panels, hobby work, etc. Red, Green, Blue, Amber, Purple and Solvent in kit.

No.	List
66-6 Kit	\$1.20
66-5 Kit no purple	1.05
66-2 2-oz. (Specify color)	.65
66-16 16-oz. (specify color)	2.75

### G-C LUMINOUS KITS

Complete kits of luminous paint that glows in the dark. Many uses in shop and home. See it at night. Easy to use — apply and let dry.

No.	List
184-0 DeLuxe kit contains Powder, Mix-Koat, Top Koat and Brush.	\$3.05
184-1 Regular kit contains Powder, Mix-Koat and Brush.	\$1.80

### G-C LUMINOUS MATERIALS

LITE-KOAT POWDER

No.	List
185-1 1-oz.	\$1.05

### KOVER-KOAT

To protect and cover luminous material.

No.	List
187-2 2-oz.	\$0.65

### MIX-KOAT

To mix with powder.

No.	List
186-2 2-oz.	\$0.65
186-8 8-oz.	1.60

### MIX-KOAT AND KOVER-KOAT THINNER

No.	List
188-2 2-oz.	\$0.65



### G-C DIAL OIL

Made with graphite. Special for lubricating dials, drives, and fine mechanisms. Long lasting.

No.	List
1245 4-oz.	\$0.55

### G-C REFRIGERATOR AND APPLIANCE OIL

Non-gumming oil for household appliances and small motors. The best general purpose oil.

No.	List
1250 4-oz.	\$0.55

### G-C SOLDERING PASTE

The best non-corrosive paste for radio and electrical work. Solders faster and smoother.

No.	List
1207 2-oz. can	\$0.45

### G-C NON-STICK IRON TIP COMPOUND

Prevents soldering iron tips from burning into iron. Saves your iron and tips.

No.	List
1201 2-oz.	\$0.65

### G-C SILVER PRINT

"Same as used for Printed Circuits"

"No more wires" when you use G-C Silver Print. It is the same "Pure Silver" compound as used by manufacturers in Printed Circuit design. You need G-C Silver Print to repair those Printed Circuits, to touch up the circuit around eyelets, rivets, parts, etc. It is also handy for experimenters, engineers, laboratories, etc. Yes, it is a Pure Silver compound and it's air drying.



No.	List
21-2 1-Troy oz.	\$6.60

GENERAL



CEMENT

CABINET REPAIR KITS—POLISHES



**G-C FRENCH EMULSION**

Best pad lubricant to use with French Varnish Polishing Method.

No.	List
164-4 4-oz.	\$0.85

**G-C FRENCH VARNISH**

Used by craftsmen to repair furniture and blend in the finish. Can be applied with pad, brush or spray. Dries fast.

No.	List
160-2 2-oz.	\$0.65
160-4 4-oz.	1.10
160-8 8-oz.	1.90

**G-C WINDOW CLEANER CONCENTRATE**

Mix with quart of water and make your own high-grade window cleaner. Makes glass sparkle.

No.	List
122-5 6-oz.	\$0.55

**NEW G-C RED-X CORONA DOPE**

Prevent corona shorts on high voltage TV circuits with this all-new G-C product. Easy to apply. Air dries faster. Excellent high voltage insulating qualities.

No.	List
50-2 2 oz.	\$1.20

**G-C STRIP-X**

Strips enamel from magnet wire. Dip wire in and wipe insulation off—ready for soldering.

No.	List
26-2 2-oz.	\$0.65

**G-C CONE RECONDITIONER**

Apply to old dried out cones to restore plasticizer and bring back original tones.

No.	List
25-8 8-oz.	\$1.05
25-16 16-oz.	1.80



**G-C RUBBING OIL**

Rub down newly finished or repaired cabinets to produce rich satin sheen finish.

No.	List
163-16 16-oz.	\$0.95

**G-C FLOOR WAX**

High-grade heavy duty commercial self-polishing floor wax. Gives hard, durable finish.

No.	List
97-Q 1 Gal.	\$7.20

**G-C LEMON OIL POLISH**

Inexpensive polish for removing dust, finger marks, treating dust rags, mops, etc. Picks up dust.

No.	List
91-8 8-oz.	\$0.65
91-16 16-oz.	.95

**G-C SCRATCH REMOVER POLISHES**

**DARK**  
Polish contains stains to remove scratches. Sell to housewives.

No.	List
92-2 2-oz.	\$0.50
92-8 8-oz.	.65
92-8-L 8-oz. Lab size	.65
92-16 16-oz.	1.10

**LIGHT**  
For light woods; polishes and removes scratches at same time. Popular with housewives.

No.	List
93-2 2-oz.	\$0.50
93-8 8-oz.	.65
93-16 16-oz.	1.10

**G-C CREME-O-WAX POLISH**

White non-staining hard wax base polish produces a hard glossy finish. Excellent for radios, pianos, refrigerators, furniture, etc.

No.	List
95-2 2-oz.	\$0.50
95-8 8-oz.	.65
95-8-L 8-oz. Lab. size	.65
95-16 16-oz.	1.10



**G-C REFRIGERATOR PATCH KIT**  
"New Improved Kit"

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains bottle of pure white lacquer enamel and bottles of Yellow, Blue, Brown, and Black tinting colors, solvent, spatula, porcelain patch stick, sandpaper, and brushes. Useful on refrigerators, washers, ranges, table tops, etc. Directions included.

No. 902	List \$4.80
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**G-C DELUXE CABINET REPAIR KIT**  
"New Improved Kit"

Comes in handy metal box. Contains ten shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Scratch Stik, alcohol lamp (with alcohol), spatula, small brushes, steel wool, sandpaper, and wiping cloth. Everything necessary for a practical repair job. No special skill required. Directions included.

No. 901	List \$6.00
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**G-C MASTER DELUXE CABINET REPAIR KIT**  
"New, Most Complete Kit"

A complete cabinet repair kit put in a permanent metal box. All finishes supplied are spirit soluble and will not cut or damage surrounding finishes on cabinets, etc. Kit contains 10 shellac sticks, alcohol lamp, French varnishes, rubbing felt and fluid, enamels, glue, steel wool, sandpaper, polish, directions, etc. Nothing else needed! The best buy on the market!

No. 900	List \$10.95
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**G-C FRENCH VARNISH KIT**

Kit for French polishing. Only way to blend repairs with adjoining finish. Kit includes varnish, emulsion, pad, and instructions.

No. 160-C	List \$1.55
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**G-C MAGIC SCRATCH KIT**

Combination of 8 shades fillers and light and dark scratch fluid. Easy to use on emergency jobs.

No. 915	List \$1.55
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**G-C MASTER CABINET TOUCH-UP KIT**  
"Ideal Quick Touch-Up Kit"

A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cabinets. The spirit finishes will not cut into the adjoining surface or injure surrounding finish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpaper, steel wool, rubbing cloth and directions included. Brushes attached to caps of all finish bottles. Put up in metal box.

No. 907	List \$3.60
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**G-C RADIO-REFRIGERATOR CABINET PATCH KIT**  
"New Improved Kit"

A kit of the shellac patch sticks to fill all needs. Patches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light and dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sandpaper and wiping cloth are packed in the metal box. Directions included.

No. 903	List \$4.40
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**G-C TOUCH-UP KIT**

Practical for touching up small scratches and dents. Includes light and dark varnish and spirit stains, filler, cloth, brushes, etc.

No.	Kit	List
905	-Kit	\$1.20

**G-C PLASTIC TOUCH-UP KIT**

Kit contains 6 colors touch-up lacquer enamels to fix up plastic and colored cabinets. Walnut, Ivory, Black, Red, Blue, Green, and brushes.

No.	Kit	List
910	Kit	\$1.55

**G-C PORCELAIN PATCH STICK**

Made for white porcelain refrigerators, sinks, ranges, fixtures, etc. Simply melt into nick and smooth off.

No.	Stick	List
908	Stick	\$0.45

**G-C SHELLAC STICK KIT**

Handy assortment of 10 colors to take care of any shade of wood. Same as in G-C Kits.

No.	Kit	List
925	Kit	\$2.00

**G-C SHELLAC STICKS**

High grade sticks for filling dents and nicks in wood cabinets and furniture. Sticks 7" long.

No.	List	No.	List
929 Lt. Walnut	\$0.55	979 Dk. Oak	\$0.55
930 Dk. Walnut	.55	980 Transparent	.55
933 Black	.55	981 Lt. Transp.	.55
934 White	.55	982 Walnut	.55
935 Maple	.55	983 Mahogany	.55
978 Lt. Oak	.55	984 Blonde Maple	.55



**G-C FELT KOAT FLOCK KIT**

New G-C kit with special blower gun. Distributes flock evenly and applies a thick velvet-like coat. Kit is complete with gun, brown and ivory flock, brown and ivory undercoat, thinner, brush, etc. Gives professional job on turntables, cabinets, grilles, tool boxes, toys, signs, etc. Has thousands of applications.

No.	Kit	List
180-2	Kit	\$12.65

**G-C FELT KOAT KITS**

Complete flock kit with flock undercoat, thinner and brushes and shaker type can for applying flock. Colors: Brown, Blue, Taupe, Black, Red, Green and Gold. (Specify Color).

No.	List
180-0 DeLuxe Kit	\$3.30
180-1 Reg. Kit (No brush or thinner)	2.35

**G-C FLOCK BLOWER GUN**

It's easy to apply flock and be sure to get a good job with the G-C Patented Gun. Gun can also be used for dusting and cleaning.

No.	Gun	List
180-3	Gun	\$4.80
180-4N	Cleaning Nozzle for Gun	.70

**G-C FLOCK UNDERCOAT**

Material is first applied on surface to be flocked. Then flock is applied. Used on metal, wood, paper, etc. Colors: Brown, Taupe, Blue, Black, Ivory, Red, Green, Silver and Gold. (Specify Color).

No.	List
180-4 4-oz.	\$2.20
180-8 8-oz.	2.15
180-16 16-oz.	3.30

**FLOCK SIZING THINNER**

For # 180 Undercoat.

181-4 4-oz.	\$0.50
181-8 8-oz.	.65
181-16 16-oz.	.95



**G-C FELT-KOAT FLOCK**

Genuine Rayon Flock, 1/8" length fibers accurately cut, give beautiful even finish. One pound covers approximately 90 sq. ft. Colors: Brown, Taupe, Blue, Black, Ivory, Red, Green, Silver, and Gold. (Specify Color).

No.	List
180-5 2-oz. Can	\$1.20
180-6 1/2-lb. Bag	3.60
180-7 1-lb. Bag	6.05

**G-C GENERAL SCRATCH STICK**

Removes scratches. Simply run over scratches and they will disappear. Handy to carry in your pocket or tool box for emergency repairs. Also sell to housewives.

No.	List
909 Scratch Stik	\$0.45
909-D Display 12 Stiks	5.40
1-A SKRATCH STIK DEAL — WIRE DISPLAY FOR DEALERS	
Dealers and servicemen — Display the No. 1-A Skratck Stik deal in your shop or store and sell Skratck Stiks to your customers. Every home and office needs one. You can earn extra profit with this self-selling display.	
No. 1-A Deal 12 Skratck Stiks Wire	List \$5.90
	Dealer's Net 3.54*

**G-C TELEVISION LENS AND TUBE CLEANER**

Specially prepared cleaner for Television Lens and Tubes. Eliminates marks and spots and makes tube and lens crystal clear.

No.	List
216-8 8-oz.	\$0.85
216-16 16-oz.	1.40

**G-C INSTRUMENT FABRIC**

Leatherette fabric to cover cabinets and instruments. Same as used by manufacturers. Colors: Black and Brown. (Specify Color).

No.	List
966 18"x32"	\$1.80
967 Any length, per yard	3.35



**G-C CABINET SPEAKER GRILLE CLOTH**

Beautiful modern patterns of Brown, Gold and light colors to match Walnut, Mahogany and Ivory cabinets. Specify "Ivory" when ivory is wanted.

No.	Size	List	No.	Size	List
940	18" x 20"	\$1.50	954	5" x 10"	\$0.39
941	9" x 18"	.65	949-1	1-Yd. Pkgs., 40" Wide	6.30
942	12" x 12"	.70	949-1R	40" Wide Cont. lgth., per yd.	6.00
943	14" x 18"	.75	949-2R	50" Wide Cont. lgth., per yd.	6.85
944	24" x 18"	1.00	950	Roll 9" x 12"	.55
945	18" x 18"	.75			
946	8" x 8"	.33			
947	9 1/2" x 10"	.33			
948	6" x 6"	.28			

**G-C TELEVISION GRILLE CLOTH**

New television metallic grille cloth specially made for TV cabinets.

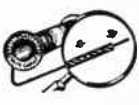
No.	Size	List
8656	18"x24"	\$2.50
8657	24"x36"	4.75
8658	36"x36"	7.50
8659	36" wide x yards	7.25

**G-C METAL FLOCKED GRILLE SCREEN**

Very popular. Both sides flocked with rayon over galvanized metal screen. Used on radios, P.A. speakers, intercoms, auto radios, etc. Waterproof, durable. Colors: Brown, Ivory, Maroon.

No.	Size	Color	List
951-1	8" x 11"	Brown	\$0.95
951-3	8" x 11"	Ivory	.95
951-5	8" x 11"	Maroon	.95
952-1	18" x 24"	Brown	3.20
952-3	18" x 24"	Ivory	3.20
952-5	18" x 24"	Maroon	3.20
953-1	36" x 36"	Brown	9.85
953-3	36" x 36"	Ivory	9.85
953-5	36" x 36"	Maroon	9.85

# GENERAL G.C. CEMENT RADIO DIAL CORDS and CABLES



## THE THREE MOST POPULAR CORDS USED

**G-C No. 75 STANDARD THIN NYLON CORD**  
 .028" diam. Most popular; used on 95% of sets. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
75-25	25 ft.	\$1.40
75-50	50 ft.	2.65
75-100	100 ft.	4.95
75-11	Env.	.45

**G-C No. 75-A EXTRA THIN NYLON CORD**  
 .025" diam. Used on RCA, GE, Strom-Carl., etc. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
75A-25	25 ft.	\$1.40
75A-50	50 ft.	2.65
75A-100	100 ft.	4.95
75A-11	Env.	.45

**G-C No. 74 MEDIUM NYLON CORD**  
 .040" diam. Very popular; used by RCA, Philco, GE, etc. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
74-25	25 ft.	\$1.40
74-50	50 ft.	2.65
74-100	100 ft.	4.95
74-11	Env.	.45

**G-C No. 70 BRAIDED BRONZE CABLE**  
 .040" diam.; used on radio dials, instruments and for aircraft reel-in antenna cable. Phosphor bronze braided over fibre glass core for strength. In plastic container.

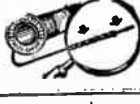
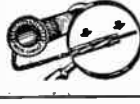
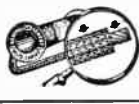
No.	Spool	List
70-25	25 ft.	\$1.40
70-50	50 ft.	2.65
70-100	100 ft.	4.95
70-11	Env.	.45

**G-C No. 71 42-STRAND BRONZE CABLE**  
 .040" diameter; 42 strands twisted phosphor bronze over fibre glass core. Radio dials, aircraft reel-in antennas, etc. Durable and flexible. In plastic containers.

No.	Spool	List
71-25	25 ft.	\$1.40
71-50	50 ft.	2.75
71-100	100 ft.	4.95
71-11	Env.	.45

**G-C No. 73 HEAVY NYLON CORD**  
 .062" diameter; used on Philco, Majestic, Brunswick, etc. Very strong, chemically treated to prevent slipping. In plastic container.

No.	Spool	List
73-25	25 ft.	\$1.65
73-50	50 ft.	3.05
73-100	100 ft.	5.50
73-11	Env.	.45



**G-C No. 76 SPECIAL THIN BRONZE CABLE**  
 .025" diam. braided bronze as used on GE, RCA, and others. Also for flexible connections on speakers, cones, etc. In plastic container.

No.	Spool	List
76-25	25 ft.	\$1.40
76-50	50 ft.	2.65
76-100	100 ft.	4.95
76-11	Env.	.45

**G-C No. 73-X EXTRA HEAVY NYLON CORD**  
 .072" diameter. Extra heavy cord as used by Philco and others. Chemically treated to prevent slipping. In plastic container.

No.	Spool	List
73X-25	25 ft.	\$1.65

**G-C No. 78 BRAIDED LINEN CORD**  
 .040" diameter, same as used on Emerson radios, instruments, drawing boards, etc. Extra strong and durable. In plastic container.

No.	Spool	List
78-25	25 ft.	\$1.40
78-50	50 ft.	2.65
78-100	100 ft.	4.95
78-11	Env.	.45

**G-C No. 79 MONEL METAL CABLE**  
 .035" diam. Strong and durable, non-corrosive cable for radio dials and instruments. Preferred by many to bronze cable. In plastic container.

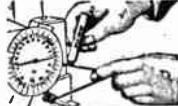
No.	Spool	List
79-25	25 ft.	\$1.40
79-100	100 ft.	4.95

**G-C No. 80 EXTRA THIN METAL CABLE**  
 .015" diameter. Very strong twisted steel cable. Popular on foreign and export receivers, instruments, dials, etc. In plastic container.

No.	Spool	List
80-25	25 ft.	\$1.40
80-100	100 ft.	4.95

**G-C No. 82 EXTRA THIN PHOSPHOR BRONZE CABLE**  
 .012" diam. twisted of 7 strands .004" phosphor bronze. Used on dial instruments and Army and Navy Radar Equipment. In plastic container.

No.	Spool	List
82-25	25 ft.	\$1.40
82-100	100 ft.	4.95



**G-C PLASTIC CRYSTAL**  
 Clear plastic crystal in flat sheet. For radio dials, clocks, dashboards, etc. Can be cut to size, fitted and cemented in place.

No.	List
92 8" x 10"	\$1.60

**G-C NON-SLIP COMPOUNDS**  
**Powder Compound**  
 For dials, cords, pulleys, belts. Prevents slipping.  
 No. 1210 2-oz. List \$0.55  
**Liquid**  
 Penetrating liquid shrinks fibers, prevents slipping on dial cord and belts.  
 1215 2-oz. \$0.60

**G-C CORD DRESSING**  
 Easy way to treat slipping cords. Simply rub on stick and job is done. Prevents and stops slipping.

No.	List
1212 Stick	\$0.28

**G-C LONG NOSE PLIERS**  
 Very handy pliers to reach into places and hold parts. It's very handy for installing radio dial cords. Available in straight nose and curved nose styles.

No.	List
5192 Straight Nose Pliers	\$0.85
5193 Curved Nose Pliers	.95

**G-C DIAL CABLE TOOL**  
 Handy tool to aid in stringing new dial cord and replacing cables slipped off pulleys and drums. It's like an extra hand. Speeds up the job.

No.	List
5096	\$0.85

**G-C HANDY PICK-UP TOOL**  
 Very handy for every one. Picks up pieces in hard-to-get-at places. Will hold and start screws, nuts, etc. Will pay for itself in short time.

No.	List
5089	\$1.65



**G-C DIAL CABLE RACK**  
 Very handy, includes popular cables. Hangs on wall or on bench. Handy measuring rule or sign. Kit includes rack and five 25 ft. spools each Nos. 71, 73, 74, 75 and 76 cables.

No.	List
7-A-25	\$7.15

**G-C DIAL SPRING KITS**  
 Handy kit of springs as used on dial cord drives. Six sizes included.

No.	List
1054-E 10 Assorted Springs	\$0.45
1054-SE 10 Small Springs	.45
1055 Kit 25 Asst. Springs	1.30
1056 Kit 100 Asst. Springs	4.85

**G-C No. 77-SK DIAL CORD KIT**  
 Contains four 25 ft. spools most popular cord; 75-25, 74-25, 76-25, 71-25, and free assortment of dial cord clamps and eyelets.

No.	List
77-SK Cable Kit	\$5.25

**G-C No. 78-SK DIAL CORD KIT**  
 Combination kit in 10 ft. lengths of all G-C Dial Cables. Each in separate envelope, packed in leatherette box. Handy for servicemen and experimenters.

No.	List
78-SK Cable Kit	\$5.10

**G-C DIAL CORD CLIPS**  
 Handy clip and eyelet assortment used to fasten to ends of dial cords, etc. Required on every set.

No.	List
1028-E Assortment	\$0.45



## G-C SERVICEMEN'S DIAL BELT KITS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are especially treated to prevent slipping. They are the best. Sizes available for all sets. They are easy to install as they are made to fit. No adjustments necessary.

### BELTS — 25c List Each

Servicemen! Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used. KIT INCLUDES ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

### G-C SERVICEMEN'S KITS

List Price  
 No. G-25—Kit of 25 popular belts .... \$ 7.50  
 No. G-50—Kit of 50 popular belts .... 14.75  
 No. G-100—Kit of 100 (includes every size) 25.00

### INSTRUCTIONS — FOR MEASURING BELTS

To determine size of belt, if the old belt is available, cut the belt and measure for stretched out length. This will be "cut length" of belt. If old belt is not available or is worn out so that it cannot be properly measured, stretch a thin thread around belt pulleys on set. (Be sure to use thin thread as a thick cord will give an inaccurate reading.) Measure the thread, it will be your "circumference around pulleys." In measuring belts always remember that the circumference around pulleys is not the same as stretched out or cut length. A belt when cut, develops approximately 3/16" extra length when stretched out, depending on thickness of belt.

## G-C RADIO BELT SPECIFICATIONS

LISTED AS PER BELT SIZE				LISTED AS PER BELT SIZE				
Circumference Around Pulleys	Cut Length	G-C Belt No.	Circumference Around Pulleys	Cut Length	G-C Belt No.	Circumference Around Pulleys	Cut Length	G-C Belt No.
5 1/4" x 3/4"	5 5/8" x 3/4"	195	8-43/64"	8-55/64"	112	11"	11-3/16"	135
6-23/32"	6-29/32"	101	8-11/16"	8-7/8"	160	11-5/64"	11-17/64"	130
6-55/64"	7-3/64"	161	8-13/16"	9"	167	11-9/64"	11-21/64"	131
6-57/64"	7-5/64"	102	9-1/16"	9 1/4"	117	11-9/32"	11-15/32"	137
6-15/16"	7-1/8"	158	9-13/64"	9-25/64"	115	11-3/16"	11-3/8"	171
7-1/64"	7-13/64"	157	9-19/64"	9-31/64"	163	11-9/32" x 5/16"	11-15/32" x 5/16"	131W
7-1/4"	7-7/16"	106	9-5/16"	9-1/2"	116	11-3/8"	11-9/16"	134
7-9/32"	7-15/32"	156	9-17/32"	9-23/32"	119	11-25/64"	11-37/64"	136
7-13/32"	7-19/32"	177	9-7/8"	10-1/16"	123	11-7/16"	11-5/8"	173
7-15/32"	7-21/32"	103	9-59/64"	10-7/64"	127	11-21/32"	11-27/32"	141
7-1/2"	7-11/16"	105	10-1/16"	10-1/4"	126	11-5/16"	11-15/16"	141
7-35/64"	7-23/32"	155	10-1/4"	10-7/16"	124	11-13/16"	12"	143
7-11/16"	7-7/8"	107	10-17/64"	10-29/64"	124	12"	12-3/16"	138
7-3/4"	7-15/16"	174	10-19/64"	10-31/64"	128	12-1/32"	12-7/32"	154
7-15/16"	8-1/8"	111	10-23/64"	10-35/64"	118	12-3/32"	12-1/4"	142
8-1/64"	8-13/64"	104	10-3/8"	10-9/16"	122	12-7/32"	12-13/32"	140
8-1/32"	8-7/32"	159	10-25/64"	10-37/64"	125	straight belt	12-7/16" - str. belt	193
8-5/32"	8-9/32"	113	10-1/2"	10-11/16"	152	12-9/32"	12-15/32"	139
8-3/16"	8-3/8"	172	10-41/64"	10-53/64"	129	12-15/32"	12-21/32"	144
8-13/64"	8-25/64"	162	10-11/16"	10-7/8"	121	12-1/2"	12-11/16"	178
8-15/64"	8-27/64"	114	10-45/64"	10-57/64"	120	12-39/64"	12-51/64"	145
8-25/64"	8-37/64"	110	10-27/32"	11-1/32"	180	12-13/16"	13"	168
8-1/2"	8-11/16"	109	10-61/64"	11-9/64"	133	13-3/16"	13-3/8"	146
8-21/32"	8-27/32"	108	10-81/32"	11-5/32"	132	14-7/32"	14-13/32"	186
8-39/64"	8-51/64"	153						

## G-C NEW NYLON TELEVISION LONG REACH ALIGNER "WITH REPLACEABLE NYLON TIP"

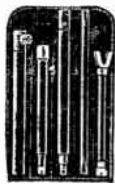


Handy new long reach TV aligner with insulated metal shaft and nylon tip that can be replaced. Very sturdy tool for TV work. 12" long overall.

No.	TV Tool	List Price	No.	Nylon Replacement Tip	List Price
8607	TV Tool	\$ 1.80	8608-E	Envelope 1 Tip	\$0.30
8607-D	Display of 12	21.60	8608-D	Display 20 Envelopes	6.00

### G-C NX ALIGNING KIT

Popular approved Army-Navy Kit for all sets. Fourteen tools. Contains Nos. 5004, 5011, 5017, 5015, 5016, and leatherette case.



No. 5020 Kit List \$7.15

### G-C TE-45A NEUTRALIZING KIT

Approved by U. S. Signal Corps. All popular balancing tools to make an all purpose kit. Contains two each Nos. 5051, 5052, and one each Nos. 5019, 5003, 5000, and 5" screwdriver in roll-type leatherette case.



No. 5021 Kit List \$7.45

### G-C VEST POCKET ALIGNING KIT

Easy-to-carry all-purpose kit. Four tools with telescoping parts making them equivalent to six. Contains Nos. 5012, 5000, 5003, 5004 and leatherette case.



No. 5022 Kit List \$3.30

### G-C ALL-PURPOSE ALIGNMENT TOOL KIT

Seventeen tools designed into nine basic tools some of which telescope into each other. Roll-type leatherette case. Includes Nos. 5001, 5003, 5004, 5011, 5016, 5017, 5053, 5056, 5057.



No. 5023 Kit List \$6.90

### G-C DELUXE ALIGNMENT KIT

Fourteen most popular tools including Flexible Shaft Screwdriver and Tuning Wand, designed into seven basic tools. Contains Nos. 5002, 5004, 5011, 5014, 5016, 5017, 5019. In leatherette roll-type case.



No. 5026 Kit List \$8.25

### G-C STANDARD TELEVISION ALIGNMENT TOOL KIT

Here's a popular low-priced alignment kit that has the latest essential tools for Television Sets. Specially engineered for Television Sets. A real value in this kit. Nine essential tools in roll-type case.



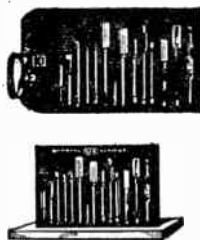
No. 8455 TV Kit Complete \$7.65

### G-C TELEVISION ALIGNMENT TOOL KITS

G-C Television Tools are the best quality tools you can buy. They are made specially for Television work and are all designed to give you long service. The steel tips are all extra thin and are of the best grade hardened steel that will give you service.

Kit contains 16 essential Tools.

No. 8280 TV Kit in Leatherette Case...\$12.90  
 8281 Kit supplied with Bench Stand 12.90



### G-C PROFESSIONAL ALIGNMENT TOOL KITS

Complete kits. Be prepared to service every set with these DeLuxe Alignment Kits. In a handy roll-type leatherette case or a steel partitioned box. Kit contains 30 Tools.



No. 5024 Kit in Roll-Type Case \$21.95  
 5025 kit in Steel Box 21.95

The Best Tools for TV — Tools have Extra Thin Spring Steel Tips for Long Life

**G-C TELEVISION ALIGNMENT TOOL**



Special short sturdy tool with a fine metal screwdriver blade to adjust Television and FM sets while they are in the cabinet. Only 2 1/2" long over-all.

No. 5066 TV Tool List \$0.55

**G-C TELEVISION ALIGNING WRENCH**



New Television tool with 1/8" square socket wrench, 3/8" shaft with insulated handle. Approximately 6" long.

No. 5080 Television Wrench List \$0.85

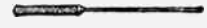
**G-C K-TRAN TOOL**  
*Ideal Television Tool*



Specially designed for K-Tran and I.F. transformers. Made of bone fibre, screw driver on both ends.

No. 5097 Tool List \$0.85

**G-C TELEVISION CHANNEL TUNING TOOL**



Designed for Television receivers, for making channel adjustments, etc. Completely insulated, non-metallic tool with long 1/8" narrow blade. Over-all length of tool approx. 7". Made of bone fibre.

No. 8195 TV Tool List \$0.80

**G-C TELEVISION AND FM TUNING TOOL**



Special short tool with fine recessed screwdriver tip for Television and FM adjustments. Makes those difficult adjustments when set is installed in console. Only 2 1/2" long. Made of bone fibre.

No. 8196 TV Tool List \$0.55

**G-C TELEVISION CORE ALIGNER**



For Motorola, Stewart-Warner, Belmont, etc., using Stackpole or other stud type cores that are not slotted. Made of hard fibre 6" long with a milled steel insert on one end and a thin screw driver blade on other end.

No. 8271 Core Aligner List \$0.80

**G-C TELEVISION I.F. OSCILLATOR ALIGNER**



For I.F. and oscillator adjustments. Fits all makes of sets, RCA, G-E, Philco, Admiral, etc. Made of plastic handle and steel shaft. Blade is extra thin spring steel for long life.

No. 8272 TV Osc. Tool List \$1.10

**G-C TELEVISION ALL-PURPOSE ALIGNER**



Specially made for TV I.F. adjustments, with a plastic handle and a hard fibre shaft. Very thin spring steel tip is recessed so the tool will guide itself over the screws.

No. 8273 TV Aligner List \$1.10

**G-C TELEVISION LONG REACH ALIGNER**



Made for Admiral, Zenith, RCA, and other sets to adjust nested iron cores and make front end adjustments. The blades are extra thin, made of bone fibre and are extra long.

No. 8274 Long Reach Aligner List \$1.10

**G-C TELEVISION ZENITH UNIVERSAL ALIGNER**



Designed for Zenith and other sets. Made of bone fibre and plastic handle, it has a thin fibre screw driver on one end and a recessed extra thin spring steel tip on the other end.

No. 8275 TV Universal Aligner List \$0.80

**G-C TELEVISION DUPLEX ALIGNER**



All-purpose TV aligner for trimmers and I.F. transformers. Made of bone fibre with extra thin spring steel tips. One end has a projected tip, the other end has a recessed tip.

No. 8276 Duplex Aligner List \$0.80

**G-C TELEVISION "Shorty" DUPLEX ALIGNER**



For trimmer and I.F. transformers where space is limited. Bone fibre with extra thin hardened spring steel tips. One end has a projected metal tip, the other end is recessed.

No. 8277 TV Shorty Aligner List \$0.80

**G-C TELEVISION TUNING WAND**



Made of extra thin flexible plastic material to fit small coil openings in TV sets. Brass insert on end reduces inductance and iron core on other end increases the inductance.

No. 8278 TV Tuning Wand List \$0.80

**G-C TELEVISION CORE ALIGNER**



For hard-to-reach places in TV sets. Tool has a recessed steel milled slot to fit over the Stackpole and other type stud cores that are not slotted. Steel insert is pinned in a fibre shaft for extra strength.

No. 8279 TV Core Aligner List \$1.10

**G-C NEW ZENITH TV WRENCH AND ALIGNER**  
NYLON TOOL



New plastic molded special tool made specially for Zenith TV sets. One end has a plastic hex wrench and the other end a small screw driver tip.

No. 8282 Zenith TV Tool List \$0.80

**G-C NEW! TELEVISION 2-IN-1 ALIGNMENT TOOL**



Made of molded nylon has a hex wrench on each end. For Zenith, Admiral, Hoffman, G.E., R.C.A., and others using the hex type slug tuners.

No. 8606 Tool List \$0.50

**G-C ALIGNMENT SCREW DRIVER**



Low Inductance Metal Tip Screw Driver made of Genflex—strong, completely insulated. Very popular all-around alignment tool. Two sizes—1/4" and 3/8" diameter.

No. 5000 1/4" Diam. x 6" Tool \$0.45  
5088 3/8" Diam. x 6" Tool .45

**G-C DUPLEX ALIGNMENT SCREW DRIVER**



Low Inductance Metal Tip on both ends made of Genflex material. One end is 1/4" and other end is turned down to 3/8" diameter for small holes. Strong, completely insulated tool.

No. 5001 Tool List \$0.85

**G-C "STRATO" TUNING WAND**



Made of Genflex rod with brass cylinder on one end and iron core on other end, used for adjusting and checking coils. By inserting iron core end you increase the inductance and inserting brass end lowers inductance.

No. 5002 Tool List \$1.10

**G-C RCA ALIGNING TOOL**



Made of 1/4" Bone Fibre, narrow screw driver on one end and screw nib inserted on other end. Used on RCA sets and others for coil and push-button adjustments.

No. 5003 Tool List \$0.85

**G-C NO-METAL INSULATING ADJUSTMENT SCREW DRIVER**



Made of black Bone Fibre. Indispensable for aligning all-wave sets. Will give long service. Ends can be re-ground.

No. 5004 7" Long \$0.45  
Low-Loss Polystyrene Type—  
Ideal for U.H.F. Sets  
5008 7" Long .45

**G-C INSULATED HEX WRENCH AND DRIVER**



Combination hex wrench and insulated screw driver. The screw driver may be extended from handle to provide extra long length. No metal parts, this is an all-fibre tool.

No. 5005 Extends from 7-13" \$0.85  
5006 Extends from 11-17" 1.10

**G-C NON-EXTENSION TYPE WRENCH & DRIVER**



Same as No. 5005 except screw driver is permanently attached in wrench. Length not adjustable. Over-all length 6".

No. 5007 Tool List \$0.45

**G-C DUPLEX NO-METAL ALIGNMENT SCREW DRIVER**



Made of Hard Bone Fibre or Polystyrene—1/4" blade on one end and 1/8" blade on other. 6" long. A dual purpose alignment screw driver. Ends can be re-ground.

No. 5009 Bone Fibre—6" \$0.45  
5010 Polystyrene—6" .45



**G-C ALLIGATOR WRENCH AND SCREW DRIVER**



For RCA, Philco and others. Made of  $\frac{3}{8}$ " Bone Fibre and strong metal wrench on one end and metal screw driver tip on other end.

No.	Tool	List
5011		\$0.55

**G-C ALLIGATOR AND WRENCH ALIGNING TOOL**



Made of  $\frac{3}{8}$ " Bone Fibre with alligator on one end and  $\frac{1}{4}$ " metal Hex Wrench on other end. Very popular tool.

No.	Tool	List
5012		\$0.55

**G-C WRENCH & SCREW DRIVER ALIGNING TOOL**



Made of  $\frac{3}{8}$ " Bone Fibre with  $\frac{1}{4}$ " Hex Wrench on one end and Screw Driver with metal nib on other end. This is a very handy alignment tool and wrench.

No.	Tool	List
5013		\$0.95

**G-C 4-in-1 ALIGNMENT TOOL**



This is the most popular alignment tool for most receivers. Made of Bone Fibre, combination tool. Consists of Screw Driver with metal nib,  $\frac{1}{4}$ " Hex Wrench slotted and  $\frac{3}{8}$ " Hex Wrench on other end.

No.	Tool	List
5014		\$0.95

**G-C 5-in-1 ALIGNMENT TOOL**



Similar to our 5014 except supplied with heavy duty metal screw driver.

No.	Tool	List
5015		\$1.50

**G-C 6-in-1 ALIGNMENT TOOL**



Bone Fibre, combination tool. Consists of Screw Driver with metal nib,  $\frac{3}{8}$ " Hex Wrench,  $\frac{1}{4}$ " Hex Side Wrench and  $\frac{1}{4}$ " Hex End Wrench slotted.

No.	Tool	List
5016		\$1.50

**G-C DUPLEX INSULATED WRENCH ALIGNMENT TOOL**



Made of Bone Fibre with  $\frac{1}{4}$ " Hex Metal Wrench one end and  $\frac{3}{8}$ " Hex Metal Wrench on other end.

No.	Tool	List
5017		\$1.40

**G-C TELEVISION AND PUSH-BUTTON TOOL**



Required to adjust Push-Button Tuners. Socket Screw Driver made of best steel.

No.	Tool	List
5018		\$0.85

**G-C FLEXI-DRIVER**



"Around-the-Corner" screw driver for radio work. Approved by U. S. Army and Navy.

No.	Tool	List
5019		\$2.20

**BAKELITE NEUTRALIZING TOOL U. S. Army TL-207**



Genuine Molded Bakelite. Combination screw driver and  $\frac{1}{8}$ " Hex Wrench. Approved by U. S. Army Signal Corps.

No.	Tool	List
5027		\$2.50

**HEX INSULATED FIBRE ALIGNING WRENCHES**



Hexed full length inside, so end can be cut off when worn.

No.	Length	Flat Diam.	List
5051	5"	$\frac{5}{8}$ "	\$0.33
5052	5"	$\frac{3}{4}$ "	.28
5053	6"	$\frac{3}{4}$ "	.40
5054	8"	$\frac{3}{4}$ "	.45
5055	12"	$\frac{3}{4}$ "	.55

**G-C SCREW DRIVERS**



Insulated screw drivers for radio work. No. 5056 for radio knobs. No. 5057 regular type for all-around radio use.

No.	Blade	List
5056	3" x $\frac{1}{8}$ " (Small)	\$0.30
5057	3" x $\frac{1}{8}$ " (Large)	.95

**G-C TELEVISION AND TRIMMER TOOL**



Handy tool to adjust smallest size trimmer condensers. Screw driver is  $\frac{3}{8}$ " diameter and will fit small holes. Other end has a reinforced  $\frac{1}{8}$ " hex nut wrench.

No.	Tool	List
5067	Trimmer 6" Long	\$1.10

**G-C TEST Mallet, SCREW DRIVER & TUBE TAPPER**



Handy tool made with insulated screw driver on one end and rubber mallet on other end. Very handy for tapping tubes to find shorted or intermittent tubes.

No.	Tool	List
5081		\$0.70

**G-C TEST PROBE**



Handy new test probe to "dig in" and find the trouble. Fibre point on one end. Metal hook on other end. Excellent for locating loose connections and shorted parts.

No.	Tool	List
5082		\$0.65

**G-C BAKELITE  $\frac{1}{8}$ " HEX WRENCH-SCREW DRIVER**



Molded bakelite insulated wrench for radio work.  $\frac{1}{8}$ " hex has reinforced brass collar to prevent breakage.  $\frac{3}{8}$ " dia. x 5" long.

No.	Tool	List
5083		\$0.55

**G-C BALANCING TOOL**



A short neutralizing tool for work in close quarters. Sets can be adjusted without removing from cabinets. A very handy tool.

No.	Tool	List
5084		\$0.65

**G-C ALIGNMENT WRENCH FOR PHILCO, RCA, ETC.**



Excellent for neutralizing air trimmers on many models, RCA-Victor, Philco and others. Has  $\frac{3}{8}$ " Hex Wrench on one end and metal hook on other end.

No.	Tool	List
5085		\$1.65

**G-C ALIGNMENT TOOL FOR PHILCO, RCA, ETC.**



For neutralizing air trimmer condensers on all model sets. Made of  $\frac{3}{8}$ " Fibre. Metal clip on end.

No.	Tool	List
5086		\$0.65

**G-C TELEVISION AND PUSH-BUTTON TOOL**



A specially-designed tool for adjusting iron core I.F. and R.F. transformers, coils, alignment condensers, and push-button tuners. Used on Bendix, RCA, and others. Metal tip on one end, other end recessed tip.

No.	Tool	List
5087		\$0.85

**G-C TELEVISION AND TRIMMER TOOL**



Specially made for adjusting neutralizing padding condensers and iron core tuners and coils.

No.	Tool	List
5091		\$0.85

**ZENITH PUSH-BUTTON WRENCH**



Special wrench necessary to use in adjusting Zenith push-button radios

No.	Tool	List
5094	Zenith Wrench	\$0.20

**G-C CONTACT ADJUSTER**



A handy tool to adjust contacts on switches, relays on pin ball machines and radio sets.

No.	Tool	List
5095	Contact Adjuster	\$0.22

**G-C GENERAL ELECTRIC ALIGNMENT TOOL**



Handy alignment tool made of clear plastic. Has metal tip one end and a recessed tip on other end. Tool 6" long,  $\frac{3}{8}$ " diameter. Tip  $\frac{1}{8}$ " wide.

No.	Tool	List
8609		\$1.00

**G-C INSPECTION MIRROR**



No.	Tool	List
5090	Inspection Mirror	\$0.55

**G-C NEUTRALIZING AND ALIGNING TOOL U. S. Army TL-138-A**



No.	Tool	List
5098		\$1.10

**G-C NEUTRALIZING AND ALIGNING TOOL Approved by U. S. Army & Navy**



No.	Tool	List
5099		\$1.40

**G-C CABLE EYELET TOOL**



No.	Tool	List
741		\$1.10

**G-C STANDARD SPEEDEX WIRE STRIPPER**

Fast operating precision made hand tool for stripping insulation from all types of wire. Very easy to operate. Strips 750 to 1000 wires per hour. Used by girls or men. All blades are interchangeable and easily replaced.



Standard Models		
No.	Wire	List
733	12 to 20	\$6.60
733-A	14 to 30	6.60
733-B	10 to 18	6.60
733-C	8 to 10	6.60
733-D	16, 18, 20, 22	6.60
733-E	14, 16, 18	6.60
733-F	10, 12, 14	6.60

No.	Wire	List
733-G	For #18 P.O. S.J. or parallel wire	\$6.60
733-H	For the new 300-ohm television and FM transmission line	6.60
733-I	For 10, 12, 14, 16, 18, 20, 22 wire	6.60

**G-C AUTOMATIC SPEEDEX WIRE STRIPPER**

Similar to standard models except has the "stay open feature" with the new Speedex "Trig-O-Matic Action." Automatically holds jaws open until wire is removed, and prevents bending or crushing of fine wires. Has on-off mechanism so tool can be used as standard model if desired.



Automatic Models		
No.	Wire	List
744	12 to 20	\$8.25
744-A	14 to 30	8.25
744-B	10 to 18	8.25
744-C	8 to 10	8.25
744-D	16, 18, 20, 22	8.25
744-E	14, 16, 18	8.25
744-F	10, 12, 14	8.25

No.	Wire	List
744-G	For #18 P.O. S.J. or parallel wire	\$8.25
744-H	For the new 300-ohm television and FM transmission line	8.25
744-I	For 10, 12, 14, 16, 18, 20, 22 wire	8.25

**G-C SPEEDEX WIRE STRIPPER KIT**

Wire stripper complete with seven different size blades put up in a specially designed permanent steel box. For wires No. 8 to No. 30.



No.	List
733-K Standard Stripper Kit, with blades	\$15.60
744-K DeLuxe Automatic Stripper Kit, with blades	17.25

**G-C SHUR-GRIP PLIER WRENCH**

IT UNLOCKS WITHOUT SNAPPING THE FINGERS. Jaws are forged from alloy steel and specially heat-treated for toughness and durability. It is a high quality tool.



No.	List
767 7" Shur-Grip	\$4.35
770 10" Shur-Grip	5.50

**G-C SPEEDEX REPLACEMENT BLADES**

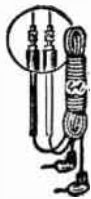


Fit standard and automatic models. Blades interchangeable.

No.	List
3W 12 to 20	\$1.50
3W-A 14 to 30	1.50
3W-B 10 to 18	1.50
3W-C 8 to 10	1.50
3W-D 16, 18, 20, 22	1.50
3W-E 14, 16, 18	1.50
3W-F 10, 12, 14	1.50
3W-G Blades for parallel No. 18 P.O.S.J. or similar	1.50
3W-H Blades for the new 300-ohm television and FM twin transmission line	1.50
3W-I 10, 12, 14, 16, 18, 20, 22 wire	1.50

**G-C MASTER TEST LEADS**

The best test leads you can buy, 50" long, 6000-volt, heavy duty test prods, solderless type. Extra flexible leads run through the handles and are fastened under the knurled collar on the tips. Available with either the attached angle tips or the straight solderless type tips.



No.	List
5050 With Solderless type Straight Tips	\$1.65
8459 With Angle type Test Tips	1.90

**G-C NEEDLE POINT TEST LEADS**

Heavy duty 6000-volt test leads, 50" long, made with unbreakable plastic handles 6" long with needle type chuck and needle to penetrate insulation. Available with either the attached angle tips or the straight solderless type tips.



No.	List
8461 With Solderless Straight Tips	\$1.65
8462 With Angle type Test Tips	1.90

**G-C UNIVERSAL TYPE TEST LEADS**

Heavy duty 6000-volt leads 50" long, made with unbreakable plastic handles 6" long with solderless type tips. Other end comes with standard banana plugs, interchangeable for spade lugs, phone tips, and alligator clips. Supplied complete.



No.	List
8463 Universal Test Leads	\$2.75

**UNIVERSAL TYPE TEST LEADS WITH NEEDLE POINT PRODS**

Heavy duty 6000-volt leads 50" long, made with unbreakable plastic handles 6" long. Equipped with needle point chucks and needles to pierce insulation. Other end comes with standard banana plugs, interchangeable for spade lugs, phone tips, and alligator clips. Supplied complete.



No.	List
8464 Universal Needle Test Leads	\$2.75

**G-C SPEEDEX STRIPPER BENCH HOLDER**



Bench type holder for any model Speedex Wire Stripper. Converts a hand operated tool to a bench type and increases production up to 2,500 wire stripings per hour. Steel.

No. 755 Bench Holder List \$4.15

**G-C SPEEDEX TRIG-O-MATIC PLATE**  
(Patent Pend.)



Converts any standard model Speedex Stripper to an Automatic Model. Easy to install.

No.	List
756 Trig-O-Matic Plate, only	\$2.20

**G-C THIN TYPE TEST LEADS**

This is a handy pair of test leads for hard-to-reach places. Made with slim, plastic handles with long, slim insulated test rods attached. Made with 50" of 6000-volt test lead wire Comes equipped with angle type phone tips.



No.	List
8465 Thin Type Test Leads	\$1.75

**G-C TWEEZERS AND KIT**

For the shop or laboratory to pick up and examine small parts, start screws and nuts, to get in hard-to-get spots, stringing dial cord, fastening springs, etc.

No. 7950 Tweezer Kit, beautiful leatherette case and one each tweezers described below ..... \$3.55  
 7946\* 6 1/2" Self-closing, serrated, blunt points ..... 0.90  
 7947\* 6 1/2" Heavy-duty type with slide lock feature. Holds wires or parts tight like an extra finger. Serrated, blunt points ..... 1.30  
 7948\* 4 1/2" Precision Tweezer. Narrow pointed ends for delicate work. .... 0.60

\*Standard Jobber's quantity: 12 tweezers on display card — Add suffix "D"

**G-C TOOL HANDLE INSULATING TUBES**



A new idea for insulating your handle tools. A supply of special insulating tubing in assorted sizes is included in kit to insulate all types of handles on pliers, cutters, screw driver blades, etc. You simply soak the tubing for a few minutes in G-C Service Solvent and the tubing will swell. Slip it over the handles and allow it to dry. It will shrink on drying and give it a professional appearance. (G-C Service Solvent is not included in kit.)

No.	List
8118-E Env. Astd. Tubing	\$0.45
8118-D Display of 20 Env.	9.00



**G-C TEST LEAD WIRE**

Ideal long-life replacement wire, extra flexible, 6000 volt insulation. Red and Black (Specify color).

No.	Env.	Length	List
5049	1 Red, 1 Black	50' long.	\$0.65
5049-C	100-ft.		6.60
5049-M	1000-ft.		38.50

**G-C DUPLEX TUBE PIN STRAIGHTENER**

The handiest tube pin straightener for both miniature and jumbo miniature tubes of the 7 and 9 pin types. Pins on both types can be straightened by inserting in proper receptacle. Precision constructed steel dies molded in colorful plastic. Be prepared to save those tubes.

No.	Description	List
8655	Duplex Pin Straightener	\$ 2.50
8655-D	Display of 12 No. 8655	30.00

**G-C LOW-LOSS DELUXE TEST PRODS**

New polished low-loss material. Non-breakable. Moisture resistant. Withstands high voltages. Solderless type, brass nickel-plated.

No.	Color	List
5045	Red	\$0.50
5046	Black	.50

**G-C NEEDLE POINT TEST PRODS**

Adjustable chuck tip for needle, 6" polished plastic handles in Red or Black. Brass nickel-plated chuck removable. Includes needle. (Specify color).

No.	List
7701	\$0.50



**G-C TEST LEAD ANGLE TIP**

New, attractive, fully insulated, molded plastic angle phone tip plugs. Will take wires up to .140 diameter.

No.	Color	List
8149	Red, each	\$0.50
8150	Black, each	.50

**G-C INSULATED TEST PROD TIPS**

Unbreakable polished plastic insulated handles. Solderless connectors, brass nickel-plated.

No.	Env.	List
5061	Red	\$0.25
5061-E	Env. 2	.50
5062	Black	.25
5062-E	Env. 2	.50

**G-C TEST PROD TIPS**

Solderless type, brass nickel-plated. Non-insulated. Wire fastens easily.

No.	List
5060	\$0.18

**G-C PHONO NEEDLE POINT TEST PROD CHUCK**

Threaded chuck fits 1/4"-20 threaded hole. Needle removable. Brass nickel-plated. Includes needle.

No.	List
7702	\$0.22

**G-C HEAVY DUTY PHONE PLUG**

Standard type as used on test prods, leads, etc. Fits snugly in 1/4" hole. Brass nickel-plated.

No.	List
7706	\$0.17



**G-C SOLID STANDARD PHONE TIP**

Solid brass type made to RMA specifications. Bright nickel-plated.

No.	Env.	List
6321-E	Env. 8	\$0.45
6321-G	Pkg. 144	7.40

**G-C STANDARD PHONE TIP**

Made of drawn brass with hole through center for easy soldering of wire at tip. Bright nickel-plated.

No.	Env.	List
6320	Env. 12	\$0.45
6320-G	Pkg. 144	3.55
6629	Jan 30	.75

**G-C PHONO NEEDLE POINT TEST PROD CHUCK**

Push on type fits snugly in 1/4" hole. Brass nickel-plated.

No.	List
7703	\$0.22

**G-C INSULATED PHONE TIP PLUG**

Fits standard phone tip jacks. Polished non-breakable low-loss plastic insulated handles. Brass, nickel-plated tip. Minimum contact exposure.

No.	Color	List
7710	Red	\$0.20
7711	Black	.20

**G-C INSULATED SPADE LUG**

Tapered spade lug fits all screws or terminal strips up to No. 10. Insulated female end fits banana plugs.

No.	Color	List
7712	Red	\$0.20
7713	Black	.20



**G-C PHONO TIP JACKS**

Standard type with phosphor bronze spring contacts. Fits 1/4" hole and panels up to 3/8" thick. Brass parts nickel-plated.

No.	List
7714	\$0.15

**G-C INSULATED PHONE TIP JACKS**

Standard insulated type phosphor bronze spring contacts. 3/8" insulated head. Fits 1/4" hole and panels up to 1/4" thick. Brass parts nickel-plated.

No.	Color	List
7715	Red	\$0.20
7716	Black	.20

**G-C SPLIT BANANA PLUG**

Insulated solderless type with polished insulated handles. Metal parts nickel-plated.

No.	Color	List
7730	Red	\$0.33
7731	Black	.33

**G-C SET SCREW TYPE BANANA PLUG**

Insulated set screw type. Polished insulated plastic handles. Nickel-plated metal parts.

No.	Color	List
7732	Red	\$0.25
7733	Black	.25

**G-C SMALL BANANA PIN PLUGS**

Approved silver-plated plugs with straight shank. Can be riveted or soldered. For wires, multiple plugs, etc.

No.	Env.	List
6400	Env. 10	\$0.45



**G-C SPLIT BANANA PLUG**

Standard size with 6-32 threaded shank. Use on plug-in coils, terminal strips, etc. Complete with lug and nut. Brass nickel-plated.

No.	List
7736	\$0.15

**G-C SPLIT BANANA PLUG**

Standard size with 6-32 female thread on end. Supplied with screw and solder lug. Brass nickel-plated.

No.	List
7737	\$0.15

**G-C BANANA JACK**

Standard size banana pin jack. Fits 1/4" hole up to 3/8" thick panel. Nut and lug supplied. Brass nickel-plated.

No.	List
7740	\$0.15

**G-C INSULATED BANANA JACK**

Standard size with polished plastic insulators. Fits 1/4" hole, up to 3/8" thick panel. Nut, lug, and insulators supplied. Brass, nickel-plated.

No.	Color	List
7741	Red	\$0.20
7742	Black	.20

**G-C RCA PHONO PIN PLUG AND JACK**

RCA types used on many type receivers. Also used as auto antenna connectors.

No.	List
1742 Mdg. Plg.	\$0.10
1742-E Env. 4	.40
1743 Midget Jck.	.15
1743-E Env. 3	.40

**G-C INSULATED BANANA PLUG OR PHONE TIP JACK**

Standard size insulated combination jack. Brass nickel-plated with phosphor bronze spring contacts. Fits 1/4" hole, panels up to 3/8" thick.

No.	Color	List
7744	Red	\$0.33
7745	Black	.33

GENERAL



CEMENT

RADIO SOCKETS—PLUGS—JACKS



G-C STANDARD TUBE SOCKETS

BAKELITE SOCKETS

High quality molded bakelite sockets with plated bronze contacts. Three grounding lugs on base of each socket. 1 1/2" mounting centers.

No.	List
1528 8-prong Octal	\$0.17
1528-L 8-prong Octal	.28

WAFER SOCKETS

No.	Mntg.Center	List
1534 4-prong	1 1/2"	\$0.15
1535 5-prong	1 1/2"	.15
1536 6-prong	1 1/2"	.15
1537 7-pr. Small	1 1/2"	.15
1537-L 7-pr. Large	1 1/2"	.18
1538 8-pr. Octal	1 1/2"	.18
1538-28-pr. Octal	1 1/2"	.18
1538-L 8-pr. Octal	1 1/2"	.20

G-C MINIATURE TUBE SOCKETS

BAKELITE MINIATURE SOCKET For Miniature Tubes

High quality molded bakelite socket with metal saddle mounting. Made with phosphor bronze plated contacts for 7-prong tubes. Standard 7/8" mounting centers.

No.	List
1540 Bakelite Socket	\$0.25

WAFER MINIATURE SOCKET For Miniature Tubes

High grade bakelite sockets for new miniature tubes. Phosphor bronze contacts, for 7-prong tubes. Standard 7/8" mtg. centers.

No.	List
1541 Wafer Socket	\$0.15
1542 Wafer Socket with grounding strap	.17



G-C 860 CAP

Spring action flat brown bakelite cap. Approved brass blades.

No.	List
860 Cap	\$0.28

G-C 861 CAP

Spring action, finger grip rubber caps. Approved, screw terminal brass blade.

No.	List
861 Cap	\$0.28

G-C 865 CAP

Modern flush type rubber cap. Easy to assemble. No exposed screws or wires.

No.	List
865 Cap	\$0.28

G-C 867 PLUG

Popular screw plug for standard sockets.

No.	List
867 Plug	\$0.19

G-C CUBE TAP

New type spring action cube tap with 3 outlets always available.

No.	List
862 Brown	\$0.33

G-C CORD CONNECTOR

Brown bakelite with bronze contacts.

No.	List
863 Brown	\$0.28



G-C SURFACE BLOCK

3-plug. Bakelite outlet for extension cords. Can fasten to wall or base.

No.	List
866 Brown	\$0.55

G-C AUTO ANTENNA PLUG

Shielded connector plug as used on Motorola and other auto radios.

No.	List
1740	\$0.15

G-C ANTENNA CONNECTOR JACK

Shielded jack to fit the 1740 plug for auto antenna and phonograph connection.

No.	List
1741	\$0.25

G-C PHONO PLUG

For all phonographs and auto radio connections; RCA, Zenith, Philco and others.

No.	List
1742	\$0.10
1742-E Env. of 4,	.40

G-C PHONO JACK

Used for phonograph attachments. To be used with 1742 plug.

No.	List
1743	\$0.15
1743-E Env. of 3,	.40

G-C EXTENSION JACK AND CONNECTOR

For extending radio ant. cables and phono attachments. Fits 1740 or 1742 plugs.

No.	List
1744	\$0.20



G-C MOTOROLA LEAD ADAPTER

Adapter plug used to adapt bayonet type connector to Motorola type.

No.	List
1745	\$0.40

G-C ADAPTER SHELL

Used to change the Motorola fitting to bayonet type connector.

No.	List
1746	\$0.15

G-C ANTENNA CONNECTOR

Used for connections on auto antenna and ground lines.

No.	List
1747	\$0.15

G-C JUMBO FUSE HOLDER

14 amp. fuse holder, 2 1/4" long x 1/2" diameter.

No.	List
1748	\$0.30

G-C FUSE CONNECTOR Regular Type

Used on auto radios and other equipment. Completely assembled.

No.	List
1749	\$0.18

G-C ANTENNA CONNECTOR END

To be used with regular antenna connectors. With bushing.

No.	List
1750	\$0.11



G-C REPLACEMENT PARTS FOR ANTENNA AND FUSE CONNECTORS

No.	List
(a) 1791 Sleeve of Fuse Connector	\$0.06
1791-GBox of 144 No. 1791	7.90
(b) 1792 Sleeve of Antenna Connector	.06
1792-GBox of 144 No. 1792	5.50
(c) 1793 End piece for Antenna and Fuse Connector	.05
1793-GBox of 144 No. 1793	7.90
(d) 6720 Auto Fuse Insulator Sleeve	.05
6720-GBox of 144 No. 6720	4.40
(e) 1796 Spring for Antenna and Fuse Connector	.02
1796-GBox of 144 No. 1796	1.55
(f) 1795 Bakelite Bushing	.05
1795-GBox of 144 No. 1795	4.40

G-C TERMINAL STRIPS SCREW TYPE

Laminated bakelite strips, rigidly constructed, terminals will not turn and short.

No.	Contacts	List
1772	2	\$0.18
1773	3	.27
1774	4	.36
1775	5	.45
1776	6	.54
1777	7	.63
1778	8	.72
1779	9	.81
1780	10	.90

G-C TERMINAL STRIPS SOLDER TYPE

Mounted on laminated bakelite strips. Lugs securely fastened and will not turn.

No.	Contacts	List
1781	1	\$0.05
1782	2	.06
1783	3	.07
1784	4	.11
1785	5	.12
1786	6	.13
1787	7	.14
1788	8	.15
1789	9	.18
1790	10	.20

G-C PHONO SPRING KIT

Kit contains assorted springs same as are used on phono turntables. With this kit you can replace the broken or weak spring without waiting or delay in service.

No.	List
6478 Kit of 50	\$2.75
6479 Kit of 100	4.85

G-C AUTO FUSE INSULATOR SLEEVE

Insulating sleeve to fit regular fuse holders.

No.	List
6720-E Env. of 16,	\$0.45



G-C INSULATING CAMBRIC 10,000 Volts

Yellow varnished cambric. .010" thick.

No.	List
549 Roll over 210 sq. in.	\$0.85
548 36" x 36", yd., any length	4.40

G-C LAMINATED BAKELITE PANELS

1/8" thick. Black.

No.	List
590 6" x 6" x 1/8"	\$0.65
591 6" x 12" x 1/8"	1.20
592 12" x 12" x 1/8"	2.40

G-C FIBEROID "FISH PAPER"

Fish paper has many uses around the shops for repair jobs where electrical insulation is required. .010" — 240 sq. in. roll.

No.	List
560 Roll	\$0.55

G-C RUBBER KIT ASSORTMENT

Handy kit to keep in the shop. Contains various sizes of rubber grommets, chassis mounts, etc. An exceptional buy.

No.	List
7600 Rubber Kit	\$1.00

G-C RADIO CORD SETS

Handy replacement cord sets, ready to attach to radio sets and appliances. Approved Brown parallel wire with plugs attached.

No.	List
885 6 ft.	\$0.50
886-P 7 1/2 ft.	.65

G-C EXTENSION CORDS

G-C extension cords are made of approved wire ready to use with a plug on one end and a 3-way tap on the other end. Brown.

No.	List
887 6 ft.	\$1.00
889 7 1/2 ft.	1.10



# GENERAL CEMENT SIGNAL LIGHTS — CONNECTORS — CLIPS



## G-C ONE-INCH JEWEL SIGNAL LIGHT

For signal devices of all types. Bulbs change from the front; for socket bases as listed below. One-inch mounting hole. Jewel colors: Red, Green, Amber, and Opal. (Specify Jewel Color).

No.	Socket	Jewel	List
7901	110-V Cand.	Facett	\$1.55
7902	110-V Cand.	Smooth	1.55
7903	Min. Bayonet	Facett	1.55
7905	Min. Screw	Facett	1.55

## G-C 1/4-INCH JEWEL SIGNAL LIGHT

All purpose signal light with faceted jewels in colors of Red, Green, Blue, Amber.  $\frac{1}{8}$ " mounting hole. Jewel removed from front. (Specify Jewel Color).

No.	Socket	List
7907	Min. Screw	\$0.90
7908	Min. Bayonet	.90
7909	110-V. Candel.	.90

## G-C 1/2-INCH JEWEL SIGNAL LIGHT

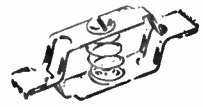
Popular signal light, requires only  $\frac{1}{8}$ " mounting hole. Faceted jewel removed from front. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify Jewel Color).

No.	Socket	List
7910	Min. Screw	\$0.39
7911	Min. Bayonet	.45
7912	110-V. Candel.	.45

## G-C PANEL JEWELS

Complete assemblies in 1",  $\frac{3}{4}$ ", and  $\frac{1}{2}$ " diameters. Fit panels up to  $\frac{1}{4}$ " thick. Brass nickel-plated. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify Jewel Color).

No.	Dia.	Jewel	Mtg. Hole	List
7913	$\frac{1}{2}$ "	Facett	$\frac{7}{8}$ "	\$0.28
7914	$\frac{1}{2}$ "	Smooth	$\frac{7}{8}$ "	.28
7915	$\frac{3}{4}$ "	Facett	$1\frac{1}{8}$ "	.65
7916	1"	Facett	1"	1.20



## G-C CLIP-ON PILOT LIGHT SOCKETS

Clip up and clip down types for replacements. Cadmium-plated.

No.	Type	List
7920	Min. Screw Clip Up	\$0.17
7921	Min. Screw Clip Down	.17
7922	Min. Bay. Clip Up	.19
7923	Min. Bay. Clip Down	.19
7924	110-V. Cand. Clip Up	.22
7925	110-V. Cand. Clip Down	.22

## G-C BRACKET-TYPE PILOT LIGHT SOCKETS

Sturdy bracket-up or bracket-down type. Cadmium-plated.

No.	Type	List
7926	Min. Screw Bracket Up	\$0.17
7927	Min. Screw Bracket Down	.17
7928	Min. Bay. Bracket Up	.19
7929	Min. Bay. Bracket Down	.19
7930	110-V. Candel. Bracket Up	.22
7931	110-V. Candel. Bracket Down	.22

## G-C UNMOUNTED PILOT LIGHT SOCKETS

Cadmium plated. Ideal for replacements or special assemblies.

No.	Type	List
7932	Min. Screw Base	\$0.17
7933	Min. Bayon.	.16
7934	110-V. Candelabra	.18

## G-C PILOT LAMP INSTALLER

Makes it easy to install miniature dial bulbs, neon and candlelamps in hard-to-get-at-places. All rubber.

No.	List
7935	Installer \$0.55

## G-C DOUBLE ALLIGATOR CLIP

Brand New! A clip on both ends. Handiest connector made for joining wires, making temporary circuits, repairs; for tests, experiments, etc. Cadmium-plated.

No.	List
7758-E	Env. 2 \$0.45



## G-C MALE MICROPHONE CONNECTOR

Completely shielded, sturdy, single contact connector. Brass, bright chrome-plated. Steel spring cord protector.

No.	List
7940	Connector \$0.50

## G-C FEMALE MICROPHONE CONNECTOR

Single contact female type used with No. 7940, 7941 and 7943 connectors. Complete, brass chrome-plated.

No.	List
7942	Connector \$0.60

## G-C MICROPHONE CHASSIS UNIT CONNECTOR

Single contact male connector for chassis. Used with type 7942 female connector. Supplied complete. Brass nickel-plated.

No.	List
7941	Connector \$0.39

## G-C MICROPHONE CONNECTOR

Single contact, closed circuit type, prevents open circuit noises when microphone is disconnected. Chassis type, use with type No. 7942 female connector. Brass, nickel-plated.

No.	List
7943	Connector \$0.60

## G-C MICROPHONE CONNECTOR CAP

Chrome plated cap with anchor chain for all connectors. Seal against dirt and prevent thread damage.

No.	List
7944	Connector Cap \$0.55

## G-C INSULATED ALLIGATOR CLIP

Solder type with Red or Black insulated sleeve. Strong spring. Nickel plated.

No.	List
5064	Red Clip \$0.22
5064-E	Env. of 2, .45
5065	Black Clip .22
5065-E	Env. of 2, .45



## G-C CROCODILE CLIP

Set screw type. Teeth nest together to assure perfect contact with wires, etc. Cadmium-plated.

No.	List
7757	Clip \$0.33

## G-C WEE-PEE-WEE CLIP

Very small and thin nosed with set screw for wire. Phosphor bronze. Ideal for coil work.

No.	List
7755	Clip \$0.33

## G-C PEE-WEE CLIP

Popular test clip. Interlocking jaws assure positive contact. Set screw type.

No.	List
7756	Clip \$0.13

## G-C ALLIGATOR CLIP

Solder type, non-insulated. Strong spring for positive contact. Nickel-plated.

No.	List
5063	Clip \$0.13
5063-E	Env. of 3, .45

## G-C ALLIGATOR CLIP

Wire fastens under set screw. Handy for all types of connectors. Cadmium-plated.

No.	List
7752	Clip \$0.20

## G-C SCREW TYPE INSULATED ALLIGATOR CLIP

Very popular. Bright polished handles. Set screw for wire.

No.	List
7750	Blk. Clip \$0.28
7751	Red Clip .28



## G-C AMMETER CONNECTOR

Easily clips to the ends of screws. Positive fast connector.

No.	List
6307	Each \$0.13
6307-G	Box 144 17.20

## G-C SMALL CLIP

$\frac{1}{2}$ " long by  $\frac{3}{16}$ " wide. Handles up to No. 16 wire. No. 6 Mtg. Hole.

No.	List
6301	Each \$0.04
6301-G	Box 144 2.35

## G-C MEDIUM CLIP

$\frac{3}{8}$ " long by  $\frac{1}{8}$ " wide. Handles up to No. 14 wire. No. 6 Mtg. Hole.

No.	List
6302	Each \$0.04
6302-G	Box 144 2.55

## G-C LARGE CLIP

$1\frac{1}{8}$ " long by  $\frac{3}{8}$ " wide. No. 8 Mtg. Hole.

No.	List
6303	Each \$0.05
6303-G	Box 144 3.70

## G-C MEDIUM SOLDER LUG CLIP

$\frac{3}{8}$ " long by  $\frac{1}{8}$ " wide. No. 6 Mtg. Hole.

No.	List
6306	Each \$0.05
6306-G	Box 144 3.50

## G-C DOUBLE CLIP

$1\frac{1}{2}$ " long by  $\frac{1}{8}$ " wide. No. 6 Mtg. Hole.

No.	List
6304	Each \$0.15
6304-G	Box 144 19.90



**G-C PUSH-ON PUSH-OFF SWITCH**

For vacuum cleaners, appliances, test equipment. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

No.	List
1338 S.P.S.T.	\$1.90

**G-C BAT HANDLE SWITCH WITH WIRE LEADS**

For vacuum cleaners, appliances, radio sets, etc. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

No.	List
1335 S.P.S.T.	\$1.25

**G-C ON-OFF PLATE**

Will fit the G-C, H & H, Cutler-Hammer and other makes of standard switches.

No.	List
1329 On-Off Plate	\$0.06

**G-C BAT HANDLE TOGGLE SWITCH**

Tear drop handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

No.	List
1330 S.P.S.T.	\$0.85
1331 S.P.D.T.	1.10
1332 D.P.S.T.	1.60
1333 D.P.D.T.	1.85

**G-C TOGGLE SWITCHES**

Ball handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

No.	List
1300 S.P.S.T.*	\$0.85
1301 S.P.S.T.†	1.10
1302 S.P.D.T.*	1.10
1303 S.P.D.T.†	1.35
1304 D.P.S.T.*	1.60
1305 D.P.S.T.†	1.85
1306 D.P.D.T.*	1.85
1307 D.P.D.T.†	2.10

\* 1/2" Shank Length.  
† 3/8" Shank Length.



**G-C PUSH BUTTON SWITCH**

Two circuit, "slow make and quick break" momentary contact switch. One circuit normally on, other off; pushing button reverses circuits in use. Made by H & H for G-C. 3 amps., 125 volts. Shank 5/8" long. No. 1340 Switch \$1.65  
**PUSH BUTTON**  
For 1340 Switch Red or Black (Specify)  
1343 Button \$0.35

**G-C ROTARY SWITCHES**

Best grade enclosed rotary switches. Made by H & H for G-C. 3 amps., 125 volts. Shafts 1 1/2" long.  
No. List  
1320 S.P.S.T.\* \$1.10  
1321 S.P.S.T.† 1.25  
1322 S.P.D.T.\* 1.35  
1323 S.P.D.T.† 1.75  
1324 D.P.S.T.† 1.85  
1325 D.P.D.T.\* 2.05  
1326 D.P.D.T.† 2.50  
\* 3/8" Shank Length.  
† 1" Shank Length.

**G-C NEUTRAL CENTER SWITCH**

Handy radio, appliance and tester switch with 3 positions, On-Off-On. Rated 15 amps., 110 volts; 3/8" shank. Nickel Plated.  
No. List  
1308 S.P.D.T. \$1.80  
1309 D.P.D.T. 3.00

**G-C EXTRA HEAVY DUTY POWER SWITCH**

Three position for motors, projectors, transmitters, movie equipment, etc. Made by H & H for G-C. 10 amps., 125 volts. Neutral off in center. Size 2" x 1" x 1 1/8", shank 3/8" diameter.  
No. List  
1352 D.P.D.T. \$6.25  
1353 3-P.D.T. 9.15  
1354 4-P.D.T. 12.25

**G-C HEAVY DUTY POWER SWITCH**

Push button, D.P.S.T. safety switch for transformers, racks, transmitters, refrigerators and high frequency work. Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.  
No. List  
1351 D.P.S.T. \$3.00

**G-C HEAVY DUTY POWER SWITCH**

D.P.S.T. toggle power switch for motors, appliances, projectors, etc. Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.  
No. List  
1350 D.P.S.T. \$2.10



**G-C SLIDE SWITCHES**

For phonographs, tone controls, auto lights, electric trains, etc. 1/2" wide x 1 1/4" center mounting.  
No. List  
1355 S.P.S.T. \$0.35  
1357 S.P.D.T. .35  
1358 D.P.S.T. .45  
1359 D.P.D.T. .35

**G-C RADIO FRICTION TAPE**

This narrow 3/8" tape was particularly made for radio work. It eliminates waste and tearing of tape. It saves time and is handy to carry with you.  
No. Roll List  
870 65 ft. 3/8" \$0.60  
871 65 ft. 3/8" 1.15

**G-C PLASTIC TUBING KITS**

Handy kits of assorted colors and sizes. Ideal for experimenters and servicemen.  
No. List  
635 Kit of 25 ft. Ass'd. \$1.00  
635-D Display 8 No. 635 8.00

**G-C ASSORTED SPAGHETTI KIT**

An assortment of 7 1/2" lengths of spaghetti sleeving, 26 lengths to the kit. Sizes include from No. 17 wire to 3/8" I.D. A very handy bundle to have for repair jobs.  
No. List  
550 Kit 26 Lengths \$0.70

**G-C SPAGHETTI ASSORTMENT**

"A Box Full of Spaghetti"  
Here's a buy you can't beat on a spaghetti assortment. A variety of sizes and colors are included of high grade varnish tubing. Put up in attractive box.  
No. List  
551 \$1.40

**G-C SPAGHETTI ON SPOOLS**

"Approved by ASTM"  
5000-Volt Dielectric Strength  
Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green, Blue. Specify color.  
No. Spool List  
499 20-ft. \$2.15

**G-C COATED SLEEVING**



Best grade varnished sleeving. Dielectric strength 2000 volts. Colors: Black, Red, Yellow, Green, Brown. Specify color.

No.	Size	List
525	No. 20, fit 20 wire	\$0.15
528	No. 17, fit 18 wire	.17
531	No. 14, fit 14 wire	.20
533	No. 12, fit 12 wire	.22
537	1/8" I.D.	.28
540	3/16" I.D.	.33
543	1/4" I.D.	.45
546	3/8" I.D. (resist. size)	.75
547	1/2" I.D.	1.00

**G-C GENFLEX PLASTIC TUBING**

"MADE OF EXTRUDED PLASTIC"

High grade extremely flexible plastic tubing for Radio and Electronic Insulation work. Resistant to cold or heat. High dielectric strength, average 8,000 volts. Put up in attractive individual boxes for easy handling. Colors: Black, Red, Green, Clear (Specify)



Std.			Std.		
No.	Wire	Pkg. List	No.	Wire	Pkg. List
603	18	20 ft. \$1.00	616	6	10 ft. \$1.00
605	16	20 ft. 1.00	617	4	10 ft. 1.00
607	14	20 ft. 1.00	620	2	10 ft. 1.00
609	12	20 ft. 1.00	625 Fits over 300-ohm Twin Line		
611	10	15 ft. 1.00	8 ft. 1.00		
613	8	15 ft. 1.00			

All sizes available in continuous lengths on special order of 1,000 feet or more.

**G-C RADIO SPAGHETTI**

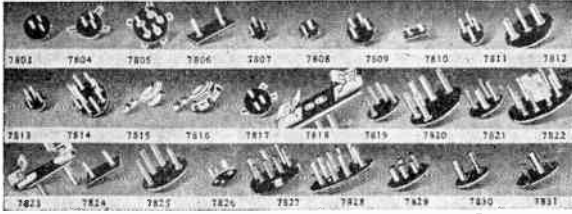


Best grade Radio and Television spaghetti. Smooth coated, with best varnishes. Very flexible. 5000 volt dielectric. Approved by ASTM. Colors: Black, Red, Yellow, Green, Brown. Specify color. 30" lengths.

No.	Size	List
500	No. 20, fit 20 wire	\$0.20
503	No. 17, fit 18 wire	.20
506	No. 14, fit 14 wire	.22
508	No. 12, fit 12 wire	.28
512	1/8" I.D.	.39
515	3/16" I.D.	.55
518	1/4" I.D.	.65
521	3/8" I.D. (resist. size)	.85
522	1/2" I.D.	1.05
523	3/4" I.D.	1.30

# GENERAL CEMENT BATTERY PLUGS - KITS - STAPLES

## G-C RADIO BATTERY PLUGS



Part No.	Voltage	For Burgess No.	For Eveready No.	For R.C.A. No.	For Philco No.	For Ray-O-Vac No.	List Price
7803	45 "B" Large	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	\$0.12
7804	Same as No. 7826, except has Fahnestock Clips.						.39
7805	Same as No. 7829, except has Fahnestock Clips.						.55
7806	4 1/2 "A"	G-5	748	VS002	P100	P-83A	.12
7807	4 1/2 "B" Small	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	.12
7808	1 1/2 "A"	4F, 4F1, 6F, 8F, 8F1, TE	741, 742, 743, 1052P	VS004, VS005, VS007, VS008	P94, P84L, P8F1	P94A, P84L, P8F1, P96A, P98A, P98L	.12
7809	1 1/2 "A"-90 "B"	17GD60, 5DA60, 6TA60	758	VS022, VS043	P60D11L	AB89, 10793	.14
7810	6 "A"	2F4, 4GA42, F4P1, T5	A509, 718, 744, 747	VS009, VS010, VS011	P4F4R	P64A, P696L, P698A, P698L	.12
7811	6 "A"-90 "B" etc.	2F4B60				P85A	.17
7812	7 1/2 "A"	G-5	687	VS003		P85A	.14
7813	6 3/8-90 "B"	6FA60, 4GA41, 4GA42		VS037	P60A-4L, P41A4G	AB419	.14
7814	7 1/2 "A"-90 "B"	G5A42, F5A60		VS038	P87, P841	AB794	.28
7815	6 1/2 "B"	XX30, XX45	455, 467	VS016, VS056		P4367	.10
7816	6 1/2 "B"	XX30, XX45	455, 467	VS016, VS056		P4367	.12
7817	Same as No. 7803, except has Fahnestock Clips.						.39
7818	Same as No. 7808, except has Fahnestock Clips.						.28
7819	6 "A"-75 "B" etc.	G4B50					.17
7820	6 "A"-90 "B"	F4B60		VS048			.22
7821	6 "A"-90 "B"	2F4A60		VS044	P60A8F4	AB694	.14
7822	9 "A"-90 "B"	4FA60					.28
7823	Same as No. 7824, except has Fahnestock Clips.						.28
7824	3 "A" "AB" Batt. Packs	20F2, Usalite	X125, AB5671	VS025	P8024	P9403	.12
7825	4 1/2 "C"	2370PI	X771	VS030	P3D	P231W	.17
7827	135 "B"-9 "C"				37-08, 3738, etc.		.28
7828	135 "B"-13 1/2 "C"				34, 39, 39A		.39
7829	22 1/2 "C"	5156PI	768	VS031	P15B5	P5151	.24
7830	2 prong large with one thin and one thick. Popular on Portables.						.17
7831	9 "A"-90 "B"	F6A60, G6M60	753, 754	VS018, VS019	P841A	AB878, AB994	.28

## G-C RADIO BATTERY PLUGS

For all plug-in radio batteries. It pays to have an assortment to be ready for all repairs. Plugs as listed above. Complete with box and handy reference chart.



No. 7801	100 Asstd. Plugs, Metal Box	List \$13.20
No. 7800	50 Asstd. Plugs, Cardboard Box	List 7.15

## G-C INSULATED BELL STAPLES

Saddle-type insulated staples for holding wires in place and out of the way.

No.	Fig.	Size	List
1751	1	1/8" x 1/2"	\$0.28
1752	2	1/8" x 1/2"	.45
1753	3	1/8" x 3/8"	.28
1754	4	1/8" x 3/8"	.45
1755	5	1/8" x 3/8"	.28
1756	6	1/8" x 3/8"	.45
1757	7	1/8" x 3/8"	.28

No. 1 No. 2 No. 3 No. 4 No. 5 No. 6 No. 7 No. 8



No.	Box	Size	List
1758	Box 100, No. 5	1/8" x 3/8"	\$0.45
1759	Box 100, No. 6	1/8" x 3/8"	.50
1760	Box 100, No. 7	1/8" x 3/8"	.50
1761	Box 100, No. 10	1/8" x 3/8"	.85



## G-C DIAL AND KNOB REPAIR KIT

Handy assortment of knob springs, set screws, dial springs, idler pulleys and drive rubbers in box.

No. 1015	70-pc. Kit.	List \$2.50
No. 1016	150-pc. Kit.	List 4.95

## G-C PLASTIC JAR HARDWARE ASSORTMENT

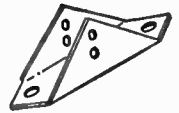
Approximately 1000 assorted screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, etc. No cast-offs — only regular hardware. Plastic jar with screw cap.

No. 6064	1000 Asstd.	List \$1.80
No. 6056-E	Env. 100 Asstd.	List .45

## G-C HELL BOX

A grand assortment of useful hardware; screws, nuts, lugs, clips, washers, clamps, etc. Thousands of items needed every day. Metal hinged box.

No. 6500	List \$3.55
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## G-C STEEL HARDWARE RACK

Steel racks, hold No. 4002 2 oz. glass bottles or plastic jars. Attractively finished. Welded construction. Heavy steel. Two sizes.

No. 4010	20 Jars	List \$2.75
No. 4012	40 Jars	List 4.95

## G-C STEEL STOCK BOXES

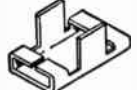
Slide-in drawer type cabinet box for parts. Made so can be stacked. Attractive finish, steel welded construction with handle. Size 1 1/2" long, 6" wide, 4" high.

No. 4001	List \$3.55
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## G-C No. 8621 PIVOT MOUNT BASE

New pivot swing up base for antenna masts. Made of heavy gauge steel, zinc plated. Will hold masts up to 1 1/2" diameter.

No. 8621	Pivot Base \$0.50
	Standard Jobbers Carton 100 units



## G-C VENTILATING PLUGS

To ventilate chassis, amplifier, racks, transmitters, etc. Snaps into 1-inch hole. Plated.

No. 1709-E	Env. 4	List \$0.45
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## G-C PLASTIC HARDWARE JARS

4 oz. size wide mouthed plastic jar with screw type cap. Ideal for hardware.

No. 4000	List \$0.33
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## G-C STRAP CLIP

Strap clips make it easy to permanently couple strapping on chimney brackets without bolts and nuts. Also handy for coupling and extending steel strapping. Plated to prevent rust.

No. 8648-C	Box 100	List \$10.00
No. 8648-M	Box 1000	List \$90.00
	Jobbers Standard Carton 100 Clips	



## G-C SOLDER IRON TIPS

Best grade hand-drawn copper, bright plated to resist corrosion. Heats fast and holds heat.

No.	Tip	List
724	1/8" x 3"	\$0.45
725	1/8" x 4 1/2"	.55
726	3/8" x 4 1/2"	.60
727	1/8" x 4"	.75

## G-C No. 8622 PIVOT SWING MOUNT

New pivot swing up mount that will hold mast up to 1 1/2" diameter. Made up of heavy gauge steel, zinc plated to prevent rust.

No. 8622	Pivot Swing Up Mount \$0.95
	Standard Jobbers Carton 100 units

## G-C STAPLE DRIVER STAPLES

Hardened steel staples in cartridge form to fit staple drivers. Lacquer coated.

No. 430	Box 250	List \$0.65
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For holding 300-ohm lead wire to base boards, etc.

No. 8020-E	Env. 30	List \$0.45
No. 8020-G	Box 144	List 1.35

**G-C CHASS-EZ**  
(Pat. Pending)

New wonder tool makes the Serviceman's job easier. Its simplicity is its chief merit. Chassis can be installed on "Chass-Ez" in five seconds. All one unit — no extra bolts or nuts to adjust. Heavy steel, riveted construction, nicely plated.



No. 5207 List \$4.00  
Dealer's Net Only 2.40

**G-C PHONO TURNTABLE STAND**

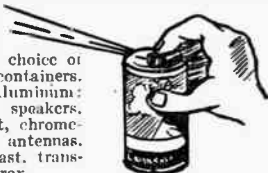
New improved model, adjustable and inexpensive. Adaptable to all turntables. Raises the turntable 15 inches above bench and can be pivoted on the swivel joints for easy examination or repairs. Sturdy steel construction. Plated.



No. 5205 List \$8.05  
Dealer's Net Only 4.89

**G-C PLASTIC SPRAY-KOAT**

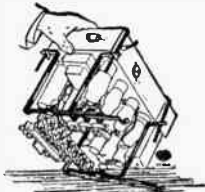
No brush—no muss—no fuss. Your choice of two fine finishes in handy spray containers. Just press the special nozzle cap. Aluminum: Coat and protect antenna masts, speakers, PA equipment, etc.; dries to bright, chrome-like finish. Plastic: Corrosion-proof antennas, connectors, all metals, etc.; dries fast, transparent. Cover 100 square feet approx.



No. 8660—Aluminum List \$1.95  
No. 8665—Plastic List \$1.95

**G-C RADIO CHASSIS GUARDS**

Inexpensive guards that protect the chassis and tubes when servicing. Set can be turned in any position. Easily applied and adjustable to all sets. Permanent plated metal construction.



No. 709 List \$2.75  
Dealer's Net Only 1.65

**G-C MINIATURE TUBE PIN STRAIGHTENER**

Saves tubes! Straightens without damage the pins on the fragile miniature tubes such as 186, 6AK5, 9002, etc. Just insert tube between guide pillars into precision base die and tube prongs are straightened and properly spaced. All metal.



No. 5191 For 7-pin tubes List \$1.00  
8105 For 9-pin tubes List 1.00

**G-C TUBE AND PARTS EXTRACTOR**

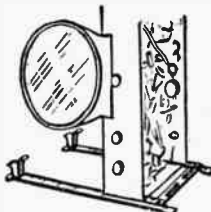
U. S. Signal Corps part No. TL 201. Handy prong tool for extracting tubes and picking up parts. Rubber cushions on prongs.



No. 5092 Tube Extractor List \$1.65

**G-C TELEVISION SAF-T-RACK**

A simple, sturdy rack to use in repairing heavy television chassis. Simple set it on the rack and tilt it on side. The sturdy hooks will hold the chassis on its side so you can work on it. It will prevent the tubes from being damaged.



No. 8045 Saf-T-Rack List \$5.45

**G-C DANDY TEST LITE**



New neon test lite for checking radios, television sets, fuses, circuits, etc. Simple, safe and dependable for tracing all kinds of trouble. Use on voltages of 60 volts AC to 550 volts AC or DC.

No. 8585 Dandy Lite List \$ 1.00  
8585-D Display 12 #8585 12.00

**G-C NE-O-LITE**



A simple, safe, electrical circuit tester for voltages from 60 volts AC to 550 volts AC or DC. Used for radio, electrical and automotive testing. Molded plastic.

No. 5100 Ne-O-Lite List \$0.60  
5112-D Display 12 #5100 7.20

**G-C NE-O-LITE WIRE**



Wire same as used on Ne-O-Lite Testers, # 18 stranded, rubber covered with a red or black braid, varnished. For ignition wiring, motor wiring, etc. Red or Black—Specify color.

No. 5113 100 ft. List \$4.15

**G-C RESISTOR FOR NEON LAMP**



Required resistor when using No. 717 neon lamp on voltages of 60 to 550 volts AC or DC. Connect in series.

No. 718 List \$0.11

**G-C NEON GLOW LAMPS**



NE-T2 lamp as used in testers, appliances, as pilot light, etc.

No. 717 List \$0.28

**G-C AMO MINIATURE TUBE PULLER**  
(Pat. Pending)

Prevents burned fingers and broken tubes. Makes it easy to remove and install tubes such as 6AG5, 50B5, etc. Works on suction and vacuum principle. Operates just by pressing on the tube and to release, just press the release button. Tube protected by rubber sleeve. Gets where your fingers can't reach. Permanent metal.



No. 5093 For 7-pin tubes List \$1.65  
8106 For 9-pin tubes List 1.65

**G-C FIBRELOID SPEAKER SHIMS**

Shims made of tough and flexible fibreloid. Non-magnetic. 4 each of 5 sizes — twenty in all: Sizes, .005", .0075", .010", .0125", and .015". Color coded. Supplied in gold lettered leatherette snap case with instructions.



No. 702 Kit List \$0.70

**G-C SWEDISH STEEL SPEAKER SHIMS**

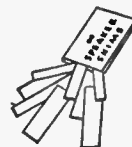
Makes it easier to center speaker voice coil. Permanent flexible Swedish steel. 4 shims each of 4 sizes coded for identification: .004", .006", .008" and .010" thick. Supplied in gold stamped leatherette partitioned snap case. Complete with instructions.



No. 701 Kit List \$0.75

**NEW! G-C SPEAKER SHIM KIT**

For every type of speaker adjustment. A generous supply of Fibreloid and bronze shim stock in the various widths and thicknesses needed for speakers. Non-magnetic material. Stock can be cut to exact requirements. A long-lasting assortment. Complete instructions.



No. 7720 Kit List \$2.20

**G-C RECORDING WIRE**



For all wire recorders. Includes plastic leads. Permanent recordings which can be replayed indefinitely. Finest quality reproduction on stainless steel wire. Standard RMA spool fits Webster, Air King, Sears Roebuck, etc.

No.	Leaders with Spools	List
5171	1-hr. Spool	\$4.50
5172	½-hr. Spool	2.75
5173	¼-hr. Spool	1.85
5174	Leaders only, for Armour type recorders, per pair	.22
5176	Empty Rewind Spool	1.00
5175	Envelope Nylon Webster Cord	.45

**G-C REPLACEMENT AUTO AERIALS**

**FORD ROOF AERIAL**  
Ford-Mercury Part No. 51A-18813-A1



Replacement aerial for all Ford and Mercury Roof Aerials of 1941-42-46-47-48 that operate from behind the dividing post of the windshield. Made of Admiralty brass tubing with stainless steel extension rod, triple chrome plated Free sliding with positive contacts insure noise-free reception. Easy to install, fits without changes, replaces original aerial. Comes complete with knob and set screw.

No.	Ford Roof Aerial	List
7056		\$2.45

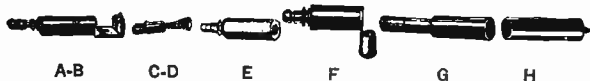
**BUICK REPLACEMENT ANTENNA**

Buick Part No. 980,688

Standard Buick Roof Aerial Mast. The replacement mast for Buick Roof Aerials on models 1940 through 1949. Easy to replace — merely tightens into position with a set screw. Admiralty brass tubes with a stainless steel top rod. Chrome-plated. Each mast individually packed in a paper tube. Standard packing — 10 tubes to a carton.

No.	Buick Antenna Mast	List
7057		\$3.00

**G-C IGNITION SUPPRESSORS**



A rugged long-life assortment of bakelite auto radio ignition suppressors. Resistance, 10,000 ohms (V-8 types, 50,000 ohms). Resistors, moisture-proofed to eliminate variations due to weather changes. Impervious to heat, oil, moisture and mild acids. All metal parts brass. Good for more than 50,000 miles.

No.	List	No.	List
(a) 1501 Bracket Type	\$0.33	(e) 1505 Screw Type, Universal	\$0.33
(b) 1502 Ford V8	.33	(f) 1506 Snap-On Type	.33
(c) 1503 Ford V8 Brush Type, 33, 34, 35 Cars	.33	(g) 1507 Distributor Type	.33
(d) 1504 Ford V8 Brush Type, 36 to 40 Cars	.33	(h) 1508 Cable type for Splicing Cables	.33

**G-C SPRING MAKER**

(Pat. Pending)



Makes all types of coil springs — compression or extension types — with any number of coils or degree of wire pitch. Designed for simple adjustment and operation with any size spring wire. Necessary wherever springs must be made fast or to special specifications. Liberal supply spring wire furnished with each winder. Fastens to any bench.

No.	List	Dealer's Net
5209 Spring Winder and Asst. Spring Wire	\$24.90	\$14.94*
5210 Replacement Asst. Spring Wire	2.75	1.65*

**G-C MASTER-TONE RECORDING TAPE**



The new G-C plastic back master-tone recording tape available in two sizes, for commercial and home use. Comes in a plastic wheel which stops rapidly. Has low surface friction, high frequency response, and is uniform from reel to reel. No magnetic weak spots.

No.	List
5180 1270 foot reel	\$5.50
5181 640 foot reel	3.50

**G-C SCREW DRIVER SET**

A handy screw driver set in a leatherette case with five interchangeable blades. Unbreakable handle with flanged aluminum screw chuck.



Blade Sizes	
1—cabinet	½ x 3¼
1—cabinet	⅜ x 3¼
1—mechanic	¼ x 5¼
1—recessed head No. 1	⅜ x 4¼
1—recessed head No. 2	⅜ x 4¼

No.	List
6615	\$2.65

**G-C STATIC POWDER AND INJECTOR GUN**



It really works, cuts down auto radio static. Inject powder in tubes, and eliminate wheel tire static. Easy to apply. Powder also cuts down tire trouble by eliminating those pin-point tube leaks caused by tire static discharge. Powder blown into tube with G-C Injector Gun. Every car should be treated with G-C Static Chaser Powder.

No.	List
5604 Injector Gun, only	\$1.80
5605 Packet Static Powder for 5 tires (1 car)	1.10
5606 Kit, one No. 5604 Injector, and one No. 5605 Powder	2.75

**G-C DIAL POINTER KIT**



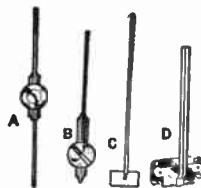
A complete kit of 10 assorted dial pointers. Pointers come in a clear transparent plastic case which keeps the pointers in perfect condition.

No.	List
6810	\$3.25

**G-C DIAL POINTERS**

Popular replacement pointers.

No.	List
(a) 6801 3" Rotary Pointer for ¼" shaft, gold	\$0.39
(b) 6802 5" 360° Rotary Pointer for ¼" shaft, gold and red	.39
(c) 6803 2" Slide Pointer, red translucent	.39
(d) 6804 2 ½" Slide Pointer, white enamel	.33



**G-C HUB CAP STATIC SPRINGS**



Eliminate wheel static noise developed by poor electrical contact between front axle and wheels. Springs have riveted metal points for firm, smooth contact. Plated.

No.	Each	List
1058		\$0.13
1059	Box, 24 Springs	3.00



**G-C SHAFT COUPLINGS, EXTENSIONS AND REDUCERS**

BRASS FITTINGS		INSULATED FITTINGS	
No.	List	No.	List
6701	1/4" to 1/4" coupling... \$0.25	6721	1/4" to 1/4" coupling... \$0.25
6702	1/4" to 3/8" coupling... .30	6722	1/4" to 3/8" coupling... .30
6703	3/8" to 3/16" coupling... .25	6725	1/4" hole to 1/4" shaft extension... .30
6704	3/8" to 3/8" coupling... .30	6734	1/4" x 6" fibre shaft... .30
6705	3/8" hole to 1/4" shaft extension... .30	6735	1/4" x 12" fibre shaft... .55
6710	3/8" hole to 1/4" shaft extension and reducer... .30	6737	1/4" x 12" bakelite shaft 1.00
6712	1/4" x 6" brass shaft... .20		
6713	1/4" x 12" brass shaft... .35		
6716	1/4" hole x 1/4" round shaft x 4" long... .35		



**G-C REDUCING BUSHINGS**

No.	List
6751-E	1/4" to 3/8" reduction, 8 in. Env. \$0.45
6751-G	144 No. 6751 (Gross) 7.15



**G-C SHAFT EXTENSIONS**

No.	List
6755	1/4" x 4 1/2" Long Flat Shaft Extension \$0.40
6716	1/4" x 4 1/2" Long Round Shaft Extension .35



HEX SOCKET



SPLINE SOCKET

**G-C ALLEN-HEX WRENCHES AND KITS**

Made of alloy steel properly hardened. Used on knobs, dials, phono needles, motors, pulleys, etc.

No.	List
5030	Env. 4 Asstd. Wrenches \$0.55
5029	Kit 6 Asstd. Wrenches in Leatherette Case .85
5029-A	Env. 3 Hex Key Wrenches for No. 1/4" to 3/8" Set Screws .55
5031	No. 4 .13
5032	No. 5 .13
5033	No. 8 .13
5034	No. 10 .13
5035	1/4" .13
5036	3/8" .14
5037	1/2" .14

**G-C BRISTO-SPLINE WRENCHES AND KITS**

Very popular "Bristo" or "Spline" type wrenches as used on phono needles, motors, pulleys, knobs, etc. Made of alloy steel, properly hardened.

No.	List
5069-E	Env. 4 Asstd. Wrenches \$0.55
5070-E	Kit 6 Asstd. Wrenches in Leatherette Case .85
5071	No. 4 .13
5071-A	No. 5 .13
5072	No. 6 .13
5073	No. 8 .13
5074	No. 10 .13
5075	3/4" .13

**G-C ALLEN-BRISTO WRENCH KIT**



Complete wrench kit for hex and spline type screws. Double snap button case of durable leatherette. Fit No. 2 to 3/8" screws.

No.	List
5028	\$1.80

**G-C INSPECTION LITE**

Operates on 110-120 volts AC or DC. Cord approximately 6 ft. long.

No.	List
705	Inspection Light \$2.15
704	Replacement Bulb for No. 705 .19
704-S	Clear Plastic Shield .19



**G-C BRASS AND INSULATED SPACERS AND BUSHINGS**

No.	Assortments	List
6617	Hardware Lab. Jar 12 Assorted Spacers and Bushings	\$0.75
6760-E	Env. 12 Asst. Ins. Spacers	.45
6762	15 Asst. Threaded Brass Bushings 6-32 thread, 1/4" to 3/8" lg.	1.40
6763	15 Asst. Threaded Brass Bushings 8-32 thread, 1/4" to 3/8" lg.	1.40
6775-E	Env. 12 1/4" x 1/4" Ins. Spacers	.45
6761-E	Env. 12 Asst. Metal Spacers	.45

BRASS				INSULATED			
No.	O.D.	Length	List	No.	O.D.	Length	List
6765	1/4"	1/4"	\$0.05	6775	1/4"	1/4"	\$0.05
6767	1/4"	1/2"	.06	6776	1/4"	3/8"	.06
6768	1/4"	3/4"	.07	6777	1/4"	1/2"	.06
6769	3/8"	1/4"	.06	6778	1/4"	3/4"	.09
6770	3/8"	1/2"	.07	6779	3/8"	1/4"	.06
6771	3/8"	3/4"	.08	6780	3/8"	1/2"	.07
				6781	3/8"	3/4"	.08

**THREADED BRASS BUSHINGS**

No.	O.D.	Thread	Length	List	No.	O.D.	Thread	Length	List
6785	1/4"	6-82	1/4"	\$0.06	6790	1/4"	8-32	1/4"	\$0.06
6786	1/4"	6-32	3/8"	.08	6791	1/4"	8-32	3/8"	.08
6787	1/4"	6-82	1/2"	.09	6792	1/4"	8-32	1/2"	.09
6789	1/4"	6-32	3/4"	.10	6793	1/4"	8-32	3/4"	.10



**G-C 8-PIECE VEST POCKET SET**

Handiest tool! Seven sockets, 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1" hex; 3/8" round knurled, 1/4" square, complete with 4" L handle.

No.	List
712	\$1.75



**G-C WIRE STRIPPER**

5-in-1 tool. Wire stripper, scraper, cutter, screwdriver, and wire winder all in one. Tempered steel.

No.	List
757	\$0.45

**G-C 6-PIECE SLIP-ON WRENCH SET**

Handle holds five sockets, sizes 1/4", 3/8", 1/2", 5/8", and 3/4". Easily assembled. Tempered steel, plated.

No.	List
715	\$2.20



**G-C FUSE PULLERS**

For cartridge fuses. Heavy duty construction of high dielectric material.

No.	List
5525	Midget size, for fuses 1/4" x 1/2" \$0.65
5526	Large size, for fuses 1/2" x 1 1/2" 1.35

**G-C ELECTRONIC HARDWARE LABORATORIES**

Complete assortment of hardware. Rack contains several thousand essential electronic hardware items. Packed in clear jars with screw caps. Assortments as below: Free Steel Rack!



No.	List	Dealer's Net
6604	DeLuxe Hardware Laboratory, 40 jars	\$30.00
6601	20 jar assortment	15.00
		9.00*

**G-C THIRD EYE DELUXE TELEVISION MIRROR**

A DeLuxe mirror, complete with telescoping stand. Absolutely no distortion. Glass 12" x 10" in metal frame. Stand is adjustable.



No.	List
8390	\$7.25

GENERAL



CEMENT

# RADIO KNOBS - KITS



**MAJESTIC BAKELITE KNOBS**  
Popular pattern. Set screw type.  $\frac{3}{8}$ " diam.,  $\frac{1}{4}$ " shaft.  
No. List  
1100 Walnut \$0.18  
1100-I Ivory .22

**ROYAL BAKELITE KNOBS**  
Beautiful pattern. Set screw type.  $\frac{3}{8}$ " diam.,  $\frac{1}{4}$ " shaft.  
No. List  
1105 Walnut \$0.18  
1105-I Ivory .22

**YANKEE BAKELITE KNOBS**  
Set screw type.  $\frac{3}{4}$ " and 1" diam.,  $\frac{1}{4}$ " shaft.  
No. List  
1109  $\frac{3}{4}$ " Wln. \$0.18  
1110 I" Walnut .18  
1109-I  $\frac{3}{4}$ " Ivory .22  
1110-I I" Ivory .22

**MODERN LARGE KNOB**  
Knurl shaft or set screw types. 1  $\frac{1}{8}$ " diameter.  
No. List  
1176 Walnut \$0.13  
Set Screw Type  
1177 Walnut .18

**NEW LARGE KNOB**  
Knurl shaft or set screw types. 1  $\frac{1}{8}$ " diameter.  
No. List  
Knurl Shaft Type  
1178 Walnut \$0.13  
Set Screw Type  
1179 Walnut .18

**POPULAR LARGE KNOB**  
Knurl shaft or set screw types. 1  $\frac{1}{8}$ " diameter.  
No. List  
Knurl Shaft Type  
1180 Walnut \$0.13  
Set Screw Type  
1181 Walnut .18



**MIDGET BAKELITE KNOBS**  
Set Screw Type  
For small sets.  $\frac{1}{8}$ " diam.,  $\frac{1}{4}$ " shaft.  
No. List  
Pointer Type  
1115 Walnut \$0.13  
1116 Ivory .14  
1117 Red .14  
1118 Black .13

For small sets.  $\frac{1}{8}$ " diam., set screw  $\frac{1}{4}$ ".  
No. List  
Non-Pointer Type  
1111 Walnut \$0.13  
1112 Ivory .14  
1113 Red .14  
1114 Black .13

**STREAMLINE POINTERS**  
The most popular pointer knob.  $\frac{1}{4}$ " shaft, set screw type 1  $\frac{1}{4}$ " long.  
No. List  
1136 Black \$0.17  
1136-W Walnut .18  
1137 Red .20  
1137-I Ivory .22

A very popular pointer knob.  $\frac{1}{4}$ " shaft, set screw type, 2" long.  
No. List  
1135 Black \$0.22  
1135-W Walnut .26  
1138 Red .26  
1138-I Ivory .29

**MODERN POINTER BAR KNOBS**  
Brass Bushing  
For intercomms and instruments. Black finish. Set screw,  $\frac{1}{4}$ " shaft, 1  $\frac{1}{2}$ " long.  
No. List  
1130 Black \$0.42  
1130-W Walnut .42

For intercomms and instruments. Black finish. Set screw,  $\frac{1}{4}$ " shaft, 1  $\frac{1}{2}$ " long.  
No. List  
1131 Black \$0.39  
1131-W Walnut .39



**INSTRUMENT KNOB**  
A heavy duty knob for communication equipment, instruments.  $\frac{3}{4}$ " brass insert, set screw. 1  $\frac{1}{4}$ " O.D. x  $\frac{3}{8}$ ".  
No. List  
1175 Black \$0.39

**STREAMLINE POINTERS**  
Brass insert.  $\frac{1}{4}$ " shaft, set screw. 1  $\frac{1}{4}$ " long.  
No. List  
1170 Black \$0.28  
1170-W Walnut .28  
1172 Red .33  
1172-I Ivory .33

Brass Bushing  
Brass insert.  $\frac{1}{4}$ " shaft, set screw. 2" long.  
No. List  
1171 Black \$0.33  
1171-W Walnut .33  
1173 Red .40  
1173-I Ivory .40

**POPULAR BAR KNOB**  
For intercomms, instruments, appliances. Bakelite with set screw.  $\frac{1}{4}$ " hole, 1  $\frac{1}{2}$ " long.  
No. List  
1132 Walnut \$0.22

**POPULAR PLASTIC KNOB**  
 $\frac{1}{8}$ " diameter with  $\frac{1}{4}$ " shank extension for  $\frac{3}{4}$ " knurled shaft.  
No. List  
1153 Walnut \$0.13  
1154 Ivory .14

**ATTRACTIVE PLASTIC KNOB**  
 $\frac{1}{8}$ " diameter, flush type for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1155 Walnut \$0.13  
1156 Ivory .14



**MIDGET TYPE PLASTIC KNOB**  
 $\frac{3}{4}$ " diam.,  $\frac{3}{8}$ " shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1157 Walnut \$0.13  
1158 Ivory .14

**MIDGET TYPE PLASTIC KNOB**  
 $\frac{3}{4}$ " diam. flush type for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1159 Walnut \$0.13  
1160 Ivory .14

**ACORN PLASTIC KNOB**  
 $\frac{3}{4}$ " diam.,  $\frac{1}{8}$ " shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1182 Walnut \$0.13  
1183 Ivory .14

**PUSH-ON KNURL KNOB**  
 $\frac{1}{8}$ " diam. flush type for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1184 Walnut \$0.13  
1185 Ivory .14

**PUSH-ON KNURL KNOB**  
 $\frac{1}{8}$ " diam.,  $\frac{1}{2}$ " shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1186 Walnut \$0.13  
1187 Ivory .14

**POINTER TYPE PLASTIC KNOB**  
 $\frac{1}{8}$ " diam.,  $\frac{1}{2}$ " shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1188 Walnut \$0.13  
1189 Ivory .14



**MIDGET TYPE PLASTIC KNOBS**  
 $\frac{1}{2}$ " diam.,  $\frac{1}{2}$ " shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1197 Walnut \$0.13  
1198 Ivory .14

$\frac{1}{2}$ " diam., flush shank for  $\frac{1}{4}$ " knurled shafts.  
No. List  
1193 Walnut \$0.13  
1194 Ivory .14

**SPRING AND D-SHAFT KNOBS**  
Spring type.  $\frac{1}{8}$ " diam. Fits  $\frac{1}{4}$ " flat shafts.  
No. List  
1151 Walnut \$0.13  
1152 Ivory .14

D- or flat shaft type.  $\frac{5}{8}$ " diam.  
No. List  
1161 Walnut \$0.13  
1162 Ivory .15

D- or flat shaft type.  $\frac{3}{4}$ " diam.  
No. List  
1163 Walnut \$0.13  
1164 Ivory .15

D- or flat shaft type. 1" diam.  
No. List  
1165 Walnut \$0.15  
1166 Ivory .17



**G-C RADIO KNOB KITS**

Popular plastic knobs in assorted kits, all kinds of knobs included.



**G-C AUTO RADIO KNOBS**  
 $\frac{1}{2}$ " diam. x  $\frac{1}{2}$ " high. For  $\frac{1}{4}$ " and  $\frac{3}{8}$ " shafts. Brass bushing with set screw.  
No. List  
 $\frac{1}{4}$ " Shaft  
1191 Pearl Gray \$0.33  
1192 Maroon .33  
 $\frac{3}{8}$ " Shaft  
1167 Pearl Gray .39  
1168 Maroon .39

Set screw type auto radio knob.  $\frac{1}{2}$ " diam. x  $\frac{3}{8}$ " high. For either  $\frac{1}{4}$ " or  $\frac{3}{8}$ " shafts with bushing.  
No. List  
1195 Pearl Gray \$0.33  
1196 Maroon .33

**G-C AUTO RADIO KNOBS**  
Chrome plated. For  $\frac{1}{4}$ " and  $\frac{3}{8}$ " shafts. Set screw mounting.  
No. List  
1169  $\frac{1}{4}$ " \$0.33  
1174  $\frac{3}{8}$ " .33

**G-C KNOB SET SCREW ASS'T.**  
Handy set screw assortments for radio knobs, shafts, pulleys. 6-32, 8-32, and 10-32.  
No. List  
1060 50 Asst. \$1.20  
1061 100 Asst. 2.00  
1062-E 15 Asst. .45  
6605 30 Asst. .75

No.	Quantity	List
1140	35 Asstd. Push-on Buttons	\$4.35
1141	28 Asstd. Spring Knobs	4.35
1142	24 Asstd. Set Screw Knobs	4.35
1143	30 Asstd. All Type Knobs	4.35
1144	12 Asstd. Auto Radio Knobs, for $\frac{1}{4}$ " and $\frac{3}{8}$ " shafts	4.35

**G-C KNOB ASS'T.**  
No. List  
1120 35 Asst. All Types Knobs \$1.85  
8026 80 Auto Radio Button Knobs 1.85

**G-C KNOB SPRING KITS**  
No. List  
1049-E Env. 20 Asstd. \$0.45  
1050 Kit 35 1.10  
1051 Kit 100 1.90  
6619 Jar 35 Asstd. .75

**G-C KNOB FELTS**  
Used behind knobs.  
No. List  
1065-E Env. 50 \$0.45  
6641 Jar 70 .75

**G-C KNOB BUSHINGS**  
Reduce from  $\frac{1}{4}$ " to  $\frac{3}{8}$ ". For auto radios.  
No. List  
6751 \$0.45

**G-C RADIO KNOB PULLER**

Very handy in removing knobs that are hard to pull off. Simply slip behind knob and pull off. Saves the cabinet and the knobs.



No. List  
1063 \$0.45



**G-C TV "Smoother" TUNER DETENTS**  
The Best Quality Detents for Replacements. Quality Engineered to Last.

Popular short shafted detent. Replaces RCA Part No. 71463 used on RCA, Admiral, Air King, Capehart, DeWald, Garod, Fada, Emerson, Packard-Bell, etc.

No.	List
8600	\$2.80

Long shaft detent. Replaces RCA Part No. 72713 used on RCA Models 8TS30, 721TC's, 730TCS, 730TV2, etc.

No.	List
8601	\$3.15



Extra long shaft detent for replacing Admiral Part No. 76B14. Used in Admiral Series No. 30-A and No. 8C, etc. Also on sets using RCA tuner type 201E1—Part No. 71531.

No.	List
8602	\$4.15



All phenolic shaft type detent used to replace RCA Part No. 73440. Used as a replacement on RCA tuners types 73435, 74571, and 74941. Used on RCA models in the 8T, 9T, 9TC, 8TK, 8TV, 9TC, 9TV series.

No.	List
8603	\$4.75

Similar all phenolic shaft type detent to G-C No. 8603. Used to replace RCA Part No. 75162.

No.	List
8604	\$4.00

**G-C TEST LEAD ANGLE TIP**



New, attractive, fully insulated, molded plastic angle phone tip plugs. Will take wires up to .140" diameter.

No.	List
8149 Red, each	\$5.55
8150 Black, each	.55



**G-C "RECO" STATIC CHASER**

Developed specially for vinylite records, it eliminates static electricity on plastic records and keeps records dust free. Also stops cracking and static discharge noises. Simply wipe it on and the job is done. Can be used on any type records.

No.	List
48-2 2-oz.	\$0.75



**G-C RECORD-LIFE LUBRICANT**

Simply wipe record with "Record-Life" and the needle will glide over the record smoothly. Prevents record and needle wear; also eliminates noises and scratching sounds. Use also for making records.

No.	List
125-1 1-oz.	\$0.50
125-2 2-oz.	.65
125-4 4-oz.	1.10
125-6 6-oz.	1.50



**G-C REK-O-DOPE**

Required lubricant when recording and cutting records. All purpose, it cools, cleans, lubricates, and hardens grooves when cut. Rek-O-Dope will give better tone and longer life.

No.	List
126-1 1-oz.	\$0.50
126-2 2-oz.	.65
126-4 4-oz.	1.10
126-6 6-oz.	1.50



**G-C CORD CONNECTOR**

Handy cord connector to connect phono motors to radio sets, for appliances, vacuum cleaners, sewing machines, etc.

No.	List
866	\$0.70



**G-C PICK-UP AND CARTRIDGE SCREW ASS'T.**

Contains small size screws and bushings such as used on cartridges of pick-up arms.

No.	List
6000-E 60 Screws,	\$0.45

**CARTRIDGE MTG. SCREWS**

6005-E Env. 60	
4-36 x 1/4"	\$0.45
6005-AE Env. 60	
4-40 x 1/4"	.45



**G-C RECORD TURNTABLE FELT**

Re-cover phono turntables with ready cut felts. Dark brown.

No.	Dia.	List
1292	7 7/8"	\$0.50
1296	8 7/8"	.65
1293	9 7/8"	.70
1294	11 7/8"	.85
1295	15 7/8"	1.45
Brown Felt —		
By The Yard		
1298	36" Wide,	per yd. 6.50



**G-C SHIELDED PHONO PICK-UP WIRE**

Handy package of single conductor shielded wire as used on phono pick-ups, etc. Enough wire for several jobs in package.

No.	List
1738-E Envelope	\$0.45



**G-C RECORD CLEANING PAD**

Specially treated soft felt pad for cleaning and removing dust from records. Saves records.

No.	List
1290 4" x 4"	\$0.28
1291 6" x 6"	.50



**G-C PHONO NEEDLE STYLUS SCREWS**

Here's the hard-to-get replacement thumb set screws for pick-up arms and recording heads!

No.	List
1052 15 Asst. Stylus Screws	\$ 1.90
1052-E Env. 7 Asst. Screws	.45
1053 100 Asst. Stylus Screws	12.10

**Individual Phono Screw Specifications**

	Env. of	List
P1-E For Shure Brothers, etc.	3	.45
P2-E For Astatic, RCA, Seeburg, Webster, etc.	4	.45
P3-E For Astatic, Stromberg-Carlson, Universal, Webster, etc.	4	.45
P4-E For Rek-O-Cut, Webster, etc.	3	.45
P5-E For RCA, etc.	3	.45
P6-E For RCA, etc.	4	.45
P7-E For Webster, etc.	3	.45
P8-E For Shure Brothers, etc.	3	.45
P9-E For RCA, Astatic, Webster, etc.	3	.45
P10-E For Audex, etc.	3	.45

**G-C STA-PUT PHONO-GEAR LUBRICANT**



New "STA-PUT" lubricant for phonomotors, gears, shafts, etc. Will not run or drip—it "Stays Put." Recommended by RCA, G-E, and others.

No.	List
1223 Tube	\$0.65
122-2 2-oz.	.65



**G-C RADIO AND TELEVISION DRIVES**

No.	List
1024-SE Env. Asst. 5 Small	\$0.45
1024-LE Env. Asst. 5 Large	.45
1024-E Env. Asst. 10 Dial	.90
1025 Box 25 Asst. Drives	1.65
1026 Box 100 Asst.	6.60
1 AK Small	.11
2 AK Large	.11
3 Stewart-Warner	.11
4 Kennedy, Wells-G.	.11
5 Stewart-Warner	.11
6 RCA	.11
7 Stewart-Warner	.11
8 Stewart-Warner	.11
9 Atwater-Kent	.11
10 Stewart-Warner	.11
11 Lge. Atwater-Kent	.28

**G-C RCA TELEVISION TUNING BELT**

New belt for RCA Television Tuner. Used on models series numbers 8 TC, 8 TK, 9 TC, etc. (Belt Part No. 73465).

No.	List
195 Tuner Belt	\$0.30



**G-C PHONO TURNTABLE DRIVES**

No.	Type	List	No.	Type	List
14	Small drive belt for dual and 3-speed units, Admiral, Philco, G-I, V-M, etc.	\$0.15	17	Popular for Alliance, Motorola, V-M, Admiral, Philco, Zenith, Trav-ler, etc.	\$0.28
14-E	Envelope 3 No. 14 Drives	.45	17-E	Env. 2 No. 17 drives	.45
14-B-E	Large belt for Trav-ler Model A, etc.	.45	18	RCA, etc., drives	.17
14-F	RCA cam drive tire for RP-178, etc.	1.00	18-E	Env. 3 No. 18 drives	.45
14-J	Narrow idler drive tire for V-M 405, 800-D, etc.	.25	19	Philco, RCA, etc., drives	.11
14-J-E	Env. 2 No. 14-J	.45	19-E	Env. 4 No. 19 drives	.43
14-K	45 RPM Drive for Milwaukee Stamping Units	.15	20-E	Detrola rubber drive	.45
14-K-E	Env. 3 No. 14-K Drives	.45	20-1-E	Detrola spring drive	.55
14-L	Special molded RCA 45-RP M drive. For RCA RP-178, RP-168, 45 RPM Models, etc.	1.00	21-A-E	General Electric Model drive	.17
16	For General Industries, RX-LX and Silvertone	.28	22	Large V tires for RCA, RP-178, RP-177, 809-J, etc.	1.10
16-E	Env. 2 No. 16 drives	.45	23	Rim drive for RCA, RP-176, RP-177, 809-J, etc.	.22
			23-E	Env. 2 No. 23 drives	.45
			24-E	Admiral and Crescent 3 3/4" OD drives	.45
			24-A-E	Admiral and Crescent, etc., 3 3/4" OD drives	.45
			24-B-E	Admiral, Crescent, etc., 3 3/4" OD drive	.45





## G-C ROUND HEAD MACHINE SCREWS

Steel — Nickel Plated

No.	ENVELOPE	List
296-E	40 Asst. Machine Screws	\$0.45
6038-E	50 Asst. Screws and Nuts	.45
7129-E	50 Asst. 2-56 Screws and Nuts	.45
6001-E	45 Asst. 4-36 Screws	.45
6002-E	45 Asst. 6-32 Screws	.45
6003-E	40 Asst. 8-32 Screws	.45
6004-E	30 Asst. 10-32 Screws	.45
6005-E	60 4-36 x 1/4" Screws	.45
6006-E	60 4-36 x 1/2" Screws	.45
6008-E	40 6-32 x 1/4" Screws	.45
6009-E	35 6-32 x 1/2" Screws	.45
<b>GLASS JAR</b>		
6610	75 Asst. 4-36 and 6-32 Screws	.75
6611	60 Asst. 8-32 and 10-32 Screws	.75
6005	100 4-36 x 1/4" Screws	.75
6008	90 6-32 x 1/4" Screws	.75
6009	85 6-32 x 1/2" Screws	.75

## G-C BRASS ROUND HEAD MACHINE SCREWS

Brass — Nickel Plated

No.	ENVELOPE	List
8500-E	Env. 30 Asst. Screws	\$0.45

## G-C PHILLIPS TYPE ROUND HEAD MACHINE SCREWS

Steel — Nickel Plated

No.	ENVELOPE	List
8510-E	Env. 30 Asst. Screws	\$0.45

## G-C BINDING HEAD MACHINE SCREWS

Steel — Nickel Plated

No.	ENVELOPE	List
7150-E	Env. 50 Asst. Screws	\$0.45

## G-C OVAL HEAD RACK & CABINET SCREWS

No.	ENVELOPE	List
6039-E	30 Asst. Rack Screws & Washers	\$0.45
6543-E	20 10-32 x 3/4" Rack Screws	.45
<b>GLASS JAR</b>		
6628	45 Asst. Screws & Washers	.75

## G-C ORNAMENTAL HEAD SCREWS

Steel — Statuary Bronze — for speakers, baffles, etc.

No.	ENVELOPE	List
1094-E	15 Asst. Screws	\$0.45
<b>GLASS JAR</b>		
6631	50 Asst. Screws	.75

## G-C WOOD SCREWS

Round Head — Steel — Nickel Plated

No.	ENVELOPE	List
6110-E	80 Asst. Sizes	\$0.45
<b>GLASS JAR</b>		
6633	45 Asst. Sizes	.75

## G-C SHEET METAL SCREWS

Hex Head — Slotted — Nickel Plated — Self Tapping Type — With Point "A" Tip

No.	ENVELOPE	List
297-E	25 Asst. Sheet Metal Screws	\$0.45
6092-E	25 No. 6 x 3/8" Sheet Metal Screws	.45
6093-E	25 No. 6 x 1/2" Sheet Metal Screws	.45
6095-E	20 No. 8 x 3/8" Sheet Metal Screws	.45
6096-E	20 No. 8 x 1/2" Sheet Metal Screws	.45
<b>GLASS JAR</b>		
6608	50 Asst. No. 4 & No. 6 Screws	.75
6609	45 Asst. No. 8 & No. 10 Screws	.75
<b>AUTO SHEET METAL SCREWS</b>		
8102	20 No. 8 x 1/4" Screws	.45

## G-C ESCUTCHEON SCREWS

Round head, slotted type statuary bronze plated. For mount dial and indicator plates, etc.

No.	ENVELOPE	List
1090-E	80 Asst. Escutcheon Screws	\$0.45
<b>GLASS JAR</b>		
6632	50 Asst. Escutcheon Screws	.75

## G-C SPADE BOLTS

Steel — Nickel Plated

No.	ENVELOPE	List
6080-E	20 Asst. Spade Bolts	\$0.45

## G-C KNOB SET SCREWS

Slotted Head Type—Cup Point — Hardened Steel

No.	ENVELOPE	List
1062-E	15 Asst. Set Screws	\$0.45
6061-E	15 Asst. 6-32 Screws	.45
6062-E	15 Asst. 8-32 Screws	.45
6063-E	15 Asst. 10-32 Screws	.45
<b>GLASS JAR</b>		
6605	30 Asst. Set Screws	.75

## G-C ALLEN HEX SET SCREWS

Steel — Hardened — Headless

No.	ENVELOPE	List
7190-E	5 Asst. 4-30 Screws	\$0.45
7195-E	5 Asst. 6-32 Screws	.45
7200-E	5 Asst. 8-32 Screws	.45

## G-C THREADED STEEL ROD

Steel running thread in 6-32 and 8-32 sizes.

No.	ENVELOPE	List
6665-E	Asst. 6-32 and 8-32 Rods	\$0.45

## G-C HEXAGON NUTS

Steel — Nickel Plated

No.	ENVELOPE	List
293-E	35 Asst. Hex Nuts	\$0.45
6041-E	40 4-36 Hex Nuts	.45
6042-E	85 6-32 Hex Nuts	.45
6043-E	80 8-32 Hex Nuts	.45
6044-E	25 10-32 Hex Nuts	.45
<b>GLASS JAR</b>		
6606	60 Asst. 4-36 & 6-32 Hex Nuts	.75
6607	60 Asst. 8-32 & 10-32 Hex Nuts	.75
6045	80 4-36 Hex Nuts	.75
6046	75 6-32 Hex Nuts	.75
6047	60 8-32 Hex Nuts	.75

## G-C BRASS HEX NUTS

Nickel Plated

No.	ENVELOPE	List
7245-E	40 6-32 Hex Nuts	\$0.45
7248-E	25 8-32 Hex Nuts	.45

## G-C MOUNTING NUTS

Steel — Nickel Plated

For toggle switches, rotary switches, volume controls, etc.

No.	ENVELOPE	List
6050-E	12 Asst. Nuts	\$0.45
<b>GLASS JAR</b>		
6615	25 Asst. Nuts	.75

## G-C TIMMERMAN SPEED NUTS

No.	ENVELOPE	List
6055-E	30 Asst. Speed Nuts	\$0.45
<b>GLASS JAR</b>		
6630	60 Asst. Speed Nuts	.75

## G-C ACORN NUTS

Solid Brass — Nickel Plated

No.	ENVELOPE	List
6030-E	12 Asst. Acorn Nuts	\$0.45
<b>GLASS JAR</b>		
6627	18 Asst. Acorn Nuts	.75

## G-C THUMB NUTS

Brass — Nickel Plated

No.	ENVELOPE	List
6654-E	10 Asst. Thumb Nuts	\$0.45

## G-C WING NUTS

Nickel Plated

No.	ENVELOPE	List
6658-AE	10 Asst. Wing Nuts	\$0.45

## G-C METAL WASHERS

Steel — Nickel Plated

No.	ENVELOPE	List
6150-E	80 Asst. Metal Washers	\$0.45
<b>GLASS JAR</b>		
6612	135 Asst. No. 4 & No. 6 Washers	\$0.75
6614	100 Asst. No. 8 & No. 10 Washers	.75

## G-C LOCK WASHERS

Internal, external, and split types lock washers. For all purposes.

No.	ENVELOPE	List
1717-E	65 Asst. All Types	\$0.45
7320-E	60 Asst. Internal Type	.45
7350-E	60 Asst. External Type	.45
6502-E	60 Asst. Split Type	.45
<b>GLASS JAR</b>		
6614	90 Asst. All Types	.75

## G-C SPRING TYPE FRICTION WASHERS

Nickel Plated

No.	ENVELOPE	List
6190-E	25 Asst. Sizes	\$0.45

## G-C CUP FINISHING WASHERS

Nickel Plated

No.	ENVELOPE	List
6159-E	40 Asst. Cup Washers	\$0.45
6039-E	30 Asst. Rack Screws & Washers	.45

## GLASS JAR

6628	45 Asst. Rack Screws & Washers	.75
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## G-C "C" WASHERS

No.	ENVELOPE	List
6180-E	50 Asst. C-Washers	\$0.45
<b>GLASS JAR</b>		
6636	85 Asst. C-Washers	.75

## G-C COTTER PINS

No.	ENVELOPE	List
6440-E	60 Asst. Cotter Pins	\$0.45

No.	ENVELOPE	List
6642	90 Asst. Cotter Pins	\$0.75

## G-C HAIR PIN COTTER SPRINGS

No.	ENVELOPE	List
6475-E	50 Asst. Cotter Springs	\$0.45
<b>GLASS JAR</b>		
6637	75 Asst. Cotter Springs	.75

## G-C FIBRE WASHERS

Best grade hard fibre — flat and extruded types.

No.	ENVELOPE	List
6512-E	30 Asst. Flat & Extruded Washers	.45
6520-E	40 Asst. Extruded Washers	.45
<b>GLASS JAR</b>		
6634	85 Asst. Flat Fibre Washers	.75


## G-C SNAP BUTTON HOLE PLUGS

No.	ENVELOPE	List
1716-E	8 Asst. Hole Plugs	\$0.45

## G-C SNAP-IN TRIMOUNTS

No.	ENVELOPE	List
1719-E	25 Asst. Trimounts	\$0.45
1727-E	18 Large Size Trimounts	.49
<b>GLASS JAR</b>		
6620	45 Asst. Trimounts	.75


## G-C DIAL CORD CLIPS

No.	ENVELOPE	List	
6220-E	35 Asst. Cord Clips	\$0.45	
6621	75 Asst. Cord Clips	\$0.75	

## G-C SOLDERING LUGS


No.	ENVELOPE	List	
1019-E	30 Asst. Soldering Lugs	\$0.45	
6618	75 Asst. Soldering Lugs	.75	

## G-C CABLE HOLDER CLAMPS

No.	ENVELOPE	List	
6250-E	20 Asst. Cable Clamps	\$0.45	
6644	40 Asst. Cable Clamps	.75	


Steel, nickel plated clamps for cables  $\frac{1}{8}$ " to  $\frac{1}{2}$ ". Standard mounting holes.

## G-C GRID CAPS

No.	ENVELOPE	List	
6290-E	12 Asst. Grid Caps	\$0.45	
6635	25 Asst. Grid Caps	.75	

Assortment of popular types for glass and metal tubes.

## G-C FUSE CLIPS

No.	ENVELOPE	List	
6311-E	10 Fuse Clips	\$0.45	


For  $\frac{1}{4}$ " glass fuses. No. 6 mounting hole.

## G-C FAHNESTOCK CLIPS

No.	ENVELOPE	List	
6300-E	12 Asst. Fahnestock Clips	\$0.45	
6639	30 Asst. Fahnestock Clips	.75	


Nickel plated clips for fastening wires, etc.

## G-C ANGLES & BRACKETS

No.	ENVELOPE	List	
6260-E	15 Asst. Angles & Brackets	\$0.45	


Nickel plated angles and brackets of assorted shapes.

## G-C DIAL PULLEYS

No.	ENVELOPE	List	
6057-E	6 Asst. Dial Pulleys	\$0.45	
6638	12 Asst. Dial Pulleys	\$0.75	


Free running brass pulley for dials, etc.

## G-C KNOB SPRINGS

No.	ENVELOPE	List	
1049-E	16 Asst. Knob Springs	\$0.45	
6619	35 Asst. Knob Springs	.75	


For all types of knobs using springs. All fully tempered.

## G-C RADIO KNOB FELTS

No.	ENVELOPE	List	
1065-E	50 Knob Felts	\$0.45	
6641	70 Knob Felts	.75	


Soft felt pads to fit behind radio knobs,  $\frac{1}{4}$ " hole.

## G-C DIAL DRIVE AND TENSION SPRINGS

No.	ENVELOPE	List	
1054-E	10 Asst. Dial Drive Springs	\$0.45	
1054-SE	10 Asst. Small Dial Drive Springs	.45	
6420-E	10 Asst. Small Tension Springs	.45	
6421-E	8 Asst. Large Tension Springs	.45	
6480-E	10 Asst. Small Phono Springs	.45	
6481-E	8 Asst. Large Phono Springs	.45	


Finest Tempered Spring Steel

## G-C COMPRESSION SPRINGS

No.	ENVELOPE	List	
6430-E	20 Asst. Small Springs	\$0.45	
6431-E	15 Asst. Large Springs	.45	


For push-button tuners, switching mechanisms, dials, etc.

## G-C RIVETS AND EYELETS

No.	ENVELOPE	List	
1027-E	55 Asst. Rivets & Eyelets	\$0.45	
1028-E	60 Asst. Eyelets & Dial Cable Clamps	.45	
6900-E	55 Asst. Eyelets	.45	
6850-E	60 Asst. Rivets	.45	


Popular sizes used to mount tube sockets, parts, etc.

## G-C CORD STRAIN RELIEFS

No.	ENVELOPE	List	
6675-E	4-Cord Strain Reliefs	\$0.45	

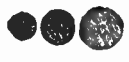
Fits P.O.S.J. Cord. Fits  $\frac{1}{4}$ " hole.

## G-C ESCUTCHEON PINS

No.	ENVELOPE	List	
6670-E	100 Asst. Escutcheon Pins	\$0.45	


Decorative bronze — for fastening dial escutcheons, etc.

## G-C VOICE COIL DUST FELTS

No.	ENVELOPE	List	
1079-E	25 Asst. Felts	\$0.45	
6640	50 Asst. Felts	.75	

Assorted sizes to fit popular voice coil openings.

## G-C RUBBER GROMMETS

No.	ENVELOPE	List	
1039-E	15 Asst. Rubber Grommets	\$0.45	
1041-E	12 $\frac{1}{8}$ " ID x $\frac{1}{8}$ " OD Grommets	.45	
1042-E	10 $\frac{1}{4}$ " ID x $\frac{1}{8}$ " OD Grommets	.45	
1043-E	10 $\frac{3}{8}$ " ID x $\frac{1}{2}$ " OD Grommets	.45	


Black, soft rubber, oil and solvent resistant.

## G-C PURE GUM RUBBER GROMMETS

No.	ENVELOPE	List
7580-E	12 Asst. Pure Gum Grommets	\$0.45


For tuner mountings, etc.

## G-C RUBBER FEET

No.	ENVELOPE	List	
1075-AE	8 Asst. Feet	\$0.45	


Asst. sizes. Supplied with wood screws.

## G-C CHASSIS FELT FEET

No.	ENVELOPE	List	
1086-E	4 Asst. Felt Feet	\$0.45	


Quality type supplied with machine and sheet metal screws

## G-C RUBBER CHASSIS MOUNTS

No.	ENVELOPE	List	
1038-E	10 Asst. Chassis Mounts	\$0.45	

Live rubber to absorb shock. Assorted sizes.

## G-C TACK BUMPERS

No.	ENVELOPE	List	
1075-E	10 Tack Bumpers	\$0.45	
6624	18 Tack Bumpers	.75	

$\frac{3}{8}$ " Bumper with tack molded in place.

## G-C FELT PADS

No.	ENVELOPE	List	
1069-E	40 Asst. Felt Pads	\$0.45	
6623	60 Asst. Felt Pads	.75	

Soft felt pads to glue on bottom of cabinets, etc.

## G-C PHONO STYLUS SCREWS

No.	ENVELOPE	List	
1052-E	7 Asst. Stylus Screws	\$0.45	


Assorted sizes to fit most record players.

## G-C BUSHINGS AND SPACERS

No.	ENVELOPE	List	
6760-E	12 Asst. Insulated Spacers	\$0.45	
6761-E	12 Asst. Metal Spacers	.45	
6617	12 Asst. Metal & Insulated Spacers	.75	

Brass and insulated types for insulating and spacing radio parts.

## G-C REDUCING BUSHINGS

No.	ENVELOPE	List	
6751-E	8 Bushings	\$0.45	


Split type bushing for auto radio knobs, etc. Reduces from  $\frac{1}{4}$ " to  $\frac{1}{8}$ ".

## G-C TERMINAL STRIP ASSORTMENT

No.	ENVELOPE	List	
6855-E	4 Asst. Terminal Strips	\$0.45	

Assortment of terminal strips.

## G-C PICK-UP AND CARTRIDGE SCREW ASSMT.

No.	ENVELOPE	List	
6000-E	60 Asst. Screws, Small Size	\$0.45	

Assortment of hard to get screws for mounting pick-up cartridges.

## NEW! G-C TELEVISION 300-OHM WIRE STRIPPER

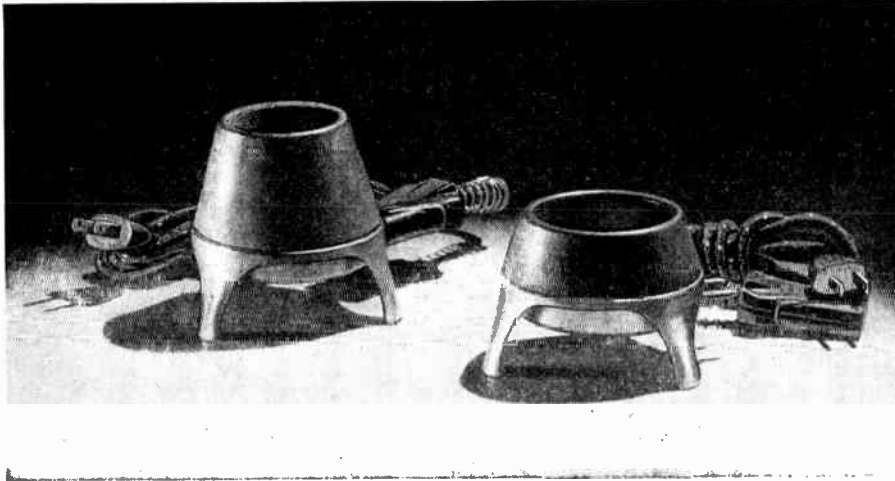
No.	ENVELOPE	List	
8400	TV Stripper	\$1.65	

A handy pocket size tool for stripping, slitting, and skinning any 300-ohm wire. Every television installer and service man needs this tool. Steel, cadmium plated.

## SPECIAL NOTICE TO QUANTITY USERS

All G-C hardware as supplied in the assortments on these pages is available in specific sizes and types in packages of a gross and a thousand at attractive prices. Also, on large quantities for industrial users, etc., quantity prices will be quoted. See your Distributor or write the factory for specific information.

# LECTROHM SOLDER POTS



## FOR PRODUCTION-LINE TINNING OF SMALL WIRES and PARTS

- **Individual Pots for Each Operator**
- **Sturdy Construction**
- **Two Sizes — 1 3/4 and 2 lb. Capacity**

Here at last is an electric solder pot good for long life in production-line tinning yet inexpensive enough for only occasional use. Available in 1 3/4 and 2 lb. capacities, these pots are ideal for continuous operation in radio, motor and other electrical equipment plants where individual solder pots are required. By using a rheostat, Lectrohm Solder Pots can be used from 100 watts, for melting waxes and compounds, to 450 watts for maintaining solder at 850° F. Only small amounts of solder need be melted at a time, depending upon your requirements.

Lectrohm Solder Pot is composed of cast iron pot mounted by a single screw on a cadmium-plated steel stand. Single-heat, porcelain nickel-chrome heating element (easily and inexpensively replaced) heats the pot. The unit operates on 110 v. AC or DC but can be had for any specified voltage. Furnished with 6' Underwriters' approved cord and attachment plug. Spare elements of special wattages are available.

### SPECIFICATIONS

No.	Solder Cap. in Lbs.	Height Overall	Diam.	Cup Depth	Wattage	Element
200	1 3/4	2 3/4"	2 3/8"	7/8"	200	A
250	2	3 3/4"	2"	1 3/4"	250	B

Price either pot \$4.98. Spare replacement elements \$1.42 each

# LECTROHM

INCORPORATED

CHICAGO 30, ILLINOIS

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Seventeenth Edition

## GENERAL INDEX

— A —

	Section & Page
AC-DC Antenna Wire.....	S-11, 15, 23
AC-DC Power Inverters.....	M-34 to 37
AC-DC Resistance Cords.....	S-38, 47; U-89
Adapters, Cathode Ray Tube Testing.....	F-20, 93, 119; K-28
Adapters, Dry Wall Flush Socket.....	K-19
Adapters, FM- for AM Receivers.....	J-61
Adapters, Magnetic Pickup.....	B-13
Adapters, Phone Plug.....	S-41; T-6, 36; U-74
Adapters, Tube Checker.....	T-5
Adapters, TV Tube Extension.....	S-41; U-73
Adapters, Voltage Adjusters—Foreign.....	N-53
Adjust-A-Cone Speakers.....	C-4, 5
Adjust-A-Volt Variable Transformers.....	N-81
Advance Electric & Relay Co.....	L-21 to 23
Aerocon Capacitors.....	P-121
<b>Aerovox Corporation</b>	
Capacitors.....	P-116 to 132
Resistors.....	R-47 to 49
Aircraft and Marine Crystals.....	K-37 to 41
Aircraft Dynamotors, Magmotors.....	M-42, 44, 53
Aircraft Fuses.....	G-15
Aircraft Wires and Shielding.....	S-5 to 7, 15, 52
Alarms, Burglar.....	L-35
Alignment, Neutralizing Tools.....	T-3, 17; U-40, 68, 77 to 80, 100 to 102
<b>Alliance Manufacturing Co.</b>	
Antenna Rotator.....	S-74
Phono Motors.....	E-26
Alligator Clips.....	M-16; S-32, 33; U-66, 76, 106
Alnico V Speakers.....	Section C
Alpha Counting Devices, Survey Meters.....	E-23; F-16, 66, 67
Alpha Metals, Inc.....	U-16
Alpha Wire Corporation.....	S-1 to 13
Alproco, Inc.....	K-32
<b>Altec Lansing Corporation</b>	
Amplifiers.....	B-1
Microphones.....	D-1
Speakers.....	C-3
Transformers (Peerless Division).....	N-60 to 62
Amateur Equipment (see specific headings, such as <i>Communication Receivers, Transmitters, Oscillators, etc.</i> )	
Amateur Testing Equipment.....	F-24; J-26, 59
Amateur Type Tubes.....	A-1, 4, 6, 7, 13, 15, 21, 24, 25, 32
American Beauty Soldering Irons.....	U-1
American Electrical Heater Co.....	U-1
American Microphone Co.....	D-24 to 27
American Phenolic Corp. (Amphenol).....	T-1 to 11
American Radio Relay League (ARRL).....	H-9
American Television & Radio Co. (ATR).....	M-30 to 37
Ammeters.....	F-25, 35 to 39, 48 to 59, 69
Amperex Electronic Corp.....	A-24
<b>Amperite Company, Inc.</b>	
Ballast Tubes.....	R-50
Microphones and Stands.....	D-28, 29
Thermostatic Delay Relays.....	L-30
<b>Amphenol (American Phenolic Corp.)</b>	
Amplifiers and Systems.....	T-1 to 11
Cases, Cabinets, Racks.....	B-13, 34; J-38, 39, 83, 91
Foundation Chassis.....	J-38, 39, 84, 91, 93, 98
Industrial and School Systems.....	B-13, 16, 20, 21
Kits.....	N-21, 61
Mixers.....	B-8, 9, 20
Mobile Amplifiers.....	B-4, 10, 14, 16, 22, 26, 33
Musical Instrument Amplifiers.....	B-11
Noise Suppressors.....	B-7; D-8, 17; J-59; N-4, 45, 77, 79
Phono Amplifiers, Systems.....	B-5, 10, 11, 15, 16 to 19, 26
Portable Amplifiers.....	B-5, 8 to 12, 18, 19, 22, 26, 27, 34; E-28
Pre-amplifiers, Boosters.....	B-1, 7, 15, 20, 33; K-1
Printed Electronic Circuits.....	P-81
Production Comparator.....	B-6
Recording Amplifiers.....	E-1, 2, 7, 12, 13
Remote Control Amplifiers & Boxes.....	B-1, 7, 13, 17
Restaurant Amplifier.....	B-11
Transmitter, Amateur Power Amplifiers.....	J-28, 65

	Section & Page
Analyzer Adapters.....	T-5
Analzers (see also Testing Instruments).....	Section F
Angles and Brackets.....	J-37; S-34; T-37; U-44, 72, 91, 92, 115
Antenna Accessories (see also TV)	
AC-DC Antenna Wire.....	S-11, 38
Coils.....	J-49, 50, 56, 60; N-93 to 96
Insulators.....	J-73; K-21; P-81; S-36 to 40, 65, 70, 81, 83; T-9; U-73, 93
Lead-in Strips, Ground Clamps, Rods.....	M-17; S-38 to 40, 50, 65, 69, 80, 83; U-93
Lightning Arresters.....	K-28; S-38, 40, 73, 79, 80, 83, 91; T-9; U-93
Matching, Coupling Transformers, etc.....	J-49; K-14; N-92; S-79
Mounting Accessories.....	K-12, 13, 19 to 21, 24 to 32; S-39, 40, 59, 65, 69, 70, 72, 73, 80, 81, 83; T-9; U-73, 108
Nail-it Knobs.....	S-38; U-93
Roof Patching Compound.....	S-70
Spring Adjusters.....	S-38
Spring Wire Clips.....	S-36; U-45, 71, 91, 106, 115
Switches, Changeover, etc.....	K-12, 19, 33; S-79
Tuner.....	U-89
Turnbuckles.....	S-40, 70; U-73
Wire and Cable.....	J-73; S-11, 15, 23, 29, 30, 38, 47, 50, 70, 80; U-71
Antenna Adapters for Ham Rigs.....	J-62, 65
Antenna Changeover Relays.....	L-22, 32
Antenna Compass, TV.....	F-33
Antenna Couplers, TV.....	J-25; K-12, 14, 19; S-79, 81
Antenna Manuals.....	Section H
Antennas and Systems.....	K-15, 29 to 34; S-55 to 106; U-93
Auto Antennas.....	K-33; S-55, 60, 83, 90, 97; U-110
Conical Antennas.....	K-29 to 31; S-61, 68, 69, 81, 86 to 88, 91, 99
Indoor Antennas, TV.....	K-33; S-61, 81, 82, 84, 85, 91, 96, 99, 106; T-10
Kits.....	K-6; S-11, 38, 40, 47, 69, 91; U-93
Loop Antennas.....	J-49; U-89
Loopsticks.....	K-22
Master Antenna Distribution Systems.....	K-15, 34; S-95
Masts, Radiators, Towers.....	K-13, 32; S-72, 76, 81, 100; T-9
Mobile, Transmitter, Police Antennas.....	S-56, 63, 64, 83, 89, 103 to 105
Motorcycle Antennas.....	S-56
Rotating Antennas.....	J-67; S-62, 64, 98; T-11
Television and FM Antennas.....	K-15, 29 to 34; S-57 to 106; T-10
Window Antennas & House Masts.....	S-55, 81, 88, 91; 102; U-93
Antennascope (Eldico of N. Y., Inc.).....	J-65
Appliance Noise Filters.....	J-48, 49, 61; N-95; P-8, 31, 129; U-89
Appliance Testers.....	F-24, 34 to 38, 60, 97
Arco Electronics, Inc. (El-Menco Capacitors).....	P-62 to 69
Argos Products Co.....	K-7
Astatic Corporation.....	D-2 to 9
Astron Corporation.....	P-86 to 89
<b>Atlas Sound Corporation</b>	
Speakers, Horns, etc.....	C-24, 25
Stands.....	D-30, 31
ATR (American Television & Radio Co.).....	M-30 to 37
Attenuators, Audio, etc.....	L-10, 11, 17; R-8, 11, 22, 36
Audak Co., Inc. (Audax).....	E-20, 21
Audio Chokes.....	Section N
Audio Devices, Inc.....	E-40, 41
Audio Engineering, publication.....	H-21
Audio Filters.....	B-7; D-8, 17; J-59; N-4, 45, 77, 79
Audio Graph Sheets.....	E-23
Audio Oscillators.....	F-67, 73; J-59, 62; U-89
Audio Reactors.....	Section N
Audio Sweep Frequency Generator.....	E-23
Audio Sweep Frequency Transcription.....	E-23
Audio Transformers.....	Section N; also B-13, 20; C-6, 7, 10, 13, 21, 25, 42; D-8, 29; E-22
Audiorecords, Audiopoints, Audiotape.....	E-40, 41
Aurora Equipment Co., Equipto Division.....	U-28
Auto Radio Accessories:	
Antenna and Fuse Connectors.....	G-17; T-36; U-45, 65, 86, 105
Auto Antennas.....	K-33; S-55, 60, 83, 90, 97; U-110
Battery Eliminators.....	F-119; M-15, 19, 27, 33; N-16; S-60, 97
Capacitors, Filters.....	P-5, 6, 48, 73, 132; S-38
Knobs.....	U-112

## GENERAL INDEX (Continued)

	Section & Page
Auto Radio Accessories (Cont.)	
Lead-in Adapters	U-65
Panel Lamps	A-11, 13; M-6
Pin Plug and Jack Sets	S-31; T-36; U-43, 70, 75, 104
Power Supplies, Packs	M-15, 19, 22, 23, 27, 33; N-16; S-60, 97
Speakers, Replacement, Rear Seat, etc.	C-6, 33, 41, 42, 43
Suppressors, Ignition	P-6; R-3, 33; S-38; U-110
Tire Static Neutralizing Kits	U-52, 110
Vibrators	M-18, 20, 25, 32, 38, 39
Vibrator Transformers, Exact Duplicate	N-11
Volume and Tone Controls	Section R
Wheel and Hood Static Eliminators	U-110
Wire, Cable, Shielding	S-1, 4, 5, 15, 26, 28, 49
Automatic Line Voltage Regulators, Plug-in	R-8; S-80; U-89
Automatic Voltage Regulators, Controls, Reducers	M-28, 29, 46 to 52; N-16, 26, 32
Autotransformers, Autoformers	M-28, 46; N-16, 26, 32, 46, 48, 49, 53, 54, 55, 64, 65, 71, 83, 88, 91, 112

### — B —

Baffles, Enclosures for Speakers	B-34; C-3, 11, 17, 25 to 28, 31, 36; J-40; K-7
Baker Manufacturing Co.	S-72
Ballasts (Voltage Regulator Tubes)	A-6, 7, 12, 15, 20, 31; R-7, 50; S-80
Banana Plugs, Jacks	J-44, 78; S-32, 33; U-36, 37, 66, 68, 74, 75, 104
Band Expanders for Communication Receivers	J-22, 23, 25
Band Switches and Assemblies	J-56, 57; L-3
Bandmaster Transmitters	J-19
Barker & Williamson, Inc.	J-56 to 59
Barrier Type Terminal Strips	T-26 to 28; U-64
Bases, Bottom Plates for Metal Chassis	J-37, 38, 86, 91, 95
Batteries, Dry	M-1 to 14
Battery and Test Clips	M-16, 17; S-32, 33; U-66, 71, 106
Battery Chargers, Boosters	F-119; M-15, 22, 23
Battery Connectors, Straps	T-39
Battery Eliminators	F-119; M-15, 19, 27, 33; N-16; S-60, 97
Battery Mini-Max Strips	U-70
Battery Plugs	T-35; U-108
Battery Testers, Meters	F-1, 36, 43, 44, 46, 55, 57, 59, 88
Beam Benders for TV Tubes	C-6; K-11
<b>Beam Instruments Corporation</b>	
Best Products Thermocouples	F-109
Cossor Oscillographs	F-108
Sterling Cables	S-44
Tannoy Loudspeaker System	C-38
<b>Belden Manufacturing Co.</b>	S-15 to 21
Bell Sound Systems, Inc.	B-2 to 5
Berlant Associates ("Concertone")	E-11
Best Products Thermocouples	F-109
Binaural Headsets	D-38
Binaural Recording Units	E-13
Binary Scales	F-16, 66
Binding Posts	J-1; M-47; T-39; U-66, 76
Birnbach Radio Co., Inc.	S-24 to 43
Blast Filter for Microphones	D-17
Bliley Electric Co.	K-36, 37
Blonder-Tongue Laboratories, Inc.	K-34
Blum & Co., Inc., Julius	S-54
Bogen Company, Inc., David	B-14 to 16
Bolts, Nuts, Screws, Washers	S-35, 36, 39; U-43 to 48, 70, 90 to 92, 108, 114, 115
Books and Manuals	Section H; also C-21; E-41; F-17; G-19, 20; J-64; L-36; M-44; P-129, 132; R-20; T-7
<b>Boonton Radio Corporation</b>	F-75 to 79
Boosters & Pre-amplifiers for Amplifiers	B-1, 7, 15, 20, 33; K-1
Boosters for TV Reception	D-2, 23; J-62; K-5, 9, 15, 17, 18, 23, 28, 34; S-73, 76, 81, 94, 102
Box Shields, Metal	J-38
Brach Mfg. Corp., Div. General Bronze	K-14
Brackets and Angles	J-37; S-34; T-37; U-44, 72, 91, 92, 115
Brackets, Chassis Mounting	J-36, 37, 85, 91, 92, 95, 98
Bradley Laboratories, Inc.	G-24
Break-in Relays	L-25, 32
Bridges:	
Capacitor	F-30; P-32
Capacitor-Resistor	F-119; P-126
Fault-Location	R-39
Incremental Inductance, Comparison	F-88, 85, 119; G-24
Megohm	F-110
Standing Wave Ratio	J-27
Wheatstone	F-110; R-39

	Section & Page
<b>British Industries Corporation</b>	
KT66 Audio Tube	A-35
Leak Amplifier	B-17
Wharfedale Speakers	C-34, 35
Broadcast Audio Cable	S-18, 19, 44
Browning Laboratories, Inc.	F-101 to 105
Brush Development Co.	D-32, 33
Bud Radio, Inc.	J-36 to 44
Burgess Battery Company	M-2 to 5
Burglar Alarms, Photo Electric	L-35
Burlington Instrument Co.	F-51 to 54
Bus Bar Wire	S-9, 15, 26, 29
Bushings, Spacers	J-29; S-36; T-37; U-45, 71, 86, 92, 111, 115
Bussmann Mfg. Co. (Buss Fuses)	G-12, 13
Buttons—Plug, Snap, Ventilating, etc.	T-37; U-48, 108, 114
Buzzers for Telegraph Keys	J-77
Bypass (Bathtub) Capacitors	P-3, 41, 42, 49, 61, 71, 87, 93, 120, 123, 126

### — C —

Cabinet Mouldings, Handles, etc.	J-40, 87; U-53
Cabinet Patching & Finishing Materials, Kits	U-51, 52, 96, 97, 98
Cabinet Rack Dollies, Casters, etc.	J-40, 83, 90
Cabinets & Cases—Amplifier, Receiver, Instrument	B-13, 34; J-38, 39, 83, 91
Cabinets & Cases, Speaker	C-3, 11, 17, 28, 31, 36; J-40, 84; K-7, 35
Cabinets, Racks, Panels—Metal	J-36 to 41, 83 to 98
Cabinets, Radio Phonograph	K-35
Cabinets, Sloping Front	J-39, 83, 84, 93, 97
Cabinets, TV	K-1, 35
Cabinets, Utility	J-39, 40, 83, 85, 91, 93, 98; U-28
Cable (see Wire)	
Cable Clamps	S-35, 40; T-37; U-48, 72, 91, 115
Cable Connectors	G-8; K-20; T-3, 7, 15 to 25, 34, 39, 41
Calculators	H-9; R-43
Calibrators—Frequency, Signal, Sweep	F-2, 7, 10, 15, 29, 99
Calibrators, Voltage	F-65, 98
Call and Paging Systems	B-13, 20
Calrod Soldering Irons	U-4
Cannon Company, C. F.	D-37
Cannon Electric Company	T-16 to 21
Capacitor Analyzers, Decades, Bridges	F-30, 74, 86, 96; P-32, 50
Capacitor Color Codes	P-10, 40
Capacitor Mounting Hardware	J-55; P-11
Capacitor Selector, Motor-Starting	P-3
Capacitors, Fixed	Section P
Auto Radio	P-5, 6, 48, 73, 132; S-38
Bypass, Bathtub	P-3, 41, 42, 49, 61, 71, 87, 93, 120, 123, 126
Ceramic	J-66; P-6, 7, 8, 24, 25, 46, 56, 57, 69, 74 to 79, 127, 128
Electrolytic, Dry	P-1 to 6, 12 to 18, 20, 36 to 41, 51 to 55, 71, 72, 88, 98 to 104, 116 to 120
Exact Replacements for Model 630 Receivers	P-104
Feed-thru, Stand-off, etc.	J-66; P-7, 30, 48, 57, 76, 127
Filters, Noise, Interference	B-7; D-8, 17; J-48, 49, 58, 59, 61, 66, 67; N-4, 45, 77, 79; P-8, 30, 31, 48, 50, 73, 129; U-89
Fluorescent Lighting	P-31, 50, 78, 129
Metalized—Paper	P-21, 43, 86, 87, 90 to 97, 124 to 126
Mica, Bakelite, etc.	P-8 to 10, 26 to 29, 44 to 46, 58, 62 to 65, 130 to 132
Mica, Silvered	P-44, 63, 64, 77, 132
Miniature	P-6, 24, 47, 54, 57, 60, 62, 73, 79, 89, 105, 115, 121
Motor—Starting	P-4, 31, 34, 40, 50, 71, 126
Photoflash, Energy Storage	P-20, 33, 49, 53, 122
Plastic, Molded	P-3, 19, 41, 47, 56, 60
Plug-in, Twist-Prong, etc.	P-1, 13 to 15, 37 to 39, 51 to 53, 72, 88, 102 to 104, 116 to 118
Printed Electronic Circuits	P-57, 80
Resonant	P-30, 48, 132
Selenium Rectifier	P-15
Television	Section P
Temperature Coefficient	P-75, 78, 128
Transmitting	P-8 to 10, 23, 27 to 29, 44 to 46, 49, 65, 79, 123, 124, 131
Tubular	P-4 to 6, 12, 18 to 22, 36, 41, 47, 48, 60, 66, 73, 78, 79, 86 to 89, 92, 94 to 99, 105 to 107, 121 to 128
Vacuum Tube Types, H.V.	A-27; J-33, 35
Wet Electrolytic Replacements	P-3, 16, 39

## GENERAL INDEX (Continued)

	Section & Page
Capacitors, Variable	J-9 to 13, 32, 41, 42, 45 to 47, 51 to 54, 58, 68 to 71; U-83
Neutralizing, Padding	J-11, 32, 42, 46, 52; P-67, 68; U-83
Receiving, Tuning	J-12, 13, 42, 45 to 47, 51, 68, 70, 71
Transmitting	J-9, 10, 32, 41, 47, 51 to 54, 58, 69, 70, 71
Trimmer	P-6, 68, 76, 77, 79
Vacuum Tube Types	A-27; J-33, 35
<i>Carbofilm</i> Resistors	R-49
Carbon Granules for Microphones	U-96
Carbon Microphones	D-2, 10, 15, 17, 20
Carbon Resistors	R-15, 31, 48, 49
Carbon Tetrachloride	U-51, 95
Cardioid Microphones	D-1, 2, 10, 16, 22, 24, 26
Cardwell Mfg. Corp., Allen D.	J-51 to 55
Carling Electric, Inc.	L-15
Carrying Cases	B-34; E-36; F-39; J-39, 84; K-7, 23, 28
Carter Motor Company	M-42 to 45
Carter Parts Company	L-16, 17
Cartridges, Pickups	Section D; also E-1, 15, 18, 19, 22
Cat Whiskers	K-6
Cathode Ray Oscillographs, Oscilloscopes	Section F; also J-26
Cathode Ray Tube Mounting Accessories	J-29; T-1
Cathode Ray Tube Testers	F-20, 44
Cathode Ray Tube Testing Adapters	F-20, 93, 119; K-28
Cathode Ray Tubes	A-6, 7, 15
Cements—Radio Repair, Coil, Speaker, etc.	J-7; T-8; U-49, 94
<b>Centralab Div. Globe Union, Inc.</b>	
Capacitors	P-78, 79
Printed Electronic Circuits	P-80, 81
Steatite Insulators	P-81
Switches	L-6, 7
Volume Controls	R-28, 29
Ceramic Capacitors	J-66; P-6, 7, 8, 24, 25, 46, 56, 57, 69, 74 to 79, 127, 128
Ceramic Coil Forms	J-27
Ceramic-Element Microphones, Pickups	D-2 to 9, 14, 17
Ceramic Sockets	J-8; T-33
Ceramicon Capacitors	J-66; P-74 to 76
Cetron Tubes	A-22, 23
Challenger Sound Equipment	B-16
Chart Frames	J-8
Chassis, Brackets, Panels—Metal	J-36 to 39, 85 to 98
Chassis Mounts, Rubber	U-44, 115
Chassis Punches for Cutting Holes	T-1; U-30, 31, 76
Chassis Supports for Service Work	U-109
Chatham Electronics Corp.	A-25
Chemical Kits, Chemicals, Compounds	S-66, 70; U-50 to 52, 95
Chicago Industrial Instrument Co.	F-1
Chicago Transformer Div. Essex Wire Corp.	N-76 to 81
Chisholm-Ryder Co., Inc., Premax Div.	S-63 to 65
Chokes—Audio, Filter, Swinging, AC-DC	Section N
Chokes—R.F., Plate, Power Line, etc.	J-6, 30, 43, 48, 50, 61, 73; K-22; N-95, 96; P-8; R-15, 26, 43; U-85
Cinaudagraph Company	C-42, 43
Cinch-Jones Sales Div. Cinch Mfg. Co.	T-32 to 37
Circle-Cutting Tools	F-120; U-30, 31, 76
Circuit and Industrial Control Relays	L-23, 28, 33
Circuit Symbol Rubber Stamps	F-120
Circuit Testers, Analyzers	Section F
Clamp Volt-Ammeter	F-50
Clarkston (Pacific Transducer Corp.)	E-22, 23
Clarostat Mfg. Co., Inc.	R-4 to 9
Cleaning Fluids, Materials	U-50, 51, 95, 97, 98
Clifton Conduit Co., Inc., Pierceway Div.	S-51
Clips:	
Alligator	M-16; S-32, 33; U-66, 76, 106
Battery and Test	M-16, 17; S-32, 33; U-66, 71, 106
Dial Cord	U-42, 99, 115
Fuse	G-13, 16, 17; U-46, 91, 115
Inductor	J-55, 76
Lead-in Wire, for TV	S-66; U-41
Spring Wire, Fahnestock	S-36; U-45, 71, 91, 106, 115
Tube Grid and Cap.	J-4, 5, 31, 75; S-35, 41; T-5, 34, 37; U-46, 73, 87, 115
Coaxial Cable	S-10, 14, 26, 44; T-8
Coaxial Relays	L-21
Coaxial Speakers	C-10, 22, 30, 33, 41, 43, 44
Code Phono Records for Learners	J-64; U-89
Code Practice Oscillators	J-25; U-89
Coil Assemblies	J-12, 56, 57
Coil Dope, Cement	J-7; T-8; U-49, 95
Coil Forms and Mountings	J-7, 8, 27, 31, 58; T-8; U-85
Coil Materials	J-58
Coil Replacement Windings, Primaries	J-60
Coil Shields	J-8; U-84

	Section & Page
<b>Coils:</b>	
Antenna	J-49, 50, 56, 60; N-93, 94, 95, 96
Broadcast, S.W., Transmitting	J-49, 50, 60; N-93, 94, 95; U-85
Choke	J-6, 30, 43, 48, 50, 61, 73; K-22; N-95, 96; P-8; R-15, 26, 43; U-85
Exciter, Inductor, Tank	J-8, 29, 56 to 59, 76; N-45, 101 to 104
FM	J-60, 61; N-93
Hybrid and Repeat	N-38, 98
I.F. Transformers	J-7, 31, 49, 50, 60, 61; K-11; N-92 to 96
Oscillator, Phono, Test	J-7, 49, 50, 60, 61; N-93, 95, 96
Plug-in	J-27; U-85
R.F.	J-7, 50, 60, 61; N-93 to 96; U-85
Television	J-48, 49; K-10, 11, 16; N-92
Toroidal	J-59; N-20, 44, 45, 101 to 104
Wave Traps	J-49, 61, 62, 66; N-92; S-80
Cold Zone Temperature Testers	F-34, 60, 61
Color Codes	P-10, 40; S-6, 7
Color Coding Kit	U-96
Coloring Lacquer for Light Bulbs	U-51, 96
Columbia Products Co., Div. Shakespeare Co.	S-103
Communication Receivers	J-14 to 22, 63, 64
Compression Springs	U-46, 115
Conant Laboratories	G-26
Concertone Tape Recorders	E-11
Condenser Products Company	P-82 to 85
Condensers (see <i>Capacitors</i> )	
Con-Fer-Phone Intercoms	B-25
Conical Antennas	K-29 to 31; S-61, 68, 69, 81, 86 to 88, 91, 99
Connector Caps and Chains	G-8; T-5, 6, 19; U-69, 106
Connectors	Section T
Army-Navy	T-7
Auto Antenna, Fuse	G-17; T-36; U-45, 65, 86, 105
Cable	G-8; K-20; T-3, 7, 15 to 25, 34, 39, 41
Chassis	G-8; S-41; U-37, 69
Cord	A-38; T-16 to 21; U-105, 113
Couplings, Extenders, Reducers	R-13, 21, 29; S-36; U-71, 87, 111
Heat Radiating, for Transmitting Tubes	A-27; J-43
Heavy Duty Power and Radio	Section T
Microphone	G-8; S-41; T-6, 19, 20; U-69, 75, 106
R.F.	T-7, 41
Twin Lead, for TV	K-20; S-66; T-9; U-73
Consolidated Radio Products Co.	C-44
Consolidated Wire & Associated Cos.	S-45 to 49
Constant Impedance Controls, Attenuators	L-17; R-8
Constant Voltage Transformers	M-48 to 52; N-33
Contact Cleaning Fluids	U-50, 95
Contact Pickups & Mikes for Musical Instruments	D-17, 21, 29, 32
Continental Carbon, Inc.	R-31 to 33
Continental Electric Co. (Cetron)	A-22, 23
Controlled Reluctance Microphones, Cartridges	D-10, 15
Converters, Bandsread, etc.	J-22, 23, 25
Converters, Power Packs	M-20 to 23, 26 to 29, 34 to 37, 41, 47; N-16, 33
Converters, Rotary Power	J-24; M-42 to 45, 53
Converters, UHF	K-8, 18
Copper Oxide Rectifiers	G-23, 24, 26
Copper Sulfide Rectifiers	M-21
Copperweld Steel Company	S-50
Cord Connectors, Plugs	A-38; D-35; T-16 to 21; U-105, 113
Cord Strainreliefs	U-44, 115
<b>Cornell-Dubilier Electric Corporation</b>	
Antennas	S-97 to 99
Capacitors	P-12 to 32
Vibrators and Converters	M-24 to 26
<b>Cornish Wire Co., Inc.</b>	
Coaxial Oscillographs	S-22, 23
Cotter and Hairpins	F-108
Couplers, Antenna	U-44, 114
Couplings, Insulated, Flexible	J-25; K-12, 14, 19; S-79, 81
Couplings, Insulated, Non-Flexible	J-5, 29, 44, 46, 55, 73; U-37, 86
Coyne Books	J-5, 55; U-71
Crest Transformer Corporation	H-11
Crocodile Test Clips	N-54, 55
Croname Products	M-16; U-106
Crossover Networks, Speaker	U-62
Crystal Detectors	C-10, 16, 23, 29, 30, 35
Crystal Diodes—Germanium, Microwave	K-6
Crystal Microphones, Pickups, Cartridges	A-1, 3, 13, 16, 31
Crystal Oscillators, Calibrators, Markers	Sections D and E
Crystal Sockets	F-1, 2, 7, 10, 15, 17, 22, 23, 42, 65, 95, 98, 99, 114, 117; K-38
Crystal Receiving Sets	K-6
Crystal Sockets	J-8, 73; K-20; T-4, 32, 39
Crystals	F-97, 117; K-6, 36 to 41
Cube Taps, Electrical	A-38; U-105



## GENERAL INDEX (Continued)

	Section & Page
Cup Washers.....	U-47, 90, 114
Cutting Heads, Recording.....	D-8, 12, 33; E-1, 21
Cutting Needles.....	E-4, 39, 41, 42, 43, 48, 52
Cutting Pliers.....	U-21 to 27
Cutting Tools, Circle.....	F-120; U-30, 31, 76

### — D —

DC-AC and DC-DC Power Converters.....	M-20 to 23, 26 to 29, 34 to 37, 41, 47 to 52
Dandees Capacitors.....	P-119
Davies Molding Company, Harry.....	U-34
Decades, Capacitance.....	F-86, 111; P-32
Decades, Inductor.....	F-86
Decades, Resistance.....	F-111; R-5, 38
Decals for Electronics, Receivers, etc.....	J-62; U-53
Decibel Meters.....	B-6; F-24, 37, 48, 54
Decimeter, Inc.....	J-62
Deflection Yokes, TV.....	K-10, 16; N-2, 27, 66, 89
De-Tec-Tronic Laboratories, Inc.....	L-33
Detents and Switches for TV Tuners.....	S-39, 71; U-113
Diacone Speakers.....	C-3
Dial Cable, Cords, Belts.....	S-12, 30; U-41, 99, 100
Dial Cable Adjuster Tools.....	U-78, 99
Dial Cable Clips.....	U-42, 99, 115
Dial Crystals, Replacement.....	U-42, 99
Dial Drive Accessories.....	T-37; U-42, 99, 108
Dial Drive Cements, Compounds.....	U-49, 94, 99
Dial Drive Springs.....	U-46, 99, 108, 115
Dial Knobs, Pointers.....	J-2, 79; K-33; L-5, 20;
	T-37; U-32, 33, 34, 62, 82, 110, 112
Dial Knob Springs.....	T-37; U-108, 115
Dial Lamps, Bulbs.....	A-11, 13; M-6
Dial Light Assemblies, Jewels.....	G-1 to 11; J-80 to 82; U-69, 106
Dial Light Coloring Lacquers, Kits.....	U-51, 96
Dial Light Co. of America, Inc. (Dialco).....	G-1 to 10
Dial Light Installer & Remover Tools.....	G-10; U-106
Dial Light Sockets, Brackets.....	G-9, 10; J-82; U-69, 106
Dial Locking Devices.....	J-2, 29
Dial Oil.....	U-50, 96
Dial Plates.....	J-79; L-5, 18; R-13; U-82
Dial Pulleys.....	T-37; U-86, 115
Dials—Instrument, Tuning, Vernier, etc.....	J-3, 28, 79; U-62, 82
Diathermy Cable.....	S-9, 27
Diathermy Tubes.....	Section A
Diffusion Vacuum Pump.....	A-27
Disc Ceramic Capacitors.....	P-8, 24, 56, 69, 75, 78, 127
Disc Neutralizing Capacitors.....	J-11, 32, 54
Discs, Recording.....	E-4, 39, 41, 42, 61
Distortion Meters.....	F-86; J-59
Distributor Suppressors, Auto.....	R-3, 33; S-38
Dome Light Filter Capacitors, Auto.....	P-6, 48
Drake Electric Works, Inc. (Soldering Irons).....	U-2, 3
Drake Manufacturing Co. (Pilot Light Assemblies).....	G-11
Drawer Slides for Metal Drawers.....	U-53
Drawers, Snap-on.....	U-35
Drills, Masonry, Star.....	S-39
Drives for Radio and Phono, Rubber.....	U-43, 113
Dry Batteries.....	M-1 to 14
DuMont Laboratories, Inc., Allen B.....	A-36
Duotone Company, Inc.....	E-49 to 51
Duranite Capacitors.....	P-121
Dust Cap-and-Chains for Connectors, etc.....	G-8; T-5, 6, 19; U-69, 106
Dust Felts for Speaker Voice Coils.....	U-43, 115
Dykanol Capacitors.....	P-22, 23
Dynamic Microphones.....	Section D
Dynamotors.....	J-24; M-44, 45

### — E —

Earphones.....	D-33 to 38; K-6; U-89
Diaphragms.....	D-35
Ear Cushions.....	D-35; U-89
Earphone Cords.....	D-35; S-38; U-89
Eby Sales Company.....	R-1 to 3; T-38 to 40
Editors & Engineers, Ltd. (Books).....	H-16
Eico Test Equipment.....	F-116 to 119

Eitel-McCullough, Inc. (Eimac Tubes).....	A-26, 27
Elapsed Time Meters.....	F-54, 64, 69
Eldico of New York, Inc.....	J-64 to 66
Electrical Connecting Devices.....	Section T; also A-38; U-105
Electrical Extension Cords, Sets.....	A-38; S-20, 28; U-73, 105
Electric Eye Units.....	L-13, 33 to 35
Electric Soldering Iron Co., Inc. (Esico).....	U-8
Electro Dynamic Speakers.....	Section C
Electro Mechanical Instrument Co. (Emico).....	F-55
Electro Products Laboratories, Inc.....	M-27
Electrodynamometers.....	F-24
Electro-graphic Recorder.....	F-120
Electrolytic Capacitors, Dry.....	Section P
Electronic Test Equipment.....	F-43, 44
Electronic Instrument Co., Inc. (Eico).....	F-116 to 119
Electronic Measurements Corp.....	F-87 to 89
Electronic Transformer Co., Inc.....	N-34
Electrons, Inc.....	A-33
Electro-Voice, Inc.....	C-30, 31; D-16 to 18; K-15
Electrovox Co., Inc. (Walco Products).....	E-43 to 45
Electroz Rectifiers, Battery Eliminators.....	G-23; M-15
EL-Menco Capacitors (Arco Electronics, Inc.).....	P-62 to 69
Elmenco Products Company.....	U-63
El-Tronics, Inc.....	F-66, 67
Emico Panel and Test Meters.....	F-55
Enamel Remover.....	U-51
Enamels, Lacquers, Paints, Varnishes.....	J-9; U-51, 95, 96, 97
Energy Storage, Photoflash Capacitors.....	P-20, 33, 49, 53, 122
Equalizer Amplifiers.....	B-7; D-8; E-16; K-1
Equalizers, Tone.....	D-8; E-16, 17, 22, 37; K-1
Equito Div. Aurora Equipment Co.....	U-28
Erie Resistor Corporation.....	P-74 to 77
Ervin Multicore Solder.....	U-14, 15
Escutcheon Pins.....	U-47, 115
Esico Soldering Irons.....	U-8
Espey Manufacturing Co., Inc.....	K-2, 3
Essex Wire Corp., Chicago Transformer Div.....	N-76 to 81
Eveready Batteries, Flashlights.....	M-6 to 9
Exciter Coils, Tanks, Forms.....	J-8, 29, 56, 76
Expansion Shields, Lag Screw.....	S-39
Expansion Springs.....	U-46
Extension Cord Sets.....	A-38; S-20, 28; U-73, 105
Eyelets, Rivets.....	U-44, 72, 77, 95, 115
Tools and Punches.....	T-15; U-77, 102

### — F —

Fabric for Cabinets and Instruments.....	U-98
Fabric Cement.....	U-49
Fairnestock and Spring Wire Clips.....	S-36; U-45, 71, 91, 106, 115
Fairchild Recording Equipment Corp.....	E-1
Faraday Shields, Links.....	J-58, 76
Fault Location Bridge.....	R-39
Federal Telephone & Radio Corp.....	
Rectifiers.....	G-20, 21
TV Lead-in Cables.....	S-14
Feeder Line Spreader Insulators.....	J-1, 73, 81; S-37; T-9
Felt Feet, Pads.....	U-115
Felt Flock Spray Kits and Materials.....	U-53, 98
Felts for Phono Turntables.....	U-43, 113
Felt Washers for Knobs, etc.....	U-45, 115
Fibre Insulating Washers.....	U-45, 71, 90, 92, 114
Field-Coil Speakers.....	Section C
Field Strength Meters.....	F-7, 13, 30; J-25
Filament Transformers.....	Section N
Filter Capacitors.....	Section P
Filter Chokes—Line, R.F., etc.....	J-6, 30, 43, 48, 50, 61, 73;
	K-22; N-95, 96; P-8; R-15, 26, 43; U-85
Filter Chokes, Reactors—Audio.....	Section N
Filter Selector, Analyzer.....	P-129
Filter, Sound Effects.....	N-47
Filters—Interference, Noise.....	B-7; D-8, 17; J-48, 49, 58, 59, 61,
	66, 67; N-4, 45, 77, 79; P-8, 30, 31, 48, 50, 73, 129; U-89
Appliance.....	J-48, 49, 61; N-95; P-8, 31, 129; U-89
Audio.....	B-7; D-8, 17; J-59; N-4, 45, 77, 79
Automotive Noise Suppression.....	P-5, 6, 48, 73, 132; S-38
Fluorescent Lighting.....	N-95; P-31, 50, 73, 129
Industrial, Heavy Duty.....	P-8, 31, 129
Pickup, Phono.....	D-8
Resonant.....	P-30, 48
Television.....	J-48, 49, 58, 62, 66; K-11, 12, 23;
	N-3, 67, 92; P-30, 48, 129; S-80
Wave Traps.....	J-49, 61, 62, 66; N-92; S-80

## GENERAL INDEX (Continued)

	Section & Page
Fixture Wire, Lamp Cords.....	S-4, 10, 20, 23, 26, 28
Flash Tubes.....	A-1
Flashlight and Lantern Batteries.....	M-1, 2, 6, 11, 14
Flashlights and Lanterns.....	M-3, 6
Flexible Couplings, Insulated.....	J-5, 29, 44, 46, 55, 73; U-37, 86
Flexible Resistors.....	R-6
Flexible Screw-Drivers.....	U-77, 102
Flexible Shafts.....	J-73; S-36
Flexible Varnished Tubing and Spaghetti.....	S-12, 30, 52, 66;
	U-87, 107
Flock Finishing Spray Materials and Kits.....	U-53, 98
Floor Wax.....	U-97
Fluorescent Lighting Capacitors, Suppressors.....	N-95; P-31, 50, 73, 129
FM Adapter for AM Receivers (Receptor).....	J-61
FM and TV Antennas.....	K-15, 29 to 34; S-57 to 106; T-10
FM Books, Manuals.....	Section H
FM Coils.....	J-60, 61; N-93
FM Radio Kits and Units.....	J-62; K-2, 3, 8
FM-AM Tuners.....	F-101; J-61; K-1
Focus Coils, TV.....	C-6; K-11, 16; N-2, 27, 66, 89
Foot Switch.....	L-13
Foundation Chassis for Amplifiers.....	J-38, 39, 84, 91, 93, 98

<b>Freed Transformer Co., Inc.</b>	
Laboratory Test Equipment.....	F-82 to 86
Transformers, Inductors, etc.....	N-98 to 116

Frequency Calibrators.....	F-2, 7, 10, 15, 29, 99
Frequency Meters, Testers, Standards.....	F-7, 14, 24, 62, 63, 64, 73;
	J-26, 59, 66; K-38
Frequency Multipliers.....	J-58
Frequency Records to Check Response.....	E-23; U-43
Frequency Shifter.....	J-27
Friction Tape.....	U-107
Fungus Varnish, Lacquer.....	U-51, 95
Furniture Polishers, Varnishes, Oils, Kits.....	U-51, 52, 96, 97
Fuse Pullers, Extractor Posts.....	G-13, 16; U-111
Fused Plugs.....	U-63
Fuses.....	G-12 to 17
Connectors, Retainers, Clips.....	G-13, 15, 16, 17; S-34;
	U-45, 46, 65, 66, 86, 91, 105, 115
Fusetron Fuses.....	G-12, 13

### — G —

Gain and Fader Controls, P.A.....	Section R; also L-17
Galvanometers.....	F-37
Garrard Sales Corporation.....	E-33 to 36
Gas and Oil Gauge Filter Capacitors, Auto.....	P-6, 48, 132
Gas Pressure Measuring Tubes.....	A-1
Geiger-Mueller Tubes.....	A-16, 17
Genemotors.....	M-42
General Cement Mfg. Co.....	U-94 to 115
General Control Co.....	L-12, 13
General Dry Batteries, Inc.....	M-10, 11
<b>General Electric Company</b>	
Capacitors.....	P-33 to 35
Phono Parts and Accessories.....	E-18
Soldering Irons.....	U-4, 5
Speakers.....	C-2
Switches and Relays.....	L-31
Test Equipment for TV, Industrial, Broadcast.....	F-16, 17
Transformers and Reactors.....	N-97
Tubes, Receiving and TV.....	A-2, 3
Tubes, Transmitting and Industrial.....	A-4, 5
<b>General Industries Company</b>	
General Purpose Relays.....	E-29 to 32
Generator Capacitors, Suppressors—Auto.....	L-14, 23, 31, 32
Generators, Rotary Power.....	P-6, 48, 73, 132; R-33
Generators, Signal.....	J-24; M-42 to 45, 53
Genescope Signal-Generator-Oscilloscope.....	Section F
Germanium Crystal Diodes.....	F-27
Gernsback Books.....	A-1, 3, 13, 16
Ghirardi Books, Manuals.....	H-19
Glaabm Insulated Flexible Resistors.....	H-12
Glass and Porcelain Insulators—Antenna.....	R-6
Glass and Plastic Jars for Hardware.....	S-38, 65; U-93
Glasscap Capacitors.....	U-48, 92, 108
Glassmike Capacitors.....	U-115
Glide Slope Test Set.....	P-84, 85
Glow Modulator Tubes.....	F-79

<b>General Industries Company</b>	
General Purpose Relays.....	E-29 to 32
Generator Capacitors, Suppressors—Auto.....	L-14, 23, 31, 32
Generators, Rotary Power.....	P-6, 48, 73, 132; R-33
Generators, Signal.....	J-24; M-42 to 45, 53
Genescope Signal-Generator-Oscilloscope.....	Section F
Germanium Crystal Diodes.....	F-27
Gernsback Books.....	A-1, 3, 13, 16
Ghirardi Books, Manuals.....	H-19
Glaabm Insulated Flexible Resistors.....	H-12
Glass and Porcelain Insulators—Antenna.....	R-6
Glass and Plastic Jars for Hardware.....	S-38, 65; U-93
Glasscap Capacitors.....	U-48, 92, 108
Glassmike Capacitors.....	U-115
Glide Slope Test Set.....	P-84, 85
Glow Modulator Tubes.....	F-79

	Section & Page
Glue—Cabinet Repair, Wood.....	U-49, 94
Gothard Manufacturing Co.....	M-53
Gramer Transformer Corp.....	N-33
Graph Sheets for Audio Engineers.....	E-23
Gray Research & Development Co., Inc.....	E-37
Grayburne Corporation.....	K-22, 23
Greenlee Tool Company.....	U-30, 31
Greenohm Resistors.....	R-8, 9
Grid Bias Cells.....	K-9
Grid Caps and Clips, Tube.....	J-4, 5, 31, 75; S-35, 41;
	T-5, 34, 37; U-46, 73, 87, 115
Grid Dip Meters.....	F-7, 14; J-25, 26, 65
Grille Cloth and Screening.....	U-53, 98
Grommets, Rubber.....	U-44, 70, 91, 92, 105, 115
Ground and Lead-in Wire.....	S-8, 11, 15, 19 to 28, 70
Ground and Pipe Clamps.....	M-17; S-40, 50, 69; U-93
Ground Rods.....	S-39, 50, 65, 80, 89; U-93
Guardian Electric Mfg. Co.....	L-24, 25
Guy Wire.....	K-33; S-10, 30, 50, 70

### — H —

H-Pads (Printed Circuits) for Antenna Installations.....	P-81
Hacksaws.....	U-41
Haldorson Company.....	N-66 to 75
Hallcrafters Company.....	J-14 to 21
Hammarlund Mfg. Co., Inc.....	J-45 to 47
Hamswitches.....	L-3, 6
Hardware, Small.....	S-35, 36; T-15, 37; U-36, 37, 43 to 48,
	54 to 60, 70 to 72, 90 to 92, 108, 111, 114, 115
Harmonic Distortion Meter.....	F-86
Harvey Hubbell, Inc.....	T-14, 15
Harvey-Wells Electronics, Inc.....	J-24
Headphones.....	D-33 to 38; K-6; U-89
Diaphragms.....	D-35
Ear Cushions.....	D-35; U-89
Headphone Cords.....	D-35; S-38; U-89
<b>Hearing Aid Accessories:</b>	
Batteries.....	M-1, 14
Battery Testers.....	F-55, 59
Capacitors.....	P-6
Earphones and Headsets.....	D-34, 37
Outlet Boxes and Controls.....	D-34
Plugs, Jacks, Sockets.....	L-8; T-5, 34, 39; U-46
Printed Electronic Circuits.....	P-81
Transformers.....	N-42, 43
Heat Dissipating Connectors for Tubes.....	A-27; J-43
Hexacon Electric Company.....	U-6, 7
Hickok Electrical Instrument Co.....	F-90 to 100
High Frequency Relays.....	L-23, 25, 32
High Frequency Speakers and Horns.....	Section C
High Voltage Probes—TV, etc.....	F-5, 6, 33, 45, 97, 115, 116; U-80
Hi-Lo TV Antenna Corporation.....	S-96
Hookup Wire.....	S-6, 7, 8, 19 to 28, 45, 48
<b>Horns, Projectors, Trumpets</b>	
Adapters, Connectors.....	Section C
Driver Units.....	C-3, 12, 14, 15, 17, 18, 24, 29, 30
Stands, Brackets, Mounting Fixtures.....	C-16, 25
Hushatone Pillow Speaker.....	D-33
Hybrid and Repeat Coils.....	N-38, 98
Hypex Speaker Projectors.....	C-12
Hytron Radio & Electronics Co., Div. Columbia Broadcasting.....	A-20
Hypof Capacitors.....	P-123

### — I —

<b>I.D.E.A., Inc.—Regency Division</b>	
Idle Pulleys.....	K-17
I.F. Transformers.....	T-37; U-86, 115
Ignition Batteries.....	J-7, 31, 49, 50, 60, 61; K-11; N-92 to 96
Ignition Cable, Shielded.....	M-1, 2, 9, 11, 14
Ignition Pliers.....	S-5, 15, 28
Ignition Suppressors.....	U-22, 27
Ignitrons (Pool-Cathode Tubes).....	P-6; R-3, 33; S-38; U-110
Incremental Inductance Bridge.....	A-5, 6, 7, 31, 34
Indicating Instruments, Meters.....	F-83
Indicators—Panel, Signal.....	F-6, 24, 25, 35 to 38, 48,
	51 to 58, 69 to 71, 99
	G-1 to 7, 11; J-80 to 82

## GENERAL INDEX (Continued)

	Section & Page
Indicators, Temperature.....	F-34, 60, 61
Indicators, Volume Level.....	B-6; F-24, 37, 48, 54
Indoor Antenna Wire, Ac-Dc.....	S-11, 15, 23
Indoor TV Antennas.....	K-33; S-61, 81 to 85, 91, 96, 99, 106; T-10
Inductors—Coils.....	J-8, 56, 57, 76; N-101 to 104
Clips for Inductors.....	J-55, 76
Inductors—Variable, Rotary.....	J-58, 59, 76; N-45
Inductance Tuning Device, TV.....	K-9
Industrial Circuit Testers.....	Section F
Industrial Condenser Corporation.....	P-70 to 73
Industrial Hardware Mfg. Co. (See Eby Sales Co.).....	
Industrial Instruments, Inc.....	F-110, 111
Input Transformers.....	Section N
Inspection Lites, Mirrors.....	U-41, 102, 111
Instrument Rectifiers.....	G-18 to 26; M-21
Instruments and Meters, Panel.....	F-6, 24, 25, 37, 38, 48, 51 to 58, 69 to 71, 99
Instrument Switches.....	L-7, 10, 18
Insulated Staples, Saddle Type.....	S-40; U-108
Insulated Tubing for Tool Handles.....	U-41, 103
Insulated Wiring Nails.....	S-40, 66; U-108
Insulating Fibre Washers.....	U-45, 71, 90, 92, 114
Insulating Materials, Sheets.....	J-87; S-53, 54, 66; U-105
Insulating Tubing, Spaghetti.....	S-12, 30, 52, 66; U-87, 107
Insulating Varnish.....	U-51
Insulators—Steatite, Lucite, Ceramic, etc.	
Antenna.....	J-73; K-21; P-81; S-36 to 40, 65, 70, 81, 83; T-9; U-73, 93
Beads.....	J-81; P-81; U-83
Beehive, Standoff.....	S-36, 37, 65
Bowls, Bushings.....	J-1, 72, 81; P-81
Feeder Spreader.....	J-1, 73, 81; S-37; T-9
Lead-in.....	S-36
Nail-it Knobs.....	S-38; U-93
Standoff, Cone Type.....	J-1, 72; S-37; U-83
Standoff, Screw Eye.....	K-27; S-40, 70, 81, 83; T-9; U-73
Strain, Airplane.....	J-1; P-81; S-36, 37; U-73, 93
Threaded Brass and Steel Rods.....	J-72; S-36; U-47, 71, 114
Thru-panel, Feed-thru.....	J-1, 72, 81; S-37; U-36, 83
Tubes, Rods, Pillars.....	J-1, 73, 81; S-36, 37; U-83

<b>Insuline Corporation of America</b>	
Antennas and TV Accessories.....	S-90, 91
Cabinets, Racks, Panels.....	J-83 to 87
Hardware, Tools, Service & Amateur Aids.....	U-74 to 93

Interchangeable Relays.....	L-24
Intercommunication Systems.....	B-16, 24, 25, 30, 31; C-35
Intercom Wire.....	S-2, 3, 18, 19, 23, 28, 47, 49
Interference Filters.....	B-7; D-8, 17; J-48, 49, 58, 59, 61, 66, 67; N-4, 45, 77, 79; P-8; S-30, 31, 48, 50, 73, 129; U-89
Interference Filter Selector.....	P-129
Interlock Self-Locking Electrical Connectors.....	T-14, 15
Intermodulation Meter.....	F-12
International Rectifier Corporation.....	G-25
International Resistance Co.....	R-15 to 27
Interstage Coupling Plates (Printed Circuits).....	P-80
Interstage Coupling Unit (Videocoupler).....	L-5
Inverters, Power.....	M-34 to 37
Ion Traps, TV.....	C-6; K-11; R-8
Irish Magnetic Recording Tape.....	E-63
Iron Testers.....	F-60
Isolation Transformers.....	F-5; N-16, 26, 53, 55, 59, 64, 65, 71, 80, 88

### — J —

Jack Shields.....	J-8
Jack Switches.....	L-3, 17
Jacks and Plugs.....	D-34, 35; J-1, 44, 78; L-4, 8, 9, 16; S-31, 32, 33; T-4, 15; U-36, 37, 66 to 68, 74, 75, 104, 105
Jacks and Plugs—Military, JAN, SC, etc.....	L-4, 8, 9; T-7, 41; U-46, 68, 74
Jacks, Circuit.....	J-43; L-4; U-37
Jacks, Extension.....	L-4, 8; T-36
Jacks, Long and Short Frame.....	L-4, 8, 16, 17
Jacks, Panel Mounting.....	J-43; L-4; U-75
Jacks, Tip.....	J-78; S-32; T-4, 36, 39; U-66, 68, 104
Jackson Electrical Instrument Co.....	F-72 to 74
James Vibrapowr Company.....	M-18
Jars, Glass and Plastic—for Hardware.....	U-48, 92, 108
<b>J-B-T Instruments, Inc.</b>	
Switches.....	L-18 to 20
Test Equipment.....	F-60 to 64

	Section & Page
Jennings Radio Mfg. Co.....	J-33 to 35
Jensen Industries, Inc. (Needles).....	E-62
Jensen Manufacturing Co. (Speakers).....	C-8 to 13
Jewel Lights and Assemblies.....	G-1 to 11; J-80 to 82; U-69, 106
Jewelers Pliers.....	U-24
J.F.D. Manufacturing Co., Inc.....	S-80, 81
Johnson Company, E. F.....	J-67 to 82
Jones, Howard B.—Div. Cinch Mfg. Co.....	T-22 to 31

### — K —

<b>Kay Electric Company</b> .....	F-15
Kenotrons (Vacuum Rectifier Tubes).....	A-5, 30
Kenyon Transformer Co., Inc.....	N-82, 83
Kester Solder Company.....	U-13
Keying Break-ins and Monitors.....	J-23, 65; U-89
Keying Relays.....	L-22, 25, 32
Keys and Practice Sets, Telegraph.....	J-77; L-36; U-89
Keystone Electronics Corp.....	U-37
Kinescopes (TV Tubes).....	A-3, 9, 11, 13, 15, 20, 36 to 40
Klystrons (Tubes).....	A-1, 17
Knife-Throw Switches.....	S-31; U-73, 84
Knights Company, James.....	K-38
Knob Puller Tools.....	U-112
Knobs & Pointers—Dial, Instrument, etc.....	E-23; J-2, 79; K-33; L-5, 20; T-37; U-32, 33, 34, 62, 82, 110, 112
Knob Felt Washers.....	U-45, 115
Knobs for Auto Radios.....	U-112
Set Screws and Springs.....	T-37; U-46, 47, 108, 112, 114, 115
Knockout Punches and Cutters.....	T-1; U-30, 31, 76
Kraeuter & Company, Inc.....	U-22 to 25
Kwikheat Mfg. Co.....	U-9

### — L —

L-Pads (Attenuators).....	L-17; R-8, 11, 36
Laboratory and Industrial Test Equipment.....	F-7 to 18, 45, 47, 66, 67, 75 to 86, 90, 98, 102 to 105, 110, 111; J-26
Lacquers, Enamels, Paints, Varnishes.....	J-9; U-51, 95, 96, 97
Ladders, Magnesium.....	S-69
Lamp Cords and Fixture Wire.....	S-4, 10, 20, 23, 26, 28
Lamps, Dial and Panel.....	A-11, 13; M-6
Lansing Sound, Inc., James B.....	C-17
Lapel Microphones.....	D-4, 10, 23, 32
LaPointe Plascomold Corp.....	S-75 to 79
Latching Impulse Relays.....	L-22, 27, 28, 32
Lead-in and Ground Wire.....	S-8, 11, 15, 19 to 28, 70
Lead-in Strips.....	S-38; U-93
Leak Amplifier.....	B-17
Lectrohm, Inc.....	R-44, 45; U-116
Lever-Action Switches.....	L-2, 6, 9, 12, 20
Lewis and Kaufman, Inc.....	A-32
Light Concentrator for Close Work.....	E-23
Lightning Arresters.....	K-28; S-38, 40, 73, 79, 80, 83, 91; T-9; U-93
Limit Switches.....	L-13, 31
Line Cord Resistors.....	S-38, 47; U-89
Line Voltage Regulators, Plug-in.....	R-8; S-80; U-89
Line Voltage Regulator Transformers & Controls.....	M-48 to 52; N-16, 26, 32, 46, 49, 53, 55, 59, 71
Linear Detector.....	J-59
Link Coils, Inductors.....	J-8, 56, 57, 76; N-101 to 104
Jack Bars and Assemblies.....	J-57, 76
Plug-in Links.....	J-58, 76
Littelfuse, Inc.....	G-14 to 17
Litz Wire.....	S-15
Lock Washers.....	S-35; U-45, 72, 90, 114
Locks for Dials.....	J-2, 29
Loop Antennas.....	J-49; U-89
Loopsticks.....	K-22
Lowell Manufacturing Co.....	C-26, 27
Lubricants.....	U-50, 95, 113
Luggage Fabric.....	U-98
Lugs—Terminal, Soldering, Tinned.....	S-35; T-15, 37; U-36, 37, 46, 70, 72, 88, 91, 115
Luminous Paints, Powders, etc.....	U-96
Lysco Manufacturing Co., Inc.....	J-25

## GENERAL INDEX (Continued)

### — M —

	Section & Page
McGohan, Inc., Don	B-32 to 34
MacMillan Company	H-18
Magic Eye Assemblies & Accessories	J-29; T-1
Magmotors	M-42, 44
Magnecord, Inc.	E-12, 13
Magnesium, Copper Sulfide Rectifiers	M-21
Magnesium Ladders	S-69
Magnet Wire	S-18, 29, 45, 46
Magnetic Tape Recorders	B-2; E-1, 4, 5, 11 to 14, 29
Magnetrons (Tubes)	A-17, 24
<b>Maguire Industries—Thordarson-Meissner Div.</b>	
Meissner Products	J-60, 61
Thordarson Products	N-30 to 32
<b>Mallory &amp; Co., Inc., P. R.</b>	
Capacitors	P-1 to 11
Controls, Rheostats, Resistors	R-10 to 14
Switches, Jacks, Plugs	L-2 to 5
Tuning Unit, UHF Converter, Grid Bias Cells	K-8, 9
Vibrators, Rectifiers, Power Supplies	M-20 to 23
Manuals, Service and Instruction	Section H; also C-21; E-41; F-17; G-19, 20; J-64; L-36; M-44; P-129, 132; R-20; T-7
Marine Speakers, Horns	Section C
Marion Electrical Instrument Co.	F-68 to 71
Marker Generators	F-2, 15, 16, 17, 22, 23, 42, 65, 99, 114, 115
Masco Sound Systems and Intercoms	B-18 to 27
Masonry Drills	S-39
Mast Clamps, Straps, Bases, Couplers	K-12, 13, 24 to 32; M-17; S-40, 65, 69, 80, 81, 83; T-9; U-73, 108
Master Mobile Mounts, Inc.	S-104, 105
Masts and Towers, Antenna	K-13, 32; S-72, 76, 81, 100; T-9
Measurements Corporation	F-7 to 14
Measuring Instruments	Section F
Megacycle Meters	F-7, 14
Megohm Bridge	F-110
Megohmmeters	F-35, 42, 50, 82, 110
Meissner Products, Thordarson-Meissner Div.	J-60, 61
Melamine Insulated Terminals, Resistor Boards	U-36
Mercury-Switch Relays	L-32
Merit Coil & Transformer Corp.	N-84 to 96
Metal Cabinets, Racks, Panels	J-36 to 41, 83 to 98
Metal Trim, Moulding, Handles	J-40, 87; U-53
Metallized Paper Capacitors	P-21, 43, 86, 87, 90 to 97, 124 to 126
Meter Cases	J-40, 84, 93
Metered Transformers	N-64, 65
Meters and Instruments	Section F
Meters, Elapsed Time	F-54, 64, 69
Meters, Frequency	F-7, 14, 24, 62, 63, 64, 86, 104; J-59, 62
Meters, Grid Dip	F-7, 14; J-25, 26, 65
Meters, Panel	F-6, 24, 25, 37, 38, 48, 51 to 58, 69 to 71, 99
Meters, Pocket	F-19, 33 to 36, 50, 57, 59, 113, 118
Meters, Recording Level, Decibel, Noise	B-6; F-24, 37, 48, 54
Meters, Resistance	F-57, 58, 67
Mica Capacitors	P-8, 9, 10, 26 to 29, 44 to 46, 58, 82 to 65, 130 to 132
Mica Capacitors, Silvered	P-44, 63, 64, 77, 132
Microammeters	F-4, 25, 35 to 38, 48, 52, 53, 69, 70, 71, 100
Microphones—Cardioid, Crystal, Dynamic, Velocity, Contact, Lapel, etc.	Section D; also B-34; K-6
Adapters, Swivels	D-1, 4, 31
Base Flanges, Extension Rods	D-31
Cable and Wire	S-1, 15, 16, 22, 27, 48
Carbon Granules	U-96
Connectors	G-8; S-41; T-6, 19, 20; U-69, 75, 106
Plugs and Jacks	D-34, 35; L-4; U-74, 75
Stands	Section D
Switches	D-15; T-6
Third Hand, Chest Plate, etc.	D-1, 23
Transformers	Section N; also D-15, 17
Microwave Tubes, Crystal Diodes	A-1, 31
Middletown Manufacturing Co.	J-92, 93
Midget Relays	L-21, 23, 29, 32
Millen Mfg. Co., Inc., James	J-26 to 32
Miller Company, J. W. (Coils)	J-48 to 50
Miller Mfg. Co., Inc., M. A. (Needles)	E-46 to 48
Milliammeters, Millivoltmeters	F-25, 35 to 38, 48, 52 to 59, 69, 70, 71, 100
Mini-Max Strips for Batteries	U-70
Minnesota Mining & Mfg. Co.	E-64
Minute Man Products, Inc.	J-94, 95
Mirroscope Oscilloscope	F-29
Mitchell Industries, Inc.—Vasco Division	U-12
Modulation Monitors, Meters	F-12, 65, 104; K-38
Molded Plastic Tubular Capacitors	P-3, 19, 41, 47, 56, 60
Monitor TV Antenna Towers	S-72
Monitorradio (Radio Apparatus Corp.)	J-63

	Section & Page
Moody Machine Products Co., Inc.	U-29
Morse Code Learner's Phono Records	J-64; U-89
Mosley Electronics	K-19 to 21
Motorcycle Antennas	S-56
Motors, Small Power	E-26
Motors, Turntables for Phonos & Recorders	E-3, 8, 9, 26, 30 to 36
Motor-Starting Capacitors	P-4, 31, 34, 40, 50, 71, 126
Motor-Starting Relays	L-23, 29
Mueller Electric Company	M-16, 17
Mul-Tel TV Antennas, Couplers	K-14
Multicore Sales Corporation	U-14, 15
Multimeters, Multitesters	Section F
Multiple Conductor Cable	S-1, 3, 4, 16, 17, 27, 44, 49
Multiple Leaf Relays	L-27
Murray Hill Books (see Rinehart Books, Inc.)	
Musical Instrument Amplifiers, Microphones	B-11; D-17, 21, 29, 32
Mutual Conductance Tube Testers	F-31, 43, 44, 49, 87, 90 to 93

### — N —

Nail-it Knobs	S-38; U-93
Nails, Insulated Wiring	S-40, 66; U-108
Name Plates	U-65, 82
National Carbon Company (Eveready)	M-6 to 9
National Company, Inc.	J-1 to 13
National Electronics, Inc.	A-34
National Union Radio Corp.	A-12, 13
Needle Nose Pliers	U-21 to 26, 99
Needles—Cutting, Recording	E-4, 39, 41, 42, 43, 48, 52
Needles—Phono Pickup, Playing	C-1; D-9, 13, 18; E-4, 18, 20, 22, 38 to 57, 62
Neon Testers, Low and High Voltage	U-109
Networks, Crossover—for Speakers	C-10, 16, 23, 29, 30, 35
Neutralizing, Aligning Tools T-3, 17; U-40, 68, 77 to 80, 100 to 102	
Neutralizing Capacitors	J-11, 32, 42, 46, 52, 54
Newcomb Audio Products Co.	B-8 to 13
Nobleloy Metallic Film Resistors	R-32
Noise Filters, Silencers	B-7; D-8, 17; J-48, 49, 58, 59, 61, 66, 67; N-4, 45, 77, 79; P-8, 30, 31, 48, 50, 73, 129; U-89
Noise Level Indicators	B-6; F-24, 37, 48, 54
Noise Suppressors, Auto Ignition	P-6; R-3, 33; S-38; U-110
Nuclear Instruments, Counters, etc.	E-23; F-16, 66, 67
Null Indicators, Detectors	F-71, 84
Nut Drivers, Wrenches	U-17, 19
Nuts, Bolts, Screws, Washers	S-35, 36, 39; U-43 to 48, 70, 90 to 92, 108, 114, 115

### — O —

Oak Electronics Co.	K-18
Oelrich Publications	H-20
Ohmite Manufacturing Co.	R-40 to 43
Ohmmeters and Megohmmeters	F-35, 42, 50, 82, 110
Ohm's Law Calculator	R-43
Oil and Gas Gauge Filter Capacitors, Auto	P-6, 48, 132
Oil Burner Suppressors	P-8, 31; R-33
Orradio Industries, Inc.	E-63
Oscillator Coils	J-7, 49, 50, 60, 61; N-93, 95, 96
Oscillators, Audio	F-67, 73; J-59, 62; U-89
Oscillators, Code Practice	J-25; U-89
Oscillators, Signal Generators	Section F
Oscillators, Test	F-21, 74
Oscillators, UHF	F-7, 11, 13, 15
Oscillators, Variable Frequency	J-25, 27, 67
Oscillographs, Oscilloscopes	Section F; also J-26
Accessories, Amplifiers, Calibrators	F-29; J-26
Cathode Ray Tubes	A-6, 7, 15
Output Meters	B-6; F-24, 37, 48, 54
Output Transformers	Section N
Oven Temperature Testers	F-60
Overload and Underload Relays	L-24, 25, 32
Oxford Electric Corporation	C-32, 33

### — P —

P. A. Controls	Section R; L-17
P. A. Systems, Units	Section B
P. A. Wire and Cable	S-1 to 5, 18, 19, 22, 28, 49

## GENERAL INDEX (Continued)

	Section & Page
Pacific Transducer Corp. (formerly Clarkstan)	E-22, 23
Packaged Wiring Systems	S-51
Padding Capacitors	J-11, 42; P-67, 68; U-83
Paging and Call Systems	B-13, 20
Paints, Enamels, Lacquers, Varnishes	J-9; U-51, 95, 96, 97
Panel Bearings, Assemblies	J-42, 73; S-36, 71, 86
Panel Boring Tools	F-120; T-1; U-30, 31, 76
Panel Indicators	G-1 to 7, 11; J-80 to 82
Panel Lamps	A-11, 13; M-6
Panel Marking Transfers	J-28
Panel Meters	F-6, 24, 25, 37, 38, 48, 51 to 58, 69 to 71, 99
Panels, Aluminum	J-87, 91, 95
Panels, Bakelite	J-87; U-106
Panels—Desk, Door, Grille	J-36, 37, 91, 98
Panels, Masonite	J-86, 87
Panels, Metal Rack	J-37, 86, 93, 95, 98
Panels, Meter	J-37, 87, 93
Paper Capacitors	Section P
Parasitic Beams for Antenna Rotator	J-67
Park Metalware Co. (see XceLite)	
Par-Metal Products Corp.	J-88 to 91
Patch Cords	D-35
Peerless Electrical Products Div. Altec Lansing	N-60 to 62
Peerless Products Industries	S-85
Penn Television Products Co.	K-12, 13
Pentron Corporation	E-14
Perma-Power Company	M-19
Permanent Magnet Speakers	Section C
Permo, Inc.	E-52 to 59
Permoflux Corporation	C-36, 37; D-38
Petersen Radio Co., Inc.	K-39 to 41
Phanotrons (Rectifier Tubes)	A-5, 30
Phillips Screw Drivers	U-17 to 19
Philmore Mfg. Co., Inc.	K-6
Phone Cords	D-35; S-38; U-89
Phone Headsets	D-33 to 38; K-6; U-89
Phone Plug Adapters	S-41; T-6, 36; U-74
Phone Plugs, Connectors, Jacks	D-34, 35; J-40; L-4, 8, 16; S-32; T-36, 41; U-66, 74, 75, 104, 113
Phone Tips, Jacks	S-32, 33; T-36; U-43, 66, 68, 74, 75, 104, 113
Phonographs, Transcription Players	B-12, 34; E-6, 7, 9, 36
Cabinets, Cases	E-36
Needles, Playback	C-1; D-9, 13, 18; E-4, 18, 20, 22, 38 to 57, 62
Phono Plugs, Jacks	S-31; T-36, 39; U-43, 70, 104, 105
Phono Wire, Shielded	S-1, 5, 20, 26, 28, 47; U-113
Pickups (see Pickups)	
Record Changers	E-27, 28, 34, 35; also B-34
Scratch Filter	B-13
Springs and Set Screws, Pickup	U-43, 105, 113, 115
Stroboscope Discs	E-22; U-43
Turntable Drives and Felts	U-43, 113
Turntables, Motors, Assemblies	E-3, 8, 9, 26, 30 to 36
Phono Turntable Repair Stand	U-109
Phosphor Bronze Aerial Wire	S-11, 29
Phosphor Bronze Dial Cable	S-12, 30; U-99
Phosphor Bronze Fuse Clips	G-16
Photo Electric Cells	A-22; G-25; K-18
Photo Electric Relays	L-13, 33 to 35
Photo Electric Units, Alarms, Counters	L-13, 33 to 35
Photocell Cable	S-1, 20, 27
Photofact Radio Data Service	H-10
Photoflash Capacitors	P-20, 33, 49, 53, 122
Photoflash Power Transformers	N-53, 91
Photoflash Relays	L-29
Phototubes	A-6, 7, 22, 28
Pick-a-Shaft Controls	R-4 to 6
Pickering & Co., Inc.	E-15 to 17
Pickups, Phono and Transcription	C-1; D-5 to 8, 13, 27; E-1, 17, 18 to 22, 37
Adapters	B-13
Cartridges	Section D; also E-1, 15, 18, 19, 22
Springs, Set and Mounting Screws	U-43, 47, 105, 113, 115
Tone Equalizers	D-8; E-16, 17, 22, 37; K-1
Pic-Sync Tape Recorders	E-1
Pierceway Div. Clifton Conduit Co., Inc.	S-51
Pillow Speakers	D-33, 36
Pilot Lamps, Bulbs	A-11, 13; M-6
Pilot Light Installer & Remover Tools	G-10; U-106
Pilot Lights and Assemblies	G-1 to 11; J-80 to 82; U-69, 106
Pin Plug and Jack Sets for Auto, Phono, etc.	S-31; T-36; U-43, 70, 75, 104
Pin Straightener Tools for Tubes	U-104, 109
Pipe and Ground Clamps	M-17; S-40, 50, 69; U-93
Plastic Cement for Repairs	U-49, 94
Plastic Dial Crystals	U-60, 99
Plastic Jars and Boxes for Hardware	U-48, 108
Plastic Molded Paper Tubular Capacitors	P-3, 19, 41, 47, 56, 60
Plastic Tubing	S-30, 41, 52, 54, 66; U-87, 107
Plasticon Capacitors	P-82 to 85
Plate Transformers	Section N
Pliers	T-15; U-21 to 27, 99, 103
Plier-Wrench	U-103
Pliotrons (High Vacuum Tubes)	A-4, 29, 30
Plug Caps	T-4, 35
Plug-in Coils and Forms	J-27; U-85
Plug-in Resistors, Tube Type	A-6, 7, 12, 15, 20, 31; R-7, 50; S-80
Plug-in, Twist-Prong Capacitors	P-1, 13 to 15, 37 to 39, 51 to 53, 72, 88, 102 to 104, 116 to 118
Plugs and Jacks	D-34, 35; J-1, 44, 78; L-4, 8, 9, 16; S-31, 32, 33; T-4, 15; U-36, 37, 66 to 68, 74, 75, 104, 105
Plugs, Bakelite and Rubber Handle	A-38
Plugs, Battery	T-35; U-108
Plugs, Cord	D-35; T-17 to 21
Plugs, Fused	U-63
Plugs, Receptacles, Sockets	Section T; also K-20
Plugs, Snap Button	T-37; U-48, 114
Plugs, Soft Rubber	S-10, 40
Plugs, Solderless	U-66, 74, 75
Plugs, Speaker	T-5, 39
Plugs, TV Camera	T-21
Plugs, Ventilating Hole	T-37; U-48, 108
Pocket Meters, Testers	F-19, 33 to 36, 50, 57, 59, 113, 118
Pocketscopes	F-107
Police & Mobile Transmitter Antennas	S-56, 63, 64, 83, 89, 103 to 105
Policalarm (Radio Apparatus Corp.)	J-63
Polyphase Reproducers, Heads	E-20
Polystyrene Cement and Coil Dope	J-7; T-8; U-49, 95
Polystyrene Coil Forms, Insulators	J-7, 31
Polystyrene Rods, Tubing, Sheets	S-54
Potentiometers, Rheostats	Section R; also F-1; L-17
Potter & Brumfield	L-26 to 29
Power Conversion Equipment	Section M; also G-18 to 26
Power Cords	S-10, 20, 41, 80; U-73
Power Level Indicators	B-6; F-24, 37, 48, 54
Power Plugs, Connectors, Receptacles	Section T
Power Rectifiers	G-18, 19, 22, 24, 25
Power Relays	L-26, 29
Power Resistors	Section R
Power Rheostats	R-6, 40
Power Speakers	Section C
Power Supplies, Packs	B-1, 6; D-1; F-17, 83, 84, 102, 120; J-26, 28; M-15, 19 to 23, 26 to 29, 33, 41, 47; N-16; S-60, 97
Power Supplies, Rotary	J-24; M-42 to 45, 53
Power Supply and Square Wave Modulator	F-102
Power Switches	S-31; U-65, 84, 107
Power Transformers	Section N
Powerstat Variable Transformers	M-46
Pre-amplifiers, Boosters—for Amplifiers	B-1, 7, 15, 20, 33; K-1
Pre-amplifiers, Boosters—for TV	D-2, 23; J-62; K-5, 9, 15, 17, 18, 23, 28, 34; S-73, 76, 81, 94, 102
Pre-amplifiers for Pickups, Cartridges	E-16, 18
Pre-amplifiers for Receivers, Transmitters	J-23, 27
Precise Development Corp.	F-114, 115
Precise Measurements Co.	F-120
Precision Apparatus Co., Inc.	F-40 to 47
Precision Capacitors, Drive Units	J-12, 54
Precision Resistors	R-27, 32, 38, 42, 49
Premax Products Div. Chisholm-Ryder Co., Inc.	S-63 to 65
Premier Metal Products Co.	J-96 to 98
Preselectors, Boosters for Communication Receivers	J-23
Presto Recording Corporation	E-2 to 5
Printed Electronic Circuits	P-57, 80, 81
Silver Print for Repairing Circuits	U-96
Probes, R.F.	F-5, 42, 97, 115, 116; U-68, 80
Probes, TV, High-Voltage	F-5, 6, 33, 45, 97, 115, 116; U-80
Projectors, Horns	Section C
Pulleys, Idler	T-37; U-86, 115
Pulse Generators	F-7, 8, 15, 115
Pulsescopes	F-106
Pump, Diffusion, Vacuum	A-27
Punches, Dies—Chassis, Panel, Socket	T-1; U-30, 31, 76
Punches—Rivet, Eyelet	T-15; U-77, 102
Push and Push-Button Switches	L-3, 7, 9, 16, 17; S-31; U-65, 84, 107
Pushback, Hookup Wire	S-6 to 8, 19 to 23, 45, 48
Pyramid Electric Company	P-90 to 115
Pyranol Capacitors	P-33 to 35
Pyrometers	F-61
Quam-Nichols Company	C-4 to 6
Q-Meters, Indicators	F-75, 76, 82
Quietone Interference Filters	P-31
QX Checker	F-76

## GENERAL INDEX (Continued)

— R —

	Section & Page	Section & Page	
Racks—Relay, Cabinet	J-36, 83, 88 to 92, 96, 97	Re-entrant Speakers, Trumpets	C-14, 15
Racon Electric Co., Inc.	C-14 to 16	Reeves Soundcraft Corporation	E-60, 61
Radcraft Publications, Inc.	H-19	Refrigerator Cabinet Patch Kits	U-97
Radelco Manufacturing Co.	S-82, 83	Regency Division I.D.E.A., Inc.	K-17
<b>Radiart Corporation</b>		Regulators, Line Voltage, Plug-in	R-8; S-80; U-89
Antennas	S-60 to 62	Regulator Transformers, Controls	M-48 to 52;
Vibrators, Power Supplies, Converters	M-38 to 41		N-16, 26, 82, 46, 49, 53, 55, 59, 71
Radiation Counter Tubes	A-16, 17	<b>Rek-O-Kut Company</b>	E-6 to 10
Radiation Monitor	F-16	Relay Racks, Panels, etc.	J-36, 37, 88, 90 to 98
Radio Amateur Handbook (ARRL)	H-9	Relays	
Radio Apparatus Corporation	J-63	Antenna Changeover for Transmitters	L-22, 32
Radio City Products Co., Inc.	F-80, 81	Break-in	L-25, 32
<b>Radio Corporation of America</b>		Circuit and Industrial Controls	L-23, 28, 33
Antennas and Accessories	S-73	Coaxial	L-21
Batteries	M-1	General Purpose	L-14, 23, 31, 32
Pickups, Crystal, Replacement	C-1	High Frequency and R.F.	L-23, 25, 32
Speakers	C-1	Interchangeable	L-24
Technical Literature, Tube Manuals	H-14, 15	Keying	L-22, 25, 32
Television Components	K-10, 11	Latching, Impulse	L-22, 27, 28, 32
Test and Measuring Equipment	F-2 to 5	Mercury-Switch Mercury Contact	L-32
Tubes—Amateur Type	A-6, 7	Midget	L-21, 23, 29, 32
Tubes—Industry, Communicative, Broadcasting	A-6, 7	Motor-Starting and Control	L-23, 29
Tubes—Receiving and TV	A-8, 9	Multiple Leaf	L-27
<b>Radio Craftsmen, Inc.</b>	K-1	Overload and Underload	L-24, 25, 32
Radio Handbook (Editors & Engineers Ltd.)	H-16	Photo Electric, Sensitive	L-21, 33 to 35
Radio Mfg. Engineers, Inc.	J-22, 23	Photoflash	L-29
Radio Merchandise Sales, Inc. (RMS)	K-28 to 31	Power, Heavy Duty, etc.	L-26, 29
Radio Receptor Co., Inc., Seletron Division	G-22	Remote Control	L-24, 26, 31, 32
Radio-Telephone, Two-Way	J-21	Shockproof	L-29
Rakscope Oscilloscopes	F-107	Telephone Type	L-21, 27
Ram Electronics Sales Co.	K-16	Time Delay, Thermostatic Delay	L-22, 24, 30, 32
Rauland Corporation	A-40	Remote Control Box for Amplifiers	B-1, 7, 13, 17
Ray-O-Vac Co., Specialty Battery Division	M-12 to 14	Remote Control Relays	L-24, 26, 31, 32
Raytheon Mfg. Co., Equipment Sales Div.	M-52	Repair Cements	U-49, 94
Raytheon Mfg. Co., Receiving Tube Div.	A-14 to 17	Repair Kits for Cabinets	U-52, 97, 98
Reactors—Audio, Filter	Section N	Resistance Analyzers, Indicators, Meters, Decades	F-57, 58, 67, 111; P-50; R-5, 38, 39
Receivers, AM, FM, etc.	B-12; J-63; K-3, 5	<b>Resistor Boards, Melamine</b>	U-36
Receivers, Communication	J-14 to 22, 63, 64	<b>Resistors, Fixed and Adjustable</b>	Section R
Receivers, Crystal	K-6	Carbon, Composition, etc.	R-15, 31, 48, 49
Receiving Kits, Chassis—AM-FM	J-62; K-2, 3	Flexible	R-6
Receiving Kits, Chassis—TV	K-1, 4, 5	Line Cord	S-38, 47; U-89
Receiving Tubes	Section A	Metal Film	R-32
Receptacles, Sockets, Plugs	Section T; also J-4, 8, 30, 73 to 75, 82; K-19, 20; S-36, 41; U-69, 70, 73, 83, 105, 106	Precision	R-27, 32, 38, 42, 49
<b>Recitalist Hi-Fidelity Phonograph</b>	E-6	Printed Electronic Circuits	P-57, 80
Record Changer Bases, Cases	J-85; K-7	Tube Type, Ballasts	A-6, 7, 12, 15, 20, 31; R-7, 50; S-80
Record Changers	E-27, 28, 34, 35; also B-34	Vitreous Enamel	R-14, 34, 35, 41, 44 to 48
Record Cleaners, Preservers	U-113	Wire Wound	L-17; R-1, 2, 7, 15, 23, 30 to 37, 41 to 48
Record Player Attachment, 3-Speed	K-33	<b>Restaurant Amplifier</b>	B-11
Record Players, Phono and Transcription	B-12, 34; E-6, 7, 9, 36	<b>Retainer Ring Tools for Socket Assembly</b>	T-1
Recorders and Playback Equipment	E-1 to 14; also B-2	<b>Retaining Rings and C Washers</b>	U-45
Audio Sweep Frequency Transcription	E-23	<b>Rex Corporation</b>	S-52, 53
Chip-Chaser	E-41	<b>Rexolite Division Rex Corp.</b>	S-53
Cutting Heads	D-8, 12, 33; E-1, 21	<b>R.F. Chokes, Coils</b>	J-6, 30, 43, 48, 50, 61, 73; K-22; N-95, 96; P-8; R-15, 26, 43; U-85
Discs and Needles	E-4, 18, 39, 41, 42, 43, 48, 52, 61	<b>R.F. Connectors</b>	T-7, 41
Equalizers and Filters	D-8; E-16, 17, 22, 37; K-1	Rheostats—Potentiometers	Section R; also F-1; L-17
Frequency Records for Checking Response	E-23; U-43	Rheostats, Power	R-6, 40
Mechanisms, Assemblies, Chassis	E-8, 10, 29, 32	<b>Rhythmmaster Hi-Fidelity Phonograph</b>	E-6
Meters, Volume	B-6; F-24, 37, 48, 54	<b>Rider Publisher, Inc., John F.</b>	H-1 to 8
Microscope Groove Analyzer	E-22	<b>Right Angle Drives for Capacitors, Potentiometers, etc.</b>	J-5, 29
Motors, Turntables	E-3, 8, 9, 10, 32, 36	<b>Rinehart Books, Inc.</b>	H-12, 13
Needle Force Gauge	E-22	<b>Rivets, Eyelets</b>	U-44, 72, 77, 91, 115
Recording Amplifiers	E-1, 2, 7, 12, 13	Punches for Rivets, Eyelets	T-15; U-77, 102
Stroboscope Discs	E-22; U-43	<b>RME Receivers, etc.</b>	J-22, 23
Tape Drive Mechanisms	E-5, 11	<b>Rocket Tubes</b>	A-1
Tape for Recording	E-39 to 42, 58, 60 to 64; U-110	<b>Rods, Extension, Insulated, Brass</b>	U-71, 86, 87
Tape Recorders	B-2; E-1, 4, 5, 11 to 14, 29	<b>Rods, Polystyrene</b>	S-54
Tape Splicing Block	L-11	<b>Rogan Brothers</b>	U-32, 33
Thermo Stylus Kit	E-1	<b>Roof-Patching Compound</b>	S-70
Transcription Pickups	E-1, 17, 18, 21, 37	<b>Rotary Inductors</b>	J-58, 59, 76; N-45
Transcription Record-Players	B-12, 34; E-1, 2, 3, 9, 10, 36	<b>Rotary Power Supplies</b>	J-24; M-42 to 45, 53
Transformers, Crystal Recorder Output	N-8, 37, 40, 41	<b>Rotary Switches</b>	L-2, 6 to 10, 18 to 20; R-5, 38, 40; S-31; U-65, 84, 107
Wire, Stainless Steel	E-42, 59; U-110	<b>Rotator and Rotary Beam Antennas</b>	J-67; S-62, 64, 98; T-11
<b>Recordisc Corporation</b>	E-42	<b>Rotator TV-FM Cable</b>	S-10, 22, 28, 44, 46
<b>Recoton Corporation</b>	E-38, 39	<b>Roto Ranger Set Analyzer</b>	F-32
Rectangular Plugs and Sockets	T-5, 22 to 25	<b>Rubber and Bakelite Plugs</b>	A-38; S-10, 40
Rectifier Tubes	Section A	<b>Rubber Cement</b>	U-49, 94
Rectifier Tube Tester	F-16	<b>Rubber Chassis Mounts</b>	U-44, 115
Rectifiers, Copper Oxide, Instrument	G-23, 24, 26	<b>Rubber Circuit Symbol Stamps</b>	F-120
Rectifiers, Magnesium Copper Sulfide	M-21	<b>Rubber Drives for Radios, Phonos</b>	U-43, 113
Rectifiers, Power, High Voltage	G-18, 19, 22, 24, 25	<b>Rubber Feet, Bumpers, Washers</b>	U-44, 70, 115
Rectifiers, Selenium	A-1, 3; G-19 to 22, 26; K-18, 33; M-21	<b>Rubber Grommets, Gaskets</b>	U-44, 70, 91, 92, 105, 115
		<b>Rubber Plugs, Unbreakable</b>	S-10, 40
		<b>Ruggedized Tubes</b>	A-15, 25
		<b>Running Time Meters</b>	F-54, 64, 69

# GENERAL INDEX (Continued)

— S —

	Section & Page
Sams & Co., Inc. Howard W.	H-10, 11
Sangamo Electric Co.	P-36 to 46
Sarkes Tarzian, Inc.	
Rectifiers	G-18, 19
TV Picture Tubes	A-39
Saws	U-41
Scale Printing Machine	F-120
<b>Schauer Manufacturing Corp.</b>	
Battery Eliminators, Vibrator Analyzer	M-15
Rectifiers	G-23
<b>Schott Co., Walter L. (Walsco)</b>	
Hardware, Tools, Service Aids	U-40 to 61
TV Antennas and Accessories	S-66 to 71
<b>Scotch Sound Recording Tape</b>	E-64
<b>Scott, Inc., Hermon Hosmer</b>	B-6, 7
Scratch Awl	U-68
Scratch Filters for Pickups, Records	B-13
Scratch Removers, Polishes	U-51, 96, 97, 98
Screw Drivers	S-36; U-17, 18, 19, 29, 67, 102, 110
Flexible	U-77, 102
Neutralizing, Alignment	U-40, 68, 77, 78, 101, 102
Screw-Eye Insulators	K-27; S-40, 70, 81; T-9; U-73
Screws, Nuts, Bolts, Washers	S-35, 36, 39; U-43 to 48, 70, 90 to 92, 108, 114, 115
Escutcheon Plate Screws	U-47, 90, 114
Machine Screws	S-35; U-47, 72, 90, 114
Ornamental Head Screws	S-35; U-47, 72, 114
Rack and Cabinet Screws	S-35; U-47, 72, 91, 114
Self-Tapping, Parker-Kalon Screws	S-35; U-47, 72, 90
Set Screws for Knobs, Pickups	T-37; U-43, 46, 47, 105, 108, 112 to 115
Wood Screws	S-35; U-47, 114
Screw Terminals, Strips	T-15, 29, 30, 31, 36, 39; U-70, 88, 105
Scriber for Marking Metal	U-29
Selector Switches	L-2, 6, 18, 19, 20; R-38
Selenium Rectifier Capacitors	P-15
Selenium Rectifiers	A-1, 3; G-19 to 22, 26; K-18, 33; M-21
<b>Selenion Rectifiers</b>	G-22
Service Aids, Miscellaneous	Section U
Service and Instruction Manuals	Section H; also C-21; E-41; F-17; G-19, 20; J-64; L-36; M-44; P-129, 132; R-20; T-7
Set Analyzers	Section F
Shaft Couplings, Insulated Flexible	J-5, 29, 44, 46, 55, 73; U-37, 86
Shaft Couplings, Insulated Non-Flexible	J-5, 55; U-71
Shaft Extenders, Reducers, Couplings	R-13, 21, 29; S-36; U-71, 87, 111
Shaft Locks	J-2, 29, 55; U-36
Shafts, Flexible	J-73; S-36
<b>Shakespeare Co., Columbia Products Division</b>	S-103
<b>Shallcross Manufacturing Co.</b>	R-36 to 39
<b>Sheldon Electric Co., Div. Allied Electric Products</b>	A-38
Shielding, Copper Braid	S-5, 15, 22, 28
Shields and Shield Cans	
Box Shields	J-38
Coil Shields	J-8; U-84
Jack Shields	J-8
Tube Shields	J-8, 27, 29, 74; T-2, 33, 34, 38; U-71, 84
Shims, Speaker	U-42, 109
<b>Shure Brothers, Inc.</b>	D-10 to 15
Shurite Meters	F-56, 57
Signal Calibrators	F-2, 7, 10, 15, 29, 99
Signal Generators	Section F
<b>Signal Indicator Corp. (Dial Light Co. of America)</b>	G-1 to 10
Signal Indicators	G-1 to 7, 11; J-80 to 82
Signal Tracer Testers	F-3, 119
Silicone Compounds	S-66; U-95
Silver Mica Capacitors	P-44, 63, 64, 77, 132
Silver Print for Printed Circuits	U-96
<b>Simpson Electric Company</b>	F-26 to 39
<b>Simpson Mfg. Co., Inc., Mark (Masco)</b>	B-18 to 27
Sine Wave Clipper	J-59
Sleeving—Coated, Saturated, etc.	S-12; U-87, 107
Slide-Type Switches	R-3; S-31; U-65, 84, 107
<b>Slipstick Wavemeter</b>	J-62
Small Power Motors	E-26
<b>Smith, Inc., Herman H.</b>	U-64 to 73
<b>Smith-Baldwin Speakers</b>	C-44
Smoke Indicator and Control, Photoelectric	L-33
Snap-Action Switches	L-31
Snap-on Drawer Company	U-35
<b>SNC Manufacturing Co., Inc.</b>	N-56 to 59
Socket Punches	T-1; U-31, 76
Socket-Switches	K-19
Socket-Turrets and Plug-in Units	J-4; T-12, 13, 39
Socket Wrenches	U-41, 72, 77, 111

	Section & Page
Sockets	Section T; also G-9, 10; J-4, 8, 30, 73 to 75, 82; K-19, 20; S-36, 41; U-69, 70, 73, 83, 105, 106
For Air System	A-27
For Crystal Holders	J-8, 73; K-20; T-4, 32, 39
For Dial Lights	G-9, 10; J-82; U-69, 106
For Miniature Bulb Tester	T-5
For Panel and Sub-Panel Assemblies	T-1 to 4, 32, 33; U-83
For Plug-in Capacitors	T-32
For Receiving Tubes	J-4; T-1, 2, 12, 32, 38; U-70, 83, 105
For TV and Cathode Ray Tubes	S-41; T-1, 34, 39; U-73
For TV Transmission-Line	K-19
For Transmitting, Acorn, Industrial and Special Purpose Tubes	J-4, 30, 74, 75; S-36; T-1; U-83
<b>Sola Electric Company</b>	M-49 to 51
Solder, Solder Flux, Solder Paste	U-13 to 16, 49, 95, 96
Soldering, Terminal Lugs	S-34; T-15, 37; U-36, 37, 46, 70, 72, 88, 91, 115
Solderless Terminal Lugs	S-34
Soldering Irons, Guns, Pencils	U-1 to 12, 77
Non-Stick Compound	U-96
Replacement Tips	L-5; U-1 to 11, 77, 108
Stands, Pots, Heat Controls	U-1 to 8, 116
Soldering Unit, Induction	F-70
Solvents and Thinners	U-49, 94
<b>Sorensen &amp; Company</b>	M-28, 29
Sound Level Indicators	B-6; F-24, 37, 48, 54
Sound System Cable	S-1 to 5, 19, 22, 28, 49
Sound Systems	Section B; also C-28; E-28; F-102; J-61; K-1
<b>South River Metal Products Co., Inc.</b>	K-24 to 27
Spacers and Bushings, Metal and Insulating	J-29; S-36; T-37; U-45, 71, 86, 92, 111, 115
Spade Lugs, Bolts	S-32; U-44, 66, 71, 76, 114
Spaghetti Tubing	S-12, 30, 52, 66; U-87, 107
Spark Plug Suppressors, Auto.	P-6; R-3, 33; S-38; U-110
Speakers, Horns, Projectors, Trumpets	Section C; also B-34
Baffles, Cabinets, Enclosures	B-34; C-3, 11, 17, 25 to 28, 31, 36; J-40; K-7
Cable, Wire	S-2, 4, 27, 28, 47, 49
Carrying Cases	B-34; J-40
Cement, Repair	U-49, 94
Cone Reconditioning Fluids	U-49, 97
Cords, Extension	S-38
Dust Felts for Voice Coil	U-43, 115
Field Substitute Choke	N-12
Grille Cloth and Screening	U-53, 98
Networks, Crossover	C-10, 16, 23, 29, 30, 35
Plugs	T-5, 39
Shims	U-42, 109
Stands and Supports	C-16, 25
Transformers	Sections C and N
Volume Controls, Power	C-8
<b>Specialties Manufacturing Co. (Spemco)</b>	L-14
<b>Specialty Battery Co., Div. of Ray-O-Vac</b>	M-12 to 14
Speed Nuts	S-36; U-48, 70, 114
<b>Spirling Products Co., Inc. (Spico)</b>	S-84
<b>Sprague Products Company</b>	
Capacitors	P-47 to 61
Resistors	R-80
Spring (Friction) Washers	U-45, 114
Spring Maker Machine	U-110
Springs, Expansion and Compression	U-46, 115
Square Wave Generators, Modulators	F-7, 13, 66, 102, 115
Stabiline Voltage Regulators	M-48
<b>Staco Relays and Transformers</b>	L-32; N-63 to 65
<b>Stanco Transformers</b>	N-1 to 16
<b>Standard Electrical Products Co. (Staco)</b>	L-32; N-63 to 65
<b>Standard Transformer Corp. (Stanco)</b>	N-1 to 16
<b>Standard Wood Products Corp.</b>	K-35
Standing Wave Ratio Bridge	J-27
Standoff Insulators, TV Screw Eye, etc.	K-27; M-17; S-40, 70, 81, 83; T-9; U-73
Stands, Microphone	Section D
Stands and Supports, Speaker	C-16, 25
Staple Driver Staples	U-41, 108
Staple Driver Tool	U-41
Staples, Insulated—Saddle Type	S-40; U-108
Stepdown Line Cords	S-47
Stepdown Transformers	M-28; N-16, 26, 32, 53, 55, 59, 64, 65, 71, 91, 112
<b>Stephens Manufacturing Corp.</b>	C-28, 29
<b>Sterling Cables (Beam Instruments Corp.)</b>	S-44
<b>Sterling Manufacturing Co.</b>	F-58, 59
Stock Boxes, Steel and Plastic	U-28, 35, 108
Stroboscopes for Phono Turntables	E-22; U-43
Strobotrons (Tubes)	A-1
Subminiature Radio Tubes	A-13, 15, 16
<b>Superior Electric Co. (Seco)</b>	M-46 to 48
<b>Superior Instruments Co.</b>	F-112, 113

## GENERAL INDEX (Continued)

	Section & Page
Suppressors, Noise	B-7; D-8, 17; J-48, 49, 58, 59, 61, 66, 67; N-4, 45, 77, 79; P-8, 30, 31, 48, 50, 73, 129; U-89
Auto Ignition	P-6; R-3, 33; S-38; U-110
Oil Burner	P-8, 31; R-33
Supreme, Inc.	F-6
Sweep Calibrators for Oscilloscopes	F-65, 102
Sweep Frequency Generators, TV, etc.	F-2, 15, 16, 17, 22, 23, 41, 65, 72, 94, 117
Swinging Input Chokes, Reactors	Section N
Switchcraft, Inc.	L-8, 9
Switches	
Antenna, Coaxial, etc.	K-12, 19, 33; S-79
Band, Band Selector	J-56, 57; L-3
Canopy	S-31; U-65, 84
Circuit-Opening	L-2
Detent, TV	S-39, 71; U-113
Foot	L-13
General Purpose	L-2, 6, 7
Ham Type	L-3, 6
Instrument	L-7, 10, 18
Jack	L-3, 17
Knife-Throw	S-31; U-73, 84
Lever Action	L-2, 6, 9, 12, 20
Limit	L-13, 31
Microphone	D-15; T-6
Momentary Contact	S-31; U-65
Plunger	L-16
Power, Heavy Duty	S-31; U-65, 84, 107
Push, Push-Button, Single	L-3, 7, 9, 16, 17; S-31; U-65, 84, 107
Push-Button, Multiple	L-3, 12
Record-Player, Phono	U-89
R.F.	L-10
Rotary Power, Tap, Non-Shorting	L-2, 7, 10; R-40
Rotary Selector	L-2, 6, 18, 19, 20; R-38
Rotary Snap, Toggle	L-9; R-5; S-31; U-65, 84, 107
Slide Type	R-3; S-31; U-65, 84, 107
Snap-Action, Spring-Return	L-31
Socket	K-19
Tap, Tap-Change	L-10; T-5
Test	L-2, 18; U-107
Toggle, Bat Handle, etc.	L-15; S-31; U-65, 84, 107
Transmitter	L-7
Vacuum	A-27; J-33, 35
Sylvania Electric Products, Inc.	
Test Equipment	F-65
Tubes, Crystal Diodes, Rectifiers	A-1
Synchrosopes	F-103; J-26

- T -

T-Pads (Attenuators)	L-10, 17; R-8, 11, 36
Taco Antenna Equipment	S-92 to 95
Talk-A-Phone Company	B-30, 31
Tannoy Loudspeaker System	C-38
Tap Switches	L-10; T-5
Tape-Disc Combination Recording Assembly	E-29
Tape for Recorders	E-39, 40, 42, 58, 60 to 64; U-110
Tape, Friction	U-107
Tape Recorders	B-2; E-1, 4, 5, 11 to 14, 29
Tape Recording Heads	D-12
Taylor Tubes, Inc.	A-21
Tech Laboratories, Inc.	L-10, 11
Tech-Master Products Co.	K-4, 5
Technical Appliance Corp. (Taco)	S-92 to 95
Tel-A-Ray Enterprises, Inc.	S-100 to 102
Telegraph Keys and Practice Sets	J-77; L-36; U-89
Accessories, Parts, Buzzers	J-77
Monitors	J-23, 65
Morse Code Linguaphone Records	J-64; U-89
Oscillators, Code Practice	J-25; U-89
Relays	L-22, 25, 32
Telephone Conversation Pickup	D-38
Telephone Type Relay Racks	J-36
Television Components, Accessories:	
Anode Connectors and Extension Cords	S-41; U-73
Antenna Compass	F-33
Antennas and Accessories	K-12 to 34; S-55 to 106; T-9; U-73, 108
Ballasts, Resistor Tubes	R-7; S-80
Beam Benders for CR Tubes	C-6; K-11; R-8
Boosters, Pre-Amplifiers	D-2, 23; J-62; K-5, 9, 15, 17, 18, 23, 28, 34; S-73, 76, 81, 94, 102
Cabinets	K-7
Cameras, Camera Plugs, Projectors	E-37; F-108; T-21

	Section & Page
Capacitors	Section P
Changeover Antenna Switches	K-12, 19, 33; S-79
Coils, Chokes	J-48, 49; K-10, 11, 16; N-3, 67, 81
Controls—Volume, Focusing, etc.	Section R; also C-6; N-3
Conversion Kits for Larger Tubes	K-16; N-88
Converters, Inverters, Power	M-37
Couplers, Antenna	J-25; K-12, 14, 19; S-79, 81
Detents, Detent Switches	S-39; 71; U-113
Escutcheon Plates	U-62
Field Strength Meters	F-7, 13, 30; J-25
Filters, Glare	K-33
Filters, Wave Traps, etc.	J-48, 49, 58, 61, 62, 66; K-11, 12, 23; N-3, 67, 92; P-30, 48, 129; S-80
Focus Coils	C-6; K-11, 16; N-2, 27, 66, 89
Kits, Chassis	K-1, 4, 5
Loom, Protective	S-41
Manuals	Section H
Master Antenna Distribution Systems	K-15, 34; S-95
Mirrors for Adjusting TV Sets	U-111
Open-Wire Line Accessories	K-21
Open-Wire Transmission Line	K-33
Power Connector and Safety Cords	S-10, 20, 41, 80; U-73
Printed Circuits	P-80, 81
Probes, High-Voltage	F-5, 6, 33, 45, 97, 115, 116; U-80
Resistors, Voltage Dividers	Section R
Speakers	Section C
Standoff Insulators, Clamps, etc.	K-27; M-17; S-40, 70, 81, 83; T-9; U-73
Testing Equipment, Sweep Generators, etc.	Section F
Tools, Service Kits	S-39; U-29, 40, 41, 68, 79, 80, 100 to 102, 109
Transformers	N-1, 2, 3, 25, 26, 27, 31, 53, 55 to 58, 65, 66, 67, 81, 88, 89, 92; also F-2; K-10, 11, 16
Tube Brighteners	M-19
Tube Masks, Plastic	K-33; U-62
Tube Testers, Cathode Ray	F-20, 44
Tube Sockets	S-41; T-1, 34, 39; U-73
Tubes, Picture	A-3, 9, 11, 13, 15, 20, 36 to 40
Tuning Units	A-39; K-9
Turnbuckles	S-40, 70; U-73
Twin Lead Wiring Nails & Connectors	K-20; S-40, 66; T-9; U-73, 108
Vertical Integrator Plates, Printed	P-80
Viewing Lamp	S-71
Wire and Cable	S-10, 14, 17, 22, 41, 44, 46; T-9
Yokes, Deflection	K-10, 16; N-2, 27, 66, 89
Television Receiving Kits, Chassis	K-1, 4, 5
Telex, Inc.	D-36
Tel-O-Tube Corp. of America	A-37
Telrex, Inc.	S-86 to 89
Temperature Coefficient Capacitors	P-75, 78, 128
Temperature Indicators, Testers	F-34, 60, 61
Terminal and Soldering Lugs	S-34; T-15, 37; U-36, 37, 46, 70, 72, 88, 91, 115
Terminal Clips, Plates, Strips	J-1, 31; S-34; T-26 to 31, 36, 39; U-36, 37, 46, 64, 70, 88, 105, 115
Terminal Strips, Barrier Type	T-26 to 28; U-64
Terminal Posts, Assemblies	J-1, 31; S-34; T-15, 36; U-36, 37
Test Adapters	T-5
Test Clips	M-16, 17; S-32, 33; U-66, 71, 106
Test Leads, Prods, Handles	F-39; J-44; S-33; T-14; U-38, 39, 67, 80, 81, 103, 104
Test-Lites	U-81, 109
Test Oscillators	F-21, 74
Test Prod Couplers	T-14
Test Prod Wire	S-9, 20, 23, 26, 49; U-81, 104
Test Records for Adjusting Pickups, etc.	E-23; U-43
Testing Instruments and Analyzers	Section F; also J-26, 59; P-32, 50, 126; R-5, 38, 39
Amateur Testing Equipment	F-24; J-26, 59
Appliance Testers	F-24, 34 to 38, 60, 97
Audio Sweep Frequency Generator	E-23
Battery Testers, Meters	F-1, 36, 43, 44, 46, 55, 57, 59, 88
Capacitor Analyzers, Decades, Bridges	F-30, 74, 75, 86, 96, 111; P-32, 50
Capacitor-Resistor Analyzers	F-119; P-50, 126
Complete Lab. Bench & Rack Units	F-3
Multimeters, Multitesters	F-1, 6, 18, 19, 26, 32, 45, 49, 50, 68, 80, 113, 118
Neon Glow Testers	U-109
Oscillators, Signal Generators	F-6 to 11, 15, 16, 17, 22, 27, 32, 41, 42, 65, 72, 77 to 81, 88, 94, 95, 112, 113, 114, 117
Oscillographs, Oscilloscopes	F-4, 6, 16, 17, 23, 29, 41, 65, 66, 72, 98, 99, 108, 105 to 108, 116; J-26
Resistor Analyzers	F-111; P-50; R-5, 38, 39
Signal Tracers	F-3, 119
Television Testers, Generators, etc.	F-2 to 6, 9 to 17, 21 to 30, 40 to 47, 65, 72, 81, 94, 95, 98, 99, 112 to 117, 120
Temperature Testers	F-34, 60, 61



## GENERAL INDEX (Continued)

	Section & Page
Testing Instruments and Analyzers (Cont.)	
Tube Testers, Checkers.....	F-6, 16, 20, 31, 43 to 46, 49, 65, 73, 74, 80, 81, 87 to 93, 112, 119
Vibrator Analyzers, Testers.....	M-15, 22
Voltage Breakdown Testers.....	F-111
Test Switches.....	L-2, 18; U-107
Tetrachloride Cleaning Fluids.....	U-51, 95
Thermocouples.....	F-60, 109
Thermostatic Delay Relays.....	L-30
<b>Thordarson-Meissner Division Maguire Industries</b>	
Meissner Division Products.....	J-60, 61
Thordarson Division Products.....	N-30 to 32
Threaded Brass and Steel Rods.....	J-72; S-36; U-47, 71, 114
Thyratrons (Rectifier Tubes).....	A-1, 4, 6, 7, 25, 28, 33, 34
Time Delay Relays.....	L-22, 24, 30, 32
Timer Controls, Automatic.....	L-13
Tip Jacks, Plugs.....	J-78; S-32; T-4, 36, 39; U-66, 68, 104
Tire Static Neutralizing Kits.....	U-52, 110
Toggle Switches.....	L-15; S-31; U-65, 84, 107
Tone Arms.....	D-5 to 8, 13, 27; E-1, 17, 18 to 22, 37
Tone Controls.....	Section R
Tone Equalizers—Pickup, Recording.....	D-3; E-16, 17, 22, 37; K-1
Tools and Tool Kits.....	Section U; also S-36; T-1, 15
Neutralizing, Alignment.....	T-3, 17; U-40, 68, 77 to 80, 100 to 102
Television.....	S-39; U-29, 40, 41, 68, 79, 80, 100 to 102, 109
Toroidal Coils, Inductors.....	J-59; N-20, 44, 45, 101 to 104
Transcription Arms, Pickups.....	E-1, 17, 18, 21, 37
Transcription Players.....	B-12, 34; E-1, 2, 3, 9, 10, 36
Transformers, Chokes, Reactors.....	Section N
Antenna Coupling, Matching.....	J-49; K-14; N-92; S-79
Audio, Input, Output.....	Section N; also B-13, 20; C-6, 7, 10, 13, 21, 25, 42; D-8, 29; E-22
Auto.....	M-28, 46; N-16, 26, 32, 46, 48, 49, 53, 54, 55, 64, 65, 71, 83, 88, 91, 112
Bias Supply.....	N-15, 49, 51, 58
Blocking Oscillator.....	K-10, 11, 16; N-2, 3, 26, 27, 55, 66, 81, 89, 92
Cathode Ray Tube.....	N-10, 24
Constant Voltage.....	M-48 to 52; N-33
Crystal Recorder Output.....	N-8, 37, 40, 41
Driver.....	N-6, 29, 30, 38, 54, 68, 78 to 82, 89, 100, 108
Dry Disk Rectifier.....	N-24
Filament.....	N-2, 14, 19, 23, 24, 32, 39, 49, 51, 52, 55, 59, 60, 63, 66, 73, 75, 76, 80, 82, 88, 97, 111
Filter, Audio, Swinging Chokes.....	Section N
High Fidelity Audio.....	N-4, 5, 21, 70, 85, 98 to 100
Interstage Audio.....	N-5, 7, 17, 28, 30, 37, 40, 41, 48, 54, 61, 62, 68, 81, 86, 99
Isolation.....	F-5; N-16, 26, 53, 55, 59, 64, 65, 71, 80, 88, 91, 112
Microphone and Line.....	N-5, 7, 28, 36, 46, 54, 70; also D-15, 17
Miniature, Hearing Aid, etc.....	N-20, 42, 47, 107
Mixing.....	N-5, 17, 37, 40, 41, 99
Modulation.....	N-13, 29, 30, 31, 37, 49, 50, 54, 57, 71, 78, 79, 82, 90
Photoflash Power.....	N-53, 91
Plate Supply.....	N-15, 37 to 41, 49, 60, 71, 72, 79, 82, 90, 97
Plate-Filament Combined.....	N-10, 18, 19, 22, 25, 39, 51, 60, 72, 76, 83, 97
Plug-in Types.....	B-13; N-43
Power.....	N-1, 10, 11, 18 to 25, 32, 39, 40, 49 to 55, 58, 59, 63, 72, 73, 76, 80, 81, 87, 88, 110, 111, 114
Pulse.....	N-97, 105
Reactors, Chokes—Audio.....	N-3, 6, 19, 22, 23, 28, 32, 37, 39, 55, 56, 60, 62, 74, 76, 80, 83, 87, 90, 97, 105, 109, 110, 113
Speaker Matching.....	Section C; also N-10, 50, 61, 62, 70, 81
Stepdown, Step-up.....	M-28; N-16, 26, 32, 53, 55, 59, 64, 65, 71, 91, 112
Television.....	N-1, 2, 3, 25, 26, 27, 31, 53, 55, 57, 58, 65, 66, 67, 81, 88, 89, 92; also F-2; K-10, 11, 16
Transceiver.....	N-7, 28, 70
Tube Checker.....	N-14
Variable Voltage.....	M-28, 29, 46, 47; N-64
Vibrator—Power and Auto Radio.....	N-11, 24, 25, 31, 58, 71, 91
Voltage Adjuster, Control.....	M-48 to 52; N-16, 26, 32, 46, 49, 53, 55, 59, 71
<b>Transistors</b> .....	A-16
Transmission Line, Cable.....	K-33; S-2, 9, 17, 28; T-9
Transmission Line Plugs, Sockets, Connectors.....	K-19, 20; S-66; T-9; U-73
<b>Transmitters</b> .....	J-24, 25, 27, 28, 64
Kits.....	J-64, 67
Metal Racks, etc.....	J-83, 88, 89, 96
Power, Speech Amplifiers.....	J-28, 65
Power Supplies.....	J-24, 65
Variable Frequency Oscillators.....	J-25, 27, 67
<b>Transmitting Capacitors, Fixed</b> .....	P-8, 9, 10, 23, 27 to 29, 44 to 46, 49, 65, 79, 123, 124, 131
<b>Transmitting Capacitors, Variable</b> .....	J-9, 10, 32, 41, 47, 51 to 54, 58, 69, 70, 71
<b>Transmitting Chokes</b> .....	J-6, 30, 43, 48, 50, 61, 73; K-22; N-95, 96; P-8; R-15, 26, 43; U-85
<b>Transmitting Coils and Forms</b> .....	J-49, 50, 60; N-93, 94, 95; U-85
<b>Transmitting Relays</b> .....	L-22, 32
<b>Transmitting Tubes</b> .....	A-1, 4, 6, 7, 13, 15, 21, 24, 25, 32
<b>Triaxial Transformer Mfg. Co.</b> .....	N-17 to 29
<b>Triaxial Speakers</b> .....	C-10
<b>Tricraft Products Co.</b> .....	S-106
<b>Trim, Inc.</b> .....	D-34, 35
<b>Trimmer Capacitors</b> .....	P-6, 68, 76, 77, 79
<b>Trimount Fasteners, Snap-in</b> .....	T-37; U-45, 114
<b>Tri-O-Matic Phonos and Record Changers</b> .....	E-27
<b>Triplet Electrical Instrument Co.</b> .....	F-18 to 25
<b>Trumpets and Horns</b> .....	Section C
<b>Tru-Sonic Speakers</b> .....	C-28, 29
<b>Tube Carrying Cases, "Caddies"</b> .....	K-7, 23, 28
<b>Tube Checker Adapters</b> .....	T-5
<b>Tube Clips, Caps, Grips</b> .....	J-4, 5, 31, 75; S-35, 41; T-5, 34, 37; U-46, 73, 87, 115
<b>Tube Extractor Tools</b> .....	U-77, 109
<b>Tube Heat Radiating Connectors</b> .....	A-27; J-43
<b>Tube Masks, Plastic, for TV</b> .....	K-33; U-62
<b>Tube Mounting Accessories, TV</b> .....	T-4
<b>Tube Pin Straightener Tools</b> .....	U-104, 109
<b>Tube Shields</b> .....	J-8, 27, 29, 74; T-2, 33, 34, 38; U-71, 84
<b>Tube Sockets, Receiving</b> .....	J-4; T-1, 2, 12, 32, 38; U-70, 83, 105
<b>Tube Sockets, TV and CR</b> .....	S-41; T-1, 34, 39; U-73
<b>Tube Sockets, Transmitting, etc.</b> .....	J-4, 30, 74, 75; S-36; T-1; U-83
<b>Tube Testers, Checkers</b> .....	F-6, 16, 20, 31, 43 to 46, 49, 65, 73, 74, 80, 81, 87, 88, 90 to 93, 112, 119
<b>Tube Tester Transformers</b> .....	N-14
<b>Tubes</b> .....	Section A
Cathode Ray.....	A-6, 7, 15
Crystal Diodes.....	A-1, 3, 13, 16
High Vacuum Capacitor Types.....	A-24, 27; J-33, 35
Microwave.....	A-1, 31
Phototubes.....	A-6, 7, 22, 28
Receiving.....	A-2, 3, 8, 10, 11, 12, 14, 20
Rectifier and Control.....	A-1, 4, 5, 6, 7, 13, 17, 21, 23 to 34
Special Purpose.....	A-1, 3, 6, 7, 11, 13, 17, 20, 31, 32
Subminiature.....	A-13, 15, 16
Television Picture.....	A-3, 9, 11, 13, 15, 20, 36 to 40
Transmitting, Amateur.....	A-1, 4, 6, 7, 13, 15, 21, 24, 25, 32
Voltage Regulator, Resistor.....	A-6, 7, 12, 15, 20, 31; R-7, 50; S-80
<b>Tubing—Flexible, Varnished, Spaghetti, etc.</b> .....	S-12, 30, 52, 66; U-87, 107
<b>Tubing, Insulated—for Tool Handles</b> .....	U-41, 103
<b>Tubing—Polyesterene, Bakelite, Fibre</b> .....	S-30, 41, 52, 54, 66; U-87, 107
<b>Tubular Capacitors—Cardboard, Paper, Metal</b> .....	Section P
<b>Tuner Kits—P. A., Receiver</b> .....	J-49, 61
<b>Tuners—FM, AM, TV</b> .....	B-1; F-101; J-61; K-1, 2, 3, 9
<b>Tung-Sol Electric, Inc.</b> .....	A-10, 11
<b>Tuning Dials</b> .....	J-3, 28, 79; U-62, 82
<b>Tuning Units, Assemblies</b> .....	J-12, 61; K-5, 8
<b>Tuning Wands</b> .....	U-40, 78, 79, 101
<b>Turnbuckles for Guy Wires</b> .....	S-40, 70; U-73
<b>Turner Company</b> .....	D-19 to 23
<b>Turntable Felts</b> .....	U-43, 113
<b>Turntable Repair Stand</b> .....	U-109
<b>Turntables and Motors, Phono, Recording</b> .....	E-3, 8 to 10, 26, 30 to 36
<b>Turret Assemblies for Band-Switching</b> .....	J-56, 57
<b>Turret Sockets and Assemblies</b> .....	J-4; T-12, 13, 39; U-37
<b>T.V. Development Corporation</b> .....	K-33
<b>Tweeter Speakers and Units</b> .....	C-16, 23, 35
<b>Tweezers and Tweezer Kits</b> .....	U-41, 103
<b>Twin Lead Wire for TV and FM</b> .....	S-10, 14, 17, 22, 41, 44, 46; T-9
<b>Twin Lead Wiring Nails, Connectors</b> .....	K-20; S-40, 66; T-9; U-73, 108

### — U —

<b>UHF Antennas</b> .....	Sections K and S
<b>UHF Converters</b> .....	K-8, 18
<b>UHF Insulation</b> .....	S-53
<b>UHF Oscillators, Noise Meters, etc.</b> .....	F-7, 11, 13, 15
<b>Underload and Overload Relays</b> .....	L-24, 25, 32
<b>Ungar Electric Tools, Inc.</b> .....	U-10
<b>Union Carbide &amp; Carbon Corp. (National Carbon Co.)</b> .....	M-6 to 9
<b>United Technical Laboratories</b> .....	U-38, 39
<b>United Transformer Corporation</b> .....	N-35 to 53
<b>University Loudspeakers, Inc.</b> .....	C-18 to 23
<b>U. S. Engineering Co.</b> .....	U-36
<b>Utah Radio Products Co., Inc.</b> .....	C-39 to 41
<b>Utica Drop Forge &amp; Tool Corp.</b> .....	U-26, 27
<b>Utility Cabinets, Boxes, etc.</b> .....	J-39, 40, 83, 85, 91, 93, 98; U-28, 35, 108

## GENERAL INDEX (Continued)

### — V —

	Section & Page
Vaco Products Company.....	U-17
Vacuo Junctions (Thermocouples).....	F-109
Vacuum Pump, Switch Relays.....	A-27; J-33 to 35
Vacuum Tube-Type Capacitors, High Voltage.....	A-27; J-33 to 35
Vacuum Tube Voltmeters.....	F-1, 6, 7, 11, 20, 28, 40, 42, 65, 81, 84 to 88, 96, 114, 116
Van Nostrand Co., Inc., D.....	H-17
Variable Frequency Oscillators.....	J-25, 27, 67
Variable Inductors.....	J-58, 59, 76; N-45
Variable Receiving and Tuning Capacitors.....	J-12, 13, 42, 45 to 47, 51, 68, 70, 71
Variable Reluctance Cartridges.....	E-22
Variable Resistors, Rheostats.....	Section R
Variable Transmitting Capacitors.....	J-9, 10, 32, 41, 47, 51 to 54, 58, 69, 70, 71
Variable Voltage Transformers.....	M-28, 29, 46
Varnished Tubing, Spaghetti.....	S-12, 30, 52, 66; U-87, 107
Varnishes, Lacquers, Paints, Enamels.....	J-9; U-51, 95, 96, 97
Vasco Division Mitchell Industries, Inc.....	U-12
Vector Electronic Co.....	T-12, 13
Vee-D-X Antennas.....	S-75 to 79
Velocity Microphones.....	D-17, 22, 24, 29
Vernier Dials.....	J-2, 3, 79
VHF Converters for Communication Receivers.....	J-22, 23
VHF Oscillator Kit.....	J-54
Vibrapak Power Supplies.....	M-20
Vibrating Reed Frequency Meters.....	F-62, 63
Vibration Pickups, Microphones.....	D-17, 21, 29, 32
Vibrator Analyzers, Testers.....	M-15, 22
Vibrator Buffer Capacitors, Auto.....	P-5, 48, 132
Vibrator Power Supplies, Packs.....	M-15, 19, 20, 22, 26, 27, 34 to 37, 41
Vibrator Transformers, Power and Auto Radio.....	N-11, 24, 25, 31, 58, 71, 91
Vibrators.....	M-18, 20, 24, 25, 30 to 32, 38 to 40
Vibrox Co., Inc.....	L-36
Videocoupler.....	L-5
Viking Loudspeakers.....	C-9
V-M Corporation.....	E-27
Voice Coil Dust Felts.....	U-43, 115
Voice Coil Lead Wire.....	S-15
Volometer Meters.....	F-89
Voltage Adapters, Foreign, Export.....	N-53
Voltage Breakdown Testers.....	F-111
Voltage Dividers, Resistors.....	Section R
Voltage Reducer Cord Sets.....	S-47
Voltage Regulator Transformers, Controls.....	M-48 to 52; N-16, 26, 32, 46, 49, 53, 55, 59, 71
Voltage Regulator Tubes (Ballasts).....	A-6, 7, 12, 15, 20, 31; R-7, 50; S-80
Voltage Stabilizers and Regulators, Electronic.....	M-48 to 52; N-16, 33
Voltage Testers, Neon.....	U-109
Voltage Transformers, Constant.....	M-48 to 52; N-33
Voltage Transformers, Variable.....	M-28, 29, 46, 47; N-64
Voltmeters, Voltmeters.....	Section F
Volt-Ohm-Milliameters.....	F-1, 6, 18, 19, 26, 32, 33, 50, 96, 97, 113, 118
Voltmysts.....	F-3
Volume and Tone Controls.....	Section R; also C-10
Volume Control Hardware.....	R-13, 21, 29; S-35; U-71
Volume Control Wrenches.....	R-13; U-77
Volume Level Indicators.....	B-6; F-24, 37, 48, 54

### — W —

Wafer Sockets.....	J-4, 75; T-2, 32, 33; U-70, 83, 105
Walco Products, Inc. (Electrovox Co.).....	E-43 to 45
Waldom Electronics, Inc. (Croname Products).....	U-62
Wall Plates, Receptacles.....	K-14, 19; T-16 to 21
Wall Racks for Hardware, Chemicals, etc.....	U-48
Walco Service Aids, Antennas, etc.....	S-66 to 71; U-40 to 61
Waltham Horological Corporation.....	T-41
Ward Leonard Electric Co.....	R-34, 35
Ward Products Corporation.....	S-55 to 59
Washers, Nuts, Bolts, Screws.....	S-35, 36, 39; U-43 to 48, 70, 90 to 92, 108, 114, 115
Waterman Products Co., Inc.....	F-106, 107
Wattmeters.....	F-21, 24, 34, 37, 39, 97, 100
Wave Meters.....	J-25, 26, 62, 66
Wave Traps.....	J-49, 61, 62, 66; N-92; S-80
Wax, Floor.....	U-97
Webster-Chicago Corporation (Webcor).....	E-28
Webster Electric Company.....	B-29; E-19

### Section & Page

Weller Electric Corporation.....	U-11
Westinghouse Electric Corporation.....	A-28 to 31
Weston Electrical Instrument Corp.....	F-48 to 50
Wet Electrolytic Capacitor Replacements.....	P-3, 16, 39
Wharfedale Speakers.....	C-34, 35
Wheatstone Bridges.....	F-110; R-39
Wheel & Hood Static Eliminators, Auto.....	U-110
Window Antennas.....	S-55, 81, 88, 91, 102; U-93
Wing Nuts.....	S-35; U-48, 114
Wire and Cable.....	Section S
Aircraft Cable.....	S-5, 6, 7, 15, 52
Antenna Wire and Cable.....	J-73; S-11, 15, 23, 29, 30, 38, 47, 50, 70, 80; U-71
Antenna Wire for AC-DC Sets.....	S-11, 38
Army-Navy, JAN-Spec., etc.....	S-6, 7, 24, 25
Auto Radio Wire and Cable.....	S-1, 4, 5, 15, 26, 28, 49
Battery Cable.....	S-22, 49
Broadcast Audio Cable.....	S-18, 19, 44
Bus-Bar Wire (Solid Tinned Copper).....	S-9, 15, 26, 29
Cathode Ray Tube Cable.....	S-20, 25
Coaxial Cable.....	S-10, 14, 26, 44; T-8
Copper Aerial Wire, Bare.....	S-11, 15, 23, 29, 45
Dial Cable, Cords.....	S-12, 30; U-41, 99, 100
Diathermy Cable.....	S-9, 27
Electrical Extension Cords, Sets.....	A-38; S-20, 28; U-73, 105
Fixture Wire, Lamp Cords.....	S-4, 10, 20, 23, 26, 28
Guy Wire.....	K-33; S-10, 30, 50, 70
Headphone Cords.....	D-35; S-38; U-89
Hookup, Pushback Wire.....	S-6 to 8, 19 to 28, 45, 48
Ignition Cable, Shielded.....	S-5, 15, 28
Indoor Aerial Wire.....	S-11, 15, 23
Intercom System Cable.....	S-2, 3, 18, 19, 23, 28, 47, 49
Lead-in and Ground Wire.....	S-8, 11, 15, 19 to 28, 70
Litz Wire.....	S-15
Magnet Wire.....	S-18, 29, 45, 46
Microphone Cable.....	S-1, 15, 16, 22, 27, 48
Multiple-Conductor Cable.....	S-1, 3, 4, 16, 17, 27, 44, 49
Phono Pickup and Grid Wire, Shielded.....	S-1, 5, 20, 26, 28, 47; U-113
Phosphor Bronze Aerial Wire and Dial Cable.....	S-11, 12, 29, 30; U-99
Photo Electric Cell Cable.....	S-1, 20, 27
Recording Wire, Stainless Steel.....	E-42, 59; U-110
Remote Control.....	S-4, 27; T-9
Resistance Cords, AC-DC.....	S-38, 47; U-89
Rotor TV-FM Cable.....	S-10, 22, 28, 44, 46
Shielding—Copper, Braid.....	S-5, 15, 22, 28
Sound System Cable.....	S-1 to 5, 19, 22, 28, 49
Speaker Cable.....	S-2, 4, 27, 28, 47, 49
Speaker Cords, Extension.....	S-38
Test Prod Wire.....	S-9, 20, 23, 26, 49; U-81, 104
Transmission Line, Cable.....	K-33; S-2, 9, 17, 28; T-9
Tubing, Spaghetti, etc.....	S-12, 30, 52, 66; U-87, 107
Twin-Lead, for TV and FM.....	S-10, 14, 17, 22, 41, 44, 46; T-9
Varnished Cambric, Shielded.....	S-26, 28
Voice Coil Lead Wire.....	S-15
Wire Measuring and Winding Outfits.....	S-40, 80
Wire Recording Heads.....	D-12
Wire Recording Wire.....	E-42, 59; U-110
Wire Spring Clips (Fahnestock).....	S-36; U-45, 71, 91, 106, 115
Wire Stripping Tools and Pliers.....	K-33; U-103, 111, 115
Wire Wound Resistors.....	Section R; also L-17
Wiring Nails, Insulated, Twin Lead.....	S-40, 66; U-108
Wiring Systems, Packaged—for Work Benches.....	S-61
Wirt Company.....	R-1 to 3
Wood Glue.....	U-49, 94
Worner Electronic Devices.....	L-34, 35
Wrenches.....	U-41, 72, 77, 111
Hexagon Key, Spline, Socket.....	U-40, 68, 78, 79, 100, 101, 102
Neutralizing, Alignment.....	U-17, 19
Nut.....	U-21, 27, 29, 103
Steel.....	R-13, U-77
Volume Control.....	C-7
Wrinkle Varnish.....	U-51, 96

### — X —

Xcelite, Inc. (formerly Park Metalware Co.).....	U-18 to 21
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### — Y —

Yard-Ohm Resistance Kits.....	R-13
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